Assessment

Adverse Impact of the Triple Crisis on Food Insecurity and Livelihoods in Sudan

An Analysis of the Food, Energy, and Financial Crises and Their Effects on Resident Populations, Internally Displaced Persons, and Host Communities – Implications for the SDG Roadmap

January, 2025

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Acronyms

ABS	Agricultural Bank of Sudan
ARC	Agricultural Research Corporation
BS	Beneficiary survey
CB-NRM	Community-Based Natural Resource Management
CBOS	Central Bank of Sudan
CBS	Central Bureau of Statistics
CSO	Civil Society Organization
DAC	(OECD) Development Assistance Committee
DFID	(UK) Department for International Development (renamed as Foreign, Commonwealth & Development Office)
DSRI-UoK	Development Studies and Research Institute, University of Khartoum
DTM	Displacement Tracking Matrix
EIA	US Energy Information Administration
EU	European Union
FAO	United Nations Food and Agriculture Organization
FC	Financial cooperatives
FCDO	Foreign, Commonwealth & Development Office
FGD	Focus group discussion
FNC	Forest National Corporation
FNS	Food and nutrition security
GAM	Global acute malnutrition
GBV	Gender-based violence
GDP	Gross domestic product
GEWE	Gender equality and women's empowerment
GoS	Government of Sudan
HH	Household
HHS	Household (field) survey
HAC	Humanitarian Aid Commission

HBE	Home-based enterprises
HCENR	Higher Council for Environment, and Natural Resources
HIPC	Heavily Indebted Poor Countries (Initiative)
HYV	High-yield varieties
i-APS	International Advisory, Products and Systems Ltd.
IDP	Internally displaced person(s)
IGA	Income-generating activity
IMF	International Monetary Fund
IOM	International Organization for Migration (aka UN Migration Agency)
IPC	Integrated Food Security Phase Classification
KAP	Knowledge, attitudes and practices
KII	Key informant interview
LERGN	UNDP's Livelihoods and Economic Recovery Guidance Note
LH	Livelihood
LPG	Liquefied Petroleum Gas
MEAL	Monitoring, evaluation, accountability and learning
MFI	Multilateral financial institution
MoA	Ministry of Agriculture
MoARF	Ministry of Animal Resources, Fisheries and wildlife
MoEN	Ministry of Energy and Petroleum
MoFEP	Ministry of Finance and Economic Planning
MoH	Ministry of Health
MoI[1]	Ministry of Industry
MoPER	Ministry of Production and Economic Resources
MoSD	Ministry of Social Development
NEC	National Electricity Corporation

[1] It is acknowledged that this abbreviation often refers to the Ministry of Interior, which also exists in Sudan. In this report, it instead refers to the Ministry of Industry.

NGO	Nongovernmental organization
PLW	Pregnant and lactating women
PM	Prime minister
PWD	Persons with disabilities
RSF	Rapid Support Forces
RSS	Red Sea State
SAF	Sudanese Armed Forces
SDG	Sudanese pound
SDGs	Sustainable Development Goals
SLF	Sustainable Livelihoods Framework
SMEs	Small and midsize enterprises
SSMO	Sudanese Standards and Metrology Organization
SRCS	Sudanese Red Crescent Society
S3M	Simple Spatial Survey Method
SWC	State Water Corporation
SWTUF	Sudan Workers Trade Union Federation
ToR	Terms of reference
UCoC	Union of Chambers of Commerce
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNHCR	United Nations High Commissioner for Refugees
UNIDO	United Nations Industrial Development Organization
USAID	United States Agency for International Development
VDC	Village Development Committee
WASH	Water, sanitation, and hygiene
WB	The World Bank Group
WES	State water, environment, and sanitation
WFP	World Food Program

Executive Summary

Introduction

This assessment delves into the detrimental effects of the ongoing triple crisis (food, energy, and financial) on food insecurity and livelihood impoverishment in Sudan. It examines the impact on various groups: the resident population, internally displaced persons (IDPs), and host communities and Sudan's roadmap to meeting the Sustainable Development Goals (SDGs).

Sudan has faced a protracted crisis, both since its independence and following the secession of South Sudan in 2011, which has hindered progress toward achieving most SDGs. The current situation as of December 2024, characterised by widespread food insecurity, escalating energy and food prices, livelihood loss, and economic decline, is primarily attributed to the triple crisis. This crisis is deeply rooted and predates the acute crisis of April 2023.[2] The April 2023 crisis has not only exacerbated the impact of the triple crisis but also exposed the underlying structural issues in Sudan.

The term triple crisis is used to describe the interplay of three separate but interrelated issues that affect livelihoods (LHs) and food security in Sudan:

- **Food crisis**: This relates to food availability and food access. Over the last decade, Sudan became less self-reliant in terms of domestic food production and increasingly reliant on expensive food imports to cover its food needs. This reduced access for large parts of the population.
- **Energy crisis**: Following the prior Sudan civil war in which the South became independent South Sudan, Sudan became a net importer of energy. This makes the country more vulnerable due to international oil price increases. Higher oil prices have also increased the costs of local (food) production.
- **Financial crisis**[3]: This mainly relates to the deteriorating exchange rate of the Sudanese Pound (SDG) and inflation, which was caused primarily by the increased importing of food and energy (demand for hard currency) outpacing hard currency earnings (supply) from exports.

Methodology

Background and limitations

UNDP contracted International Advisory, Products and Systems (i-APS) in December 2022 to conduct a comprehensive assessment of the impact of the triple crisis in Sudan. The implementation, however, was interrupted by the acute April 2023 crisis, which also affected the ability to conduct data collection. The initial objective of the assessment was to generate findings and recommendations based on data collection from representative states from the various regions[4], which would then be generalized at a national level. This was not possible due to the April 2023 crisis, and instead, three states from the eastern region of Sudan were selected. As a result, this may limit the extent to which the findings and recommendations can be generalized at the national level. Related, given the widespread and similar impact of that crisis, the i-APS team included the effects within the scope of the assignment.

[2] The April 2023 crisis is used to indicate the ongoing (at the time of the writing of this report) conflict between the Sudanese government and the Rapid Support Forces, which started on April 15, 2023.
[3] It was noted that the extent to which there is a financial "crisis" was disputed by some key informants at state level as well as some workshop participants. However, all agreed that there are important and pressing challenges in the financial sector that need to be addressed.
[4] Kassala, representing the eastern part of Sudan; North Darfur state, the western region; and South Kordofan, the southern part.

Objectives
The overall objective is to understand and assess the socioeconomic impacts of the food, energy, and financial crises on food insecurity, migration, and livelihood (LH) impoverishment on the resident, displaced, and host populations in Sudan.

The specific objectives are:

- SO1. Assess how food insecurity is impacted by the triple crisis.
- SO2. Assess, analyze, and investigate who has been impacted and what can be done to respond to food insecurity, focusing on conflict/insecurity/climate variability, economic decline, and other shocks and crises.
- SO3. Assess, analyze, and identify the effect of the triple crisis on migration drivers, patterns, and choices.
- SO4. Assess the financial technology (fintech) availability, capabilities, reliability, and scalability.
- SO5. Assess and investigate the impact of the financial crisis on small and midsize enterprises (SMEs) and provide recommendations for policy orientation and development of intervention options.

Assessment Approach
The assessment team utilized the United Kingdom's Department for International Development (DFID) model of sustainable livelihoods called the Sustainable Livelihoods Framework (SLF; see Figure 1) to steer the assessment. It offers an analytical framework to enhance the creation of sustainable livelihoods. Five types of capital assets are distinguished for the analysis of household (HH) livelihoods: natural capital (mainly land and water), physical capital (buildings, equipment, and inputs), human capital (labor knowledge and health status), financial capital (income and savings), and social capital (e.g., community groups). These assets are crucial for the livelihoods of HHs, which, in turn, are crucial for HH to meet its basic needs. However, stress and shocks, such as those caused not only by the triple crisis but also by climate change, are potential causes for the inability to meet these needs. Therefore, livelihoods are sustainable when they can cope with and recover from stresses and shocks without undermining the (natural) resource base.

A mixed-methods approach was used with both quantitative (e.g., surveys) and qualitative data collection methods (key informants' interviews [KIIs], FGDs, and desk review). Data was collected both at the federal (before the April 2023 crisis) and state levels (after the April 2023 crisis). The original plan was to include states representing the East, South, and West of the country to generate findings generalizable to the country level. However, due to the April 2023 crisis and security limitations, this was no longer feasible. Instead, three states in East Sudan were purposefully selected based on accessibility and security considerations: Kassala, Gedaref, and Red Sea state. Before the April 2023 crisis, federal-level KIIs were conducted with senior staff/experts from the government, United Nations agencies, donors, academics, and non-state actors to inform this report.

Data Collection
Besides the KIIs conducted at the federal (Khartoum) level, primary data collection took place in six localities in three states: Kassala, Gedaref, and Red Sea State. In total, 1,488 surveys, 47 KIIs, and 12 focus group discussions (FGD) were conducted. The data collection took place from February to March of 2024.

The core of the assessment was a comprehensive HH survey to collect quantitative data about HH demographics: HH income sources, food consumption patterns, the availability of LH assets, the impact of the triple and April 2023 crisis, and use of various coping strategies, as well as the environmental, gender, and migration dimensions of the triple crisis.

The team used a stratified, two-stage cluster sampling to obtain statistically valid findings at the state level. A sample size of 480 per state was calculated,[5] resulting in a total sample size of 1,440. Due to efficiency reasons, the data collection was limited to two representative localities per state, one more urban and one more rural. For each state, random villages/ blocks were selected as clusters, and the team applied a random starting point and sampling interval to obtain the required number of surveys.

Workshop

A one-day workshop, conducted both in person and online to maximize participation, was held on 8 January 2025 in Port Sudan to validate the report with key stakeholders and experts, including the Government of Sudan.

The workshop participants represented a diverse range of organizations; from government ministries, the attendees included representatives from the Ministry of Energy & Petroleum, the Ministry of Finance, the Ministry of Agriculture Sudan, the Ministry of Social Development, Ministry of Industry, MOFEP (Ministry of Finance and Economic Planning), and others. United Nations agencies were well-represented, with participants from UNRCO (United Nations Resident Coordinator's Office), IOM, FAO, UNDP, UNWOMEN, and UNICEF. Academic contributions came from Red Sea University, while private sector representation included CTC Group, 249 Startups and others. Individual participants also joined, further enhancing the breadth and depth of expertise at the workshop. (the list of participants in Annex 3).

The participants actively contributed to the report and made additional suggestions and recommendations while endorsing it. These suggestions and recommendations are provided in Annex 2.

National-level Findings

Introduction

Although Sudan has had a turbulent history since achieving its independence, per the literature and interviewed national stakeholders, the South's secession in 2011 is a particularly important event in the development of the triple crisis. This strongly affected Sudan's economy by significantly reducing the country's self-reliance regarding energy as well as the export earnings from oil. The situation was exacerbated by recurrent natural disasters (e.g., droughts, floods), and local conflicts.

The end of the Bashir regime and the political reforms that followed were well-received internationally, resulting in a partial lifting of decades-long sanctions by the United States and European Union. However, pledged support and debt relief from donors and international monetary agencies were put on hold following a military power seizure in 2021. The April 2023 crisis, which is still ongoing, had an unprecedented impact on the country, with the government losing effective control of most of the

[5] Estimated population = > 1 million; confidence level of 95%, an error margin of 5%, and a design factor of 1.25.

country and the disappearance of Khartoum as the stable political, economic, financial, and logistic capital.

Food Crisis

Food security has three main pillars: food availability, access to food, and food utilization. In general, Sudan has become less self-reliant in terms of food security, and achieving food security has become a major challenge for policymakers. The April 2023 conflict and other shocks significantly worsened the already dire food security situation. According to the latest projections (for June to September 2024) from the Integrated Food Security Phase Classification (IPC), intense conflict and organized violence, coupled with continued economic decline, have driven approximately 25.6 million people across Sudan (54% of the analyzed population) into high levels of acute food insecurity, Phase 3 or above (crisis or worse). Among these, 755,000 people are in IPC Phase 5 (catastrophe), 8.533 million (18%) are in IPC Phase 4 (emergency), and 16.309 million people (34% of the population analyzed) are in IPC Phase 3 (crisis).

Energy Crisis

South Sudan's secession removed 75% of Sudan's oil reserves and 25% of its hydropower, meaning that only 60% of the country's electricity needs are met. The gap needs to be filled with either local energy production or energy imports. Although the country made efforts to increase supply, such as solar capacity, they have not been sufficient to bridge the gap. Additionally, the April 2023 crisis severely affected the oil production for the ongoing power generation initiatives.

The increasing reliance on energy imports has made Sudan vulnerable to global oil price increases, which have to be paid for in USD, putting pressure on the SDG. This, in turn, leads to higher inflation and price increases. Traditionally, the Sudanese government has mitigated the negative impacts for vulnerable populations by regulating the market and providing government subsidies. However, these subsidies have been gradually eliminated since 2019, causing further price increases. The impact of the energy crisis is particularly pervasive, as it has significantly increased the production and transportation costs of every product, including food items. Even before the April 2023 crisis, staple food prices had risen by 230 %+ in one year, and the cost of electricity increased by 5.6 times (mainly as a result of the war in Ukraine).

Financial Crisis

The financial crisis is closely linked to the other two crises. An initial underlying cause is attributable to the fact that Sudan has been on the US' and EU's sanctions list for more than 25 years. This has effectively blocked Sudan's access to financial markets and support from financial institutions, like the World Bank Group (WB) and the International Monetary Fund (IMF). A pending USD 50 billion debt clearance deal was put on hold due to the latest regime change. A second cause is that the earlier-mentioned secession of South Sudan reduced the hard currency earnings from exports while causing an increase in oil imports. This reduced supply and increased demand for hard currency put a lot of pressure on the SDG, as reflected in the deteriorated exchange rate against the USD. Third is the inflation rate, which has always been relatively high (double digits) but has increased structurally since 2017, with an extreme of 359% in 2021, during the COVID-19 crisis. After some decrease, it rose steeply again in 2024 due to the April 2023 crisis. Fourth, the financial sector is centralized and highly regulated in terms of budgets and foreign currency exchanges, limiting its capacity to mitigate the adverse effects of the financial crisis.

Livelihoods Assets

Human

Sudan has an abundant supply of labour in the country. However, livelihood (LH) opportunities are limited due to the economic downturn caused by COVID-19, the political instability and resulting insecurity, and now, the April 2023 crisis. The unemployment rate for 2023 was 21% and is forecasted to be 49% by the end of 2024[6]. Additionally, the lack of LH opportunities resulted in increased rural-urban migration as well as international migration of skilled labourers (brain drain) to particularly the Gulf states.

Natural

Sudan is well-endowed with a variety of natural resources, including 19,823,160 hectares (10.72% of the country's total area) of arable land, water, and minerals (e.g., gold). However, its agricultural potential is hampered by climate change, conflicts, and political instability, in addition to trade policy and the demand for foreign exchange.

Physical

Sudan's physical infrastructure is generally inadequate, including its road and electricity network and coverage, which limits its production capacity and increases the time and cost needed to access markets.

Financial assets

Food insecurity and poverty are widespread across Sudan, meaning people have limited financial assets, and the government's social protection (i.e., safety nets) is insufficient to mitigate the negative impacts. The limited availability of financial services, especially in rural areas, affects the extent to which people have access to or can build up financial assets.

Social assets

Sudan is characterized by its cultural diversity, with 19 major ethnic groups and over 597 ethnic subgroups speaking more than 100 languages and dialects. Arab-speaking Muslims are considered the largest single ethnic group at about 70% of the total population. While ethnic and tribal links can be strong social assets for mitigating shocks and adversity, Sudan has witnessed many localized conflicts along ethnic/tribal lines, mostly concerning scarce natural resources.

Gender

Despite efforts made by the government and UN agencies over the last decades, women in Sudan continue to face severe challenges and gender inequality, including limited access to LH opportunities and financial services. As is often the case, women, the elderly, and children are proportionally more affected by situations of crisis, including the triple crisis. Historical conflicts, in addition to the April 2023 crisis, have witnessed structural gender-based violence.

Migration

Throughout the last decades, Sudan has been both a net receiver of foreign (economic) migrants and refugees and a net exporter of Sudanese (economic) migrants and refugees. The triple crisis caused an economic downturn, further decreasing the availability of LH opportunities and increasing foreign economic migration to richer countries, with an estimated 5 million Sudanese residing abroad. Various conflicts inside Sudan and, recently, the April 2023 crisis caused widespread internal displacement.

[6] https://www.statista.com/search/?q=sudan&p=1

Environment—Climate Change

Sudan is normally described as a semiarid country characterized by very high average temperatures and fluctuating rates of rainfall. As a result, water is one of the most precious and often contested resources in Sudan. With frequent droughts, high rainfall variability, and an economy heavily dependent on natural resources, Sudan is one of the most vulnerable countries to climate variability and climate change. In addition to the triple crisis, climate change is arguably the most important structural cause of food insecurity and livelihood impoverishment.

Generalized Findings

Comprehensive findings per state are provided in Chapters D, E, and F of this report. However, in line with the overall objective of the assessment, generalized findings are provided here, with references to specific states or localities when relevant.

Triple Crisis (and the April 2023 Crisis)

The stakeholders interviewed all agreed that the triple crisis is among the most important crises in Sudan, although political stability and security are also considered crucial, even more so after April 2023. In addition, climate change has been considered an important issue.

- **Causes**: The complete lifting of fuel and partial lifting of flour subsidies are considered as important contributors to the triple crisis (especially food and energy). The April 2023 crisis mainly exacerbated the effects of the triple crisis and created additional challenges by severely disrupting the government system, including the "disappearance" of Khartoum as a stable political and economic center.
- **Impact**: Due to the effects of the April 2023 crisis, it is harder to determine the impacts of the triple crisis. However, the main problem is that most people (around 80%) purchase food from the market, and their access was severely reduced due to the economic collapse and the three-digit inflation. This decreased the available LH opportunities and hollowed out the purchasing power. In addition, the provision of governmental services (e.g., health, education, social protection) was severely affected or stopped.
- **Needs:** The highest self-reported need is food (> 90%), followed by health, water and sanitation, and education, with differences between the states and localities. The type of need did not change significantly before or after April 2023, confirming the stakeholders' statement that it mostly reinforces the effects of the triple crisis. Around 90% reported a change in needs, which mainly concerns an increase in previously existing needs.
- **Mitigation efforts:** Due to the ongoing conflict, insecurity, and the collapse of government services, few mitigation efforts are currently ongoing other than humanitarian assistance, which is being provided especially to internally displaced persons (IDPs) by the Zakat office and international organization. Most longer-term or development-type projects and funding have been put on hold.

Food Crisis

Food was mentioned by > 90% as the most pressing HH need. Although governmental policies were developed, ensuring food security was already a challenge before the April 2023 crisis, especially in Red Sea State and Kassala, which were already less developed. While the current situation is worse than normal, the triple crisis has structurally affected both the availability of and access to food. With less

agricultural production present in general, fewer people engaged in HH food production, and a growing urban population, food security has increasingly become a question of access rather than availability. Key reasons for the reduced access are increased food prices, a lack of job opportunities, and a resulting reduction in HH income.

- **Food production**: The survey confirmed desk review findings that agriculture/livestock is of limited importance as an HH income source in the areas selected for the survey, as about 80% of the survey respondents do not use land for economic activities. In addition, around 40%–56% reported a (significant) decrease in the land cultivated.
- **Food availability**: Around 86% of the respondents considered there to have been a (significant) decrease in HH food availability over the last 12 months. However, this was less so for Red Sea State (RSS) (68%) and lower for rural localities, reflecting the local or domestic food production.
- **Food consumption**: Before the April 2023 crisis, the consumption of standard food items (i.e., cereals, pulses, oil, sugar, and, to some extent, vegetables) was relatively similar, although rural areas had a significantly lower consumption of more expensive food items, such as proteins and fruits. The April 2023 crisis reduced both the quantitative and qualitative food consumption, although this was much higher for qualitative (more expensive) fresh produce, like dairy and meat. Percentagewise, the decrease has been bigger for urban localities compared to rural localities, which is likely explained by their having their own agricultural production and shorter supply lines.
- **Nutrition**: Although up-to-date figures are not available, reduced food consumption will result in an increase in malnutrition.
- **Coping mechanisms**: Over the past year, respondents have primarily relied on several stress management strategies:
    - "Relied on less preferred food to reduce food expenses"
    - "Purchased food on credit"
    - "Spent savings"

  These responses come directly from the beneficiary survey. Two crisis strategies were commonly used by significant percentages (20–60%):
    - "Reduced the number of meals"
    - "Reduced non-food expenses on health"

  These percentages were notably higher in Kassala state. On a positive note, for the time being, fewer coping strategies affecting livelihoods were applied. However, the percentages of food- and health-related coping strategies are still concerning.

Energy Crisis

Energy is an important factor in the socioeconomic development of a country, region, and even households. Energy or oil is an important cost in the agriculture value chain, both directly (regarding production) and indirectly (transportation costs and fertilizer). Since Sudan changed into a net importer of energy, it became vulnerable to global oil-price increases, as witnessed during the war in Ukraine. In addition, the lifting of fuel subsidies resulted in sharp (food) price increases. "Increased fuel-electricity prices" were mentioned as an important impact of the April 2023 crisis in Kassala (31%) and Gedaref (45%).

- **Fuel**: At around 80%, the most mentioned change in fuel type was an increased use of charcoal and wood, while less LPG, fuel, and diesel were used. The reduced oil and gas consumption was only partially offset by greener alternatives, such as solar power, with Port Sudan being an exception, reporting a 39% increase in solar power.
- **Electricity/connectivity**: Around 60%–70% considered the availability/access to electricity "good" or "acceptable." The availability in rural areas was much less, with 31% of rural Gedaref reporting having no electricity. The phone/internet network coverage findings were similar.
- **Impact on other sectors**: Interviewed stakeholders explained that the energy crisis affects all aspects of life and every sector due to the nationwide increase in production and transportation costs. Agriculture was considered one of the most affected sectors.
- **Current interventions**: Stakeholders acknowledged that in general, the triple crisis, or the energy crisis, could have a favourable impact in terms of encouraging the use of renewable energy sources. However, this would require government or external support, and any such programs are currently on hold due to political instability and the April 2023 crisis.

Financial Crisis

All stakeholders agreed that the financial crisis predates recent crises, including the Ukraine and the April 2023 crises, although these latest ones reinforced the effects. The key problems are the continued weak economic performance and corresponding weak SDG (vs. the USD), as well as the persistent high inflation, which, in turn, puts more pressure on the SDG.

- **Causes**: Interviewed stakeholders agreed that the crucial developments are primarily Sudan's growing dependence on food and energy imports, which require hard currency. At the same time, the influx of hard currency from oil revenues has been decreasing. Other contributing factors are political instability, weak economic development policies, weak financial regulatory institutions, and persistent high inflation.
- **Impact**: The April 2023 crisis turned into a major economic and financial crisis affecting the entire country and its population. With around 80% of the population buying food from the market, there is a need for more LH opportunities. Over 90% interviewed stated that the availability of jobs/income-generating opportunities decreased (a lot) over the last 12 months, and "loss of main income source" was the most mentioned personal impact, mainly due to recent displacement.
- **HH income sources**: Most respondents across states relied on a single HH income source, although much lower (50%) in RSS than in Kassala and Gedaref, with 70%–80%.
- **LH types**: Most HH income was derived from nonagricultural livelihoods, including government jobs, and livestock/crop farming was not a major primary (6.6%–15%) or even a secondary source of income, except for in Gedaref and rural areas. "Daily labour—nonagricultural" was the most reported primary income source, together with "permanent job as an employee" although that was lower in Kassala. Both were also important secondary income sources.
- **HH income size**: Around 50% of those interviewed across the states reported a household income higher than 50,000 SDG, although the average was much lower for RSS. The differences between localities may indicate high levels of urban poverty or may not reflect HH food production. Around 80% reported a (significant) decrease in their HH income sources during the

last 12 months, although this was much lower in RSS (53%), which is likely explained by the economic "boom" in Port Sudan.[7]

- **Exchange rates**: The continuously deteriorating SDG–USD exchange rate is problematic for Sudan because of its increased dependence on food and energy imports.
- **Financial services**: Banks were more available in urban areas (47%–68%) and in Gedaref state, where the availability in rural areas is similar to that of urban areas in the other states. The availability of "other financial services" was very low. Related, the usage of financial services also exclusively concerned banks and ranged, overall, from 22% to 48%.
- **Mitigation**: Stakeholders were divided over the capacity of the banking/financial sector to mitigate the adverse effects of the financial crisis due to the very centralized setup of the banking sector in Sudan. They acknowledged that the enhanced availability of financial services may promote investment and the development of local businesses. The same stakeholders also mentioned that a broader adoption of agricultural insurance would likely have a positive influence on all sectors and crops, as well as help mitigate the effects of the crisis, particularly for SMEs.

Livelihood Assets

Human

- **HH composition**: In line with sociocultural traditions, around 80% of the HHs across the states were male-headed, lower than Iraq (90%) and Jordan (87%), with higher percentages of women-headed HHs in urban localities. The average HH size ranged from 5.69 (RSS) to 7.12 (Gedaref). Persons with disabilities (PWDs) were more present in rural areas, with the exception of Port Sudan. Higher numbers of chronically ill were reported in urban areas, which might be the result of the greater number of elderly people residing there.
- **Education**: The reported level of "no formal education or illiterate" was lower for Gedaref (5.6%) than Kassala and RSS (11%–14%), with big differences between rural and urban areas and higher levels of Qur'anic education. No significant gender differences were found for the education level of the head of HH other than the generic differences between the urban and rural localities.
- **HH capacity**: The reported number of HH members available to engage in income or food-production activities was significantly higher in Gedaref (2.52) than in the other two states (around 1.80), which might be explained by the larger reported HH size and/or a higher (expected or possible) participation of women in economic activities. The main reasons quoted for available HH members not to participate are "no jobs," "family care," and "cultural restrictions" (especially in more conservative rural areas).
- **HH health status**: Large percentages (54%–82%) of respondents across states reported that the health conditions of the situation for some HH members had deteriorated, with no coherent pattern between urban and rural HHs. The key reasons quoted for the deterioration were food quantity and quality and the "availability/high prices of medicines." This aligns with findings about reducing food consumption and saving on medical expenses as coping mechanisms.

[7] The April 2023 crisis transformed Port Sudan into the most important governmental, logistic, and international assistance hub due to the "disappearance" of Khartoum.

Natural

- **Land use**: Around 80% indicated they did not use any land for economic activities, a report that was higher in urban areas than in rural ones. Around 40%–56% reported a (significant) decreases in the land cultivated.
- **Common natural resources**: The quantity and quality of common lands and water sources decreased by 50%–70% over the last 12 months, with Kassala being the most affected. Rural areas were less affected, and respondents reported much higher decreases in water resources in urban areas, which, especially in the case of Gedaref, might be the result of increased population pressure due to a large influx of IDPs.

Physical

- **Water**: Except for Gedaref, the availability/access to water for both HH and irrigation purposes was better overall in urban areas.
- **Electricity/connectivity**: Around 60%–70% considered the availability/access to electricity "good" or "acceptable." The availability in rural areas was much less, with 31% of rural Gedaref not having any electricity. The phone/internet network coverage findings were similar. Around 40%–60% assessed the availability of (public) transport/connectivity to be (very) good.
- **Health**: The overall availability and access to health services was assessed as (very) good by around 20%–30%. However, these averages hide big differences between better access in urban areas and lower access in rural areas.
- **Recent changes**: More than 90% of respondents stated that the availability and access to "all or some" services decreased over the last 12 months, attributed mainly (around 80%) to the April 2023 crisis.

Financial

- **HH income**: More than 93% of respondents stated that due to the April 2023 crisis, their HH income decreased, with most stating it had decreased a lot. When asked to assess the percentage of the decrease, 50%–74% stated, "More than 50%."
- **Remittances**: These were considered (very) important by 62%–88%, although this was reported as significantly higher in urban areas than in rural areas. The remittances were mainly affected by the April 2023 crisis, although some mentioned "family members returned to the village," "lost jobs/income," and "difficulties sending money to Sudan/village."
- **Coverage of needs**: More than 96% mentioned "food" as the category comprising the most HH expenses. Over the last 12 months, 35%–61% indicated to be "largely unable" to meet their HH needs.
- **Saving capacity**: An average of 70%–90% stated they were unable to save, with significantly greater numbers reported in Gedaref. There were no major differences between states or urban-rural in terms of HHs being able to structurally save (most or all months).

Social

- **Community-based organizations (CBOs)**: Village development committees (VDC) were the most reported type of CBOs with 35%–66%, although there were more present in rural areas. In Kassala, "neighbourhood committees" were mentioned, while CBOs were largely absent in RSS reports.
- **Women groups**: Women groups were present in Port Sudan and, to some extent, in Kassala, but almost none were reported in Gedaref.

- **Social cohesion**: Around 56%–72% stated that there was a big—or at least some level of—increase in social tensions in the village in the last 12 months, with Gedaref reporting the highest percentages. This may be related to the large IDP influx.

Crosscutting Issues

Gender

- **Impact**: Interviewed stakeholders (including women groups) considered that women, especially pregnant and lactating women (PLWs), as well as the elderly and PWDs, were particularly affected by the triple crisis. However, of the survey respondents (50% of whom were women), 85% stated they were affected in the same way as men by the crises.
- **Gender-based violence (GBV)**: In Gedaref a shocking 8.3% (n = 28) of the total female respondents specifically mentioned experiencing gender-based violence.
- **Coping strategies**: Around 80% of respondents across states answered that these were used for men and women in the same way. One of the reasons offered for why women are more affected by crises is their reduced access to economic opportunities and financial services rather than their education level. For men/boys, a reason provided was that certain privileges (like education) were cut, while women/girls did not have access to these.
- **Engagement in LH activities**: Around 80% of respondents considered it more difficult for women to engage in income or food production activities, with higher percentages being reported in urban areas. Kassala and rural areas, which are normally more conservative with regards to women engagement, reported much lower percentages, although this may concern engagement in HH-level food production. The reasons are sociocultural restrictions, although "few opportunities for women," a "lack of the needed education/professional experience," and a "lack of access to finance" were also mentioned.
- **Access to finance**: Around 67%–87% considered there to be no gender differences in accessing financial services. The mentioned reasons for gender differences are a lack of documents or collateral, a lack of work/income sources, religious or sociocultural constraints, and lack of education/knowledge.

Migration

The April 2023 crisis caused a massive displacement, particularly of IDPs, in Sudan, estimated at 10.54 million people, and it further increased the number of Sudanese fleeing or (economically) migrating abroad.

Refugees and IDP situation

- **Refugees**: Before the April 2023 crisis, Sudan was a poor but comparatively safe country, and therefore an attractive landing point for refugees from neighbouring countries, including Ethiopia, Eritrea, and South Sudan, as well as a transit hub for travelers journeying to Europe. With security being a primary concern, the triple crisis had little impact. However, the April 2023 crisis reduced the appeal of Sudan and may have caused a return or outflux of refugees.
- **Number of new IDPs**: Most new IDPs opted for Gedaref, followed by RSS, and Kassala was the least preferred. However, for all states, the percentage "displaced after 2023" is almost double what it was before April 2023, which confirms the scale of the current crisis. The presence of IDPs is so widespread that only 11%–28% of the survey respondents are classified as "resident populations," meaning they self-reported that there are few or no IDPs in the area.

- **Origin of new IDPs**: Most who are newly displaced came from the Khartoum-Omdurman area or other urban areas in Sudan, meaning they are mainly city dwellers. In Kassala state, a relatively high percentage (42%) stated they are "resident in the area."
- **Future plans for new IDPs**: Most new IDPs planned to return home (to the Khartoum area) in the future depending on the situation, while another part planned to migrate abroad.
- **Accommodation arrangements**: Most new IDPs stayed in temporary shelters, especially in Gedaref and RSS. IDPs in rural areas reported higher percentages of staying with family/ friends than in urban areas. RSS had a higher percentage of "renting accommodation[s]."

Voluntary and/or economic migration (domestic and international)

- **Domestic (economic) migration**: A large increase was reported by 69%–91%, which was higher in urban areas than in rural ones, especially in Kassala.
- **Foreign (economic) migration**: A large increase was reported by 66%–96%, with higher percentages reported in urban areas, except for Gedaref.
- **Returnees or remigration**: A large increase was reported by 56%–70%, although this was much higher in urban areas than rural ones.
- **Reasons**: The main reason quoted was the April 2023 crisis. Other reasons include "unemployment," "loss of assets," "better access to work opportunities," and "increased prices."

Environment—climate change

- **Extent of impact**: Most survey respondents (68%–92%) stated that their village/area was affected "a lot" or "somewhat" by climate change, while only small percentages (1.9%–6.8%) stated it was not affected. The most mentioned change was reduced rainfall and/or "changed timings/ reliability of the rainfall." However, in Gedaref, respondents were mostly concerned about "increased temperatures," possibly due to having better access to irrigation water.
- **Type of impact**: The main reported impacts were less harvest/income from agriculture or livestock activities; community members reducing or stopping their agriculture/livestock activities and/or looking for other jobs, "young people not [being] interested in agriculture/livestock and looking for other jobs," and "increased migration to urban centres/abroad."
- **Adaptive capacity**: Around 30%–36% of respondents stated that they were able to fully or largely adapt to these changes, although a higher percentage was reported in RSS (49%). Overall, respondents in urban areas were more positive about their capacity to adapt, although the higher percentages choosing the "not at all" option might indicate the presence of vulnerable groups, such as the urban poor. The most common reasons mentioned are "lack of financial means to adapt to the changes," "lack of general knowledge about the changes," and "lack of government or higher-level support."

Conclusions

The assessment team has grouped the following conclusions into eight categories.

A. General

1. The three crises constituting the triple crisis were considered among the most important crises facing Sudan, and its causes and effects are closely interrelated. However, security and political stability were mentioned as key preconditions for effectively addressing the triple crisis.
2. The Ukraine war and the April 2023 crisis highlighted—even reinforced—the more structural problems caused by the triple crisis regarding the growing dependence on food and energy imports as well as the need for political stability and strong policy development.
3. Although the food crisis is the most urgent of the three issues in the triple crisis, the energy crisis is also significant, as higher oil and energy prices impact all economic sectors, including food production, availability, and access.
4. The triple crisis, and even more the April 2023 crisis, coupled with political instability, has severely affected Sudan's economy, reducing tax revenues and hindering the government's ability to create and implement effective policies.

B. Needs

5. Both the triple crisis and sudden crises like the Ukraine and April 2023 events negatively affect the food security of many people in Sudan by worsening their food consumption. The April 2023 crisis, while sudden and accompanied by additional impacts like ongoing hostilities and the "disappearance" of Khartoum, confirmed general changes in food consumption that also occur due to more long-term crises like the triple crisis.
6. As a coping mechanism, people are reducing their intake of more expensive, nutritious foods like dairy, meat, fish, fruits, and vegetables. Initially, this reduction is replaced by an increased intake of dry foods like cereals and, ideally, pulses for protein. However, when the intake of fresh produce was already low or nonexistent, the reduction means an increased reliance on cheap foods or a reduction in the quantity of food consumed.
7. Although the extent of the people's needs increased due to the April 2023 crisis, the type of needs did not change significantly from the structural needs initially created by the triple crisis.

C. Food crisis

8. Sudan's growing dependence on food, especially wheat imports, makes it vulnerable to global food price increases, which could be partially offset by import substitution.
9. The structural increase in food insecurity in Sudan due to the triple and April 2023 crises has reduced access and availability.
10. The short-term food insecurity resulting from the April 2023 crisis (and triple crisis) is primarily due to a lack of access to food, including less availability, and would favor cash-based interventions.
11. HH food production in rural areas has mitigated some of the negative impacts of the triple crisis, as it made those HHs less sensitive to food price increases.
12. Farming in Sudan entails high financial risks, which encourages growing numbers of rural-area community members to abandon agricultural LHs.

D. Energy crisis

13. The triple or energy crisis could encourage a societal switch to cleaner energy. However, since the April 2023 crisis, governmental stimulation programs have been on hold, and the environmental impact has been mainly negative, with communities increasingly using wood and charcoal.
14. The "disappearance" of Khartoum as a capital created a gap in markets and the processing capacity of agricultural produce, which resulted in excesses and then possible food losses at the state level.
15. Fuel price increases and volatility of those price levels hamper agricultural LH planning and investments.

E. Financial crisis

16. The financial crisis is closely linked to Sudan's growing dependence on food and energy imports, which put pressure on the SDG, especially because hard currency revenues from (oil) exports have declined over the years.
17. The increased dependence on imports combined with a weak exchange rate make Sudan vulnerable to sudden price increases and inflation, which has been reinforced at the community level by the lifting of oil and wheat subsidies.
18. The continued high inflation resulting from the financial crisis erodes the purchasing power of community members because salaries are not correspondingly increasing due to budget constraints (government) and low productivity (businesses). As a result, businesses are unable to pass on the inflation costs to their customers without endangering their longer-term economic viability.
19. The availability and, hence, the use of financial services is low and limited to banks, while financial services that could encourage business development or reduce the financial risks of farming, for example, insurance, microfinance, and government support mechanisms, are unavailable or unaffordable.

F. Impact

20. Food access for the urban population was severely impacted by the nonpayment of government salaries and reduced activity in the private sector.
21. The April 2023 crisis significantly reduced qualitative food intake, especially in urban areas, due to the collapse of market supply chains. This drastically reduced the consumption of groceries, especially fresh items like dairy, meat, fruit, and vegetables.
22. Although rural areas performed weaker in most areas, such as food consumption and availability of services, the urban averages hide significant differences between various urban populations and reveal the existence of a very vulnerable group of urban poor who were severely affected by the April 2023 crisis.
23. Food availability was negatively affected by underdeveloped interstate supply lines and market trade modalities, which became more apparent because of the April 2023 crisis and the related "disappearance" of Khartoum as a centralized hub.
24. The April 2023 crisis had a massive psychological impact on displaced populations, such as the war that occurred during that time, the stress of displacement, and the longer-term stays with relatives. In addition, respondents in Gedaref reported high numbers of GBV.

G. Crosscutting

IDPs

25. The high influx of IDPs was mentioned as the biggest impact of April 2023 and is already creating—or likely will create—social tensions due to competition for LH opportunities and the increased prices of accommodation and food items.
26. The high inflow of IDPs puts pressure on communal services and creates significant challenges for both the host communities and the IDPs.
27. Many IDPs stay in shelters unsuited for longer-term stays, which creates significant challenges for both the host communities and the IDPs, exposing them to health and protection risks.
28. Most IDPs in the states are from urban areas and have no or, at the most, a limited affinity with agriculture, meaning non-agricultural LH opportunities are needed for them to (temporarily) sustain themselves in the area of their displacement.

Migration

29. Migration resulting from the triple crisis mainly occurred for economic reasons, such as unemployment, and follows generic patterns: rural to urban areas, periphery areas to the capital (Khartoum), and, on an international level, from poorer to richer countries (in the Gulf).
30. The April 2023 crisis reversed domestic migration patterns, with prior economic migrants returning to their areas of origin (from capital to periphery or urban to rural) because of security concerns and/or the loss of HH income sources.
31. The April 2023 crisis exacerbated existing (as a result of the triple crisis) international migration patterns, particularly the brain drains of skilled workers leaving Sudan.
32. The April 2023 crisis suddenly turned the three surveyed states from net exporters of domestic migrants into net receivers of domestic migrants. This created massive challenges in terms of accommodating these IDPs in regions that have traditionally been less developed (except Gedaref) and with limited governmental capacity at the state level.

Gender

33. School closures not only affect children's education, but they also put additional pressure on the HH situation, for which women bear the majority of the impact.
34. The continued hosting of IDPs (relatives) puts pressure on the HH situation, with women bearing the brunt of the burden they are mostly at home and are expected to accommodate the hosts.
35. Although respondents self-reported that the triple crisis and April 2023 crisis have affected men and women largely in the same way, data demonstrates that women are more vulnerable due to their reduced access to LHs as well as sociocultural constraints. Further, women and girls are at heightened risk of gender-based violence, domestic tensions and other gender-specific impacts, including forced and early marriage.

H. Coping mechanism and resilience

36. Most HHs depend on a single, nonagricultural HH income, which, in the absence of social safety nets, makes them very vulnerable to those economic downturns related to various crises.
37. Medicines are increasingly imported and, therefore, expensive, making "saving on health expenses (medicines)" a common coping mechanism for community members, which negatively affects their health condition(s).

38. Despite the challenges of the triple crisis and the April 2023 crisis, most respondents have avoided using the most damaging coping strategies. However, concerns remain about the sustainability of this situation due to high needs and the prevalent use of food- and health-related coping strategies.

Recommendations

Below provides a summary of strategic programming recommendations, which are elaborated upon in Section 7 of this report.

A. Food crisis

1. Increase in-country food production, by stimulating both HH food production and (commercial) agricultural production, to increase the local food supply, which in turn should reduce the local food prices.

2. Increase HH food production to reduce HH food expenses by encouraging (ex-) farmers as well as HHs with access to land to start or increase food production. Examples: provide inputs for backyard gardening or vegetable cultivation or increase productivity of existing farms.

3. Encourage agricultural LHs and local production by facilitating access to agricultural inputs as a main problem are the high prices; capacity strengthening for farmers; financial risk reduction; micro-finance or village savings and loans systems and/or leveraging humanitarian interventions.

4. Encourage food import substitution by encouraging farmers to restart local wheat cultivation by providing insurance and incentives for production, supporting the local cultivation of wheat alternatives, and/or supporting initiatives to encourage dietary changes in support of wheat alternatives.

5. (Re)encourage trade/supply between production (abundance) areas and consumption areas by reviewing and developing interstate trade modalities, reducing transportation costs, and/or leveraging humanitarian interventions.

6. (Re) establish supply lines/ value chains, especially for fresh produce, by conducting market access barrier assessments, conducting supply chain/cold chain analyzes for fresh produce, reducing transportation costs, and/or leveraging humanitarian interventions.

B. Energy crisis

7. Mitigate fuel and food price increases and fluctuation, especially for vulnerable groups and farmers, by supporting efforts to stabilize prices of fuel and energy prices as well as food and basic commodity prices. Humanitarian interventions may be leveraged for this purpose.

8. Support efforts to stimulate the use of alternative energy like solar or wind power, as well as exploring larger-scale energy projects at the community level, and/or establishing supply chains and maintenance structures for alternative energy.

C. Financial crisis

9. Explore the possibility of cash-based interventions to boost the local economy and local production, as well as to support the local currency (SDG).

10. Support the generation of government revenues and budget management to reduce pressure on the SDG exchange rate and inflation by considering (in)direct budget support, supporting private sector recovery to enhance tax revenue generation, supporting efforts to improve the monitoring and taxation of cross-border trade, and/or stimulating exports.

11. Increase financial inclusion and access to financial services for those in rural areas, as well as for women and youth, by advocating for a decentralization of the Sudanese banking system, encouraging financial services providers to extend their rural coverage, encouraging back financing of private sector investments by donors or WB, and/or leveraging humanitarian interventions.

D. Basic needs

12. Conduct detailed assessments of urban populations to identify vulnerable sections there.

13. Enhance access to health and medicine by encouraging free medical services and medicine via government health centers or international agencies, temporarily paying government health staff salaries, and/or reestablishing the capacity to locally produce basic medicines.

14. (Re)establish social safety nets, such as school feeding, safety nets for vulnerable groups, and/or seasonal safety nets.

15. Ensure a comprehensive and tailored assistance package by simultaneously addressing different needs (e.g., food, energy, health, WASH, and education), aligning short-term and general development needs, and tailoring assistance to differences per state in terms of overall development and needs, as well as of climate change impact.

16. Encourage the reopening of schools by relocating IDPs, cleaning and rehabilitating schools, and/or temporarily paying school staff salaries.

E. Livelihoods needs

17. Protect existing LHs by restoring affected LHs, ensuring basic needs are met in the short-term and/or implementing measures to avoid the use of damaging LH coping strategies.

18. Diversify HH income sources by restarting or strengthening the provision of government services (e.g., education, health), finding (temporary) alternative HH income sources, and/or facilitating remittances from abroad by enhancing access to finance.

19. Stimulate development and creation of both on- and off-farm agricultural and non-agricultural LHs by enhancing local food processing capacity, legalizing or regulating illegal activities (e.g., logging, gold mining), and/or enhancing urban employment.

F. IDPs—migration

20. Establish semi-permanent accommodation for IDPs by increasing the number (quantity) of adequate temporary or semi-permanent accommodations and/or improving the temporary shelters (in quality) to become semi-permanent accommodations.

21. Assess and mitigate the negative impact of IDPs on the host communities to avoid social tensions. This includes assessing and mitigating the effects on the water supply, electric supply, environmental impact, and sociocultural impact.

22. Mitigate further foreign migration/ brain drain by providing basic services and creating LH opportunities.

G. Gender

23. Conduct gender-specific impact studies or need assessments to expand upon the heightened risk of gender-based violence identified in this assessment. This may include evaluating the impact of hosting IDPs and school closures on the intra-HH situation, analyzing the impact of the HH situation on the capacity of women to engage in LH or food production activities, conducting a barrier analysis for women to engage in LH or food production activities, and mapping and addressing GBV and protection issues.

24. Expand access to and establish more protection and psychosocial support programs by providing general psychosocial support and referral structures as well as GBV-specific support structures and mitigation measures.

1. Introduction

1. Introduction

This report, titled "Assessment of the Adverse Impact of the Triple Crisis (Food, Energy, and Financial) on Food Insecurity and Livelihood Impoverishment of the Resident Population, Internally Displaced Persons, and Host Communities in Sudan and its SDG Roadmap," examines the detrimental effects of the ongoing triple crisis on Sudan.

Since its independence, and particularly after South Sudan's secession in 2011, Sudan has grappled with a protracted crisis that has hampered progress toward achieving the Sustainable Development Goals (SDGs). Factors such as economic mismanagement, financial crises, natural shocks, intercommunal conflicts, political unrest, and shortages of essential resources have contributed to instability and economic hardship, especially for vulnerable groups.

The current situation is characterized by widespread food insecurity, escalating energy and food prices, livelihood loss, and a sharp economic decline. This convergence of challenges constitutes a triple crisis—food, energy, and financial—that poses a significant threat to Sudan's stability and development.

The term triple crisis is used to describe the interplay of three separate but interrelated crises that are affecting LHs and food security in Sudan:

- **Food crisis**: This relates to food availability and food access. As a general trend, Sudan has become less self-reliant regarding food due to reduced agricultural production and an increased reliance on food imports, which, in turn, requires foreign currency (USD) reserves. Large parts of the population lack adequate access to food, as is reflected in food insecurity and malnutrition rates.
- **Energy crisis**: With the secession of South Sudan, Sudan transitioned from a net exporter to a net importer of energy due to decreased local production and increased local demand. This import dependency, requiring payment in foreign currency (USD), makes Sudan susceptible to fluctuations in international oil prices. Elevated energy prices not only reduce access for local populations but also escalate the costs of local food production.
- **Financial crisis**: This mainly relates to the depreciating exchange rate of the SDG, which has been primarily caused by an increase in general imports, but especially that of food and energy (demand for hard currency), which has outpaced hard currency earnings (supply) from exports. The higher costs of energy have also increased inflation. In addition, there are structural shortcomings in Sudan's financial system, especially in terms of providing access to financial services for rural populations.

The triple crisis already existed before the outbreak of war between the Sudanese Army Forces (SAF) and the Rapid Support Forces (RSF), with triple-digit inflation rates, social and political unrest, and rising food prices. Although fragmented mediation efforts are taking place, the conflict is likely to continue, hampering the people's access to goods, services, and cash, extending these necessities even further out of their reach.

Before the April 2023 crisis, the number of IDPs was estimated at 2.82 million. The number of people newly displaced by the April 2023 crisis was estimated at 7.72 million, bringing the total number almost

10.54 million; of which 1.16 million in the three selected states.[8] This makes Sudan the largest internal displacement crisis country globally.[9] Sudan's external public debt was USD 56.2 billion before the Heavily Indebted Poor Countries Initiative (HIPC). However, some relief from the HIPC was received, as well as a lifting of US sanctions, until the events of April 2023 occurred, reducing the external public debt to USD 30.9 billion.

Currently over 25 million Sudanese need humanitarian assistance—more than half of the country's population. The public infrastructure has been decimated due to fighting, leaving health care systems on the brink, with more than 70% closed or inoperable.[10] Considering the new IPC figure, the food-insecure population alone reached 25.6 million (54% of the population).[11] The number of cultivated and planted fields was significantly reduced. Fields were not planted due to the conflict, internet and electricity blackouts have been common, more than half of Sudan's population is unemployed, and the Sudanese pound has lost more than 10 times its value—that is, in July 2024, the exchange rate was SDG 601/USD compared to SDG 54.9/USD in February 2021.[12] Additionally, 8.5 million individuals are struggling with critical levels of acute food insecurity (IPC Phase 4), while 755,000 people are under catastrophic levels of acute food insecurity (IPC Phase 5) in specific locations, including Greater Darfur, Greater Kordofan, Blue Nile camp, Al Jazirah, and Khartoum.

As of December 2024, the conflict continues between the SAF and the RSF, resulting in heavy losses and displacement. The ongoing conflict and the escalation of violence in various areas, including Khartoum, Greater Darfur, and Greater Kordofan, triggered the large-scale displacement of 12.3 million people across all the states of Sudan. This comprises over 2.2 million people having fled to neighboring countries, such as Chad (36%), South Sudan (36%), and Egypt (24%). The conflict also caused damage to and destruction of critical infrastructure, including health care facilities, schools, roads, power and water sources, and telecommunication assets (IPC, December 2023).

[8] DTM (2024, June 25), *Displacement Tracking Matrix Sudan Mobility Update (3)*, DTM. IOM, https://dtm.iom.int/sites/g/files/tmzbdl1461/files/reports/DTM%20Sudan%20Mobility%20Update%20%283%29.pdf

[9] Food and Agricultural Organization (2024, March), *Crop and Food Safety Assessment Missions*.

[10] International Rescue Committee (2023, April 17), *Crisis in Sudan: What Is Happening and How to Help*, https://www.rescue.org/article/fighting-sudan-what-you-need-know-about-crisis

[11] IPC Sudan (2024, June–September).

[12] Trading Economics (2024), *Sudanese Pound*, https://tradingeconomics.com/sudan/currency

2. Methodology

2. Methodology

2. 1 Background of the Assessment

UNDP contracted i-APS in December 2022 to conduct a comprehensive assessment of the impact of the triple crisis in Sudan, evaluating how the effects of the food, energy, and financial crisis will impact the country's ability to meet its Sustainable Development Goals (SDGs). The assessment seeks to significantly contribute to the availability of accurate, timely, and actionable data, including the analysis and forecasting of the impact of the triple crisis on the most vulnerable people in Sudan. The analysis will cover host populations; internally displaced persons (IDPs); migrants and refugees; state, national, and international policy makers; practitioners in the field; and the communities themselves.

The assessment focuses on the triple crisis, including the effects of war between the RSF and the SAF which escalated in April 2023, as well as the crosscutting issues of gender, the environment, and migration (pertinent not only to SDGs but also to focusing policy development and ensuring project design is informed).

The team chose the United Kingdom's Department for International Development[13] (DFID)'s model of sustainable livelihoods titled Sustainable Livelihoods Framework (SLF) and UNDP's Livelihoods and Economic Recovery Guidance Note (LERGN) to guide this assessment, as it is fully compatible with the SDGs roadmap.[14] The analysis covers the following sectors and indicators: the households' (HH) sociodemographic data, the triple crisis, the effects of the April 2023 crisis integrated with the triple crisis, and the five DFID (now called Foreign, Commonwealth & Development Office [FCDO]) livelihood assets.

2.2 Objectives of the Assessment

The overall objective is to understand and assess the socioeconomic impacts of the food, energy, and financial crises on food insecurity, migration, and livelihood impoverishment of the resident, displaced, and host populations in Sudan. The findings in this report constitute a base for understanding how the triple crisis affects progress toward achieving the SDGs in Sudan; they also provide evidence to form the design of suitable programs to support these communities.

The Specific Objectives are:

- **SO1.** Assess how food insecurity is impacted by the triple crisis.
- **SO2.** Assess, analyze, and investigate who has been impacted and what can be done to respond to food insecurity, with a focus on conflict/insecurity/climate variability and economic decline, plus other shocks and crises.
- **SO3.** Assess, analyze, and identify the effect of the triple crisis on migration drivers, patterns, and choices.
- **SO4.** Assess the financial technology (fintech) availability, capabilities, reliability, and scalability.

[13] Renamed as the Foreign, Commonwealth & Development Office in June 2020.
[14] Similar models were developed by UNDP and FAO:
www.undp.org/sites/g/files/zskgke326/files/2023-06/livelihoods_and_economic_recovery.pdf
https://www.fao.org/agrifood-economics/areas-of-work/rima/en/

- **SO5.** Assess and investigate the impact of the financial crisis on SMEs and provide recommendations for policy orientation and development of intervention options.

2.3 Assessment Design and Sampling

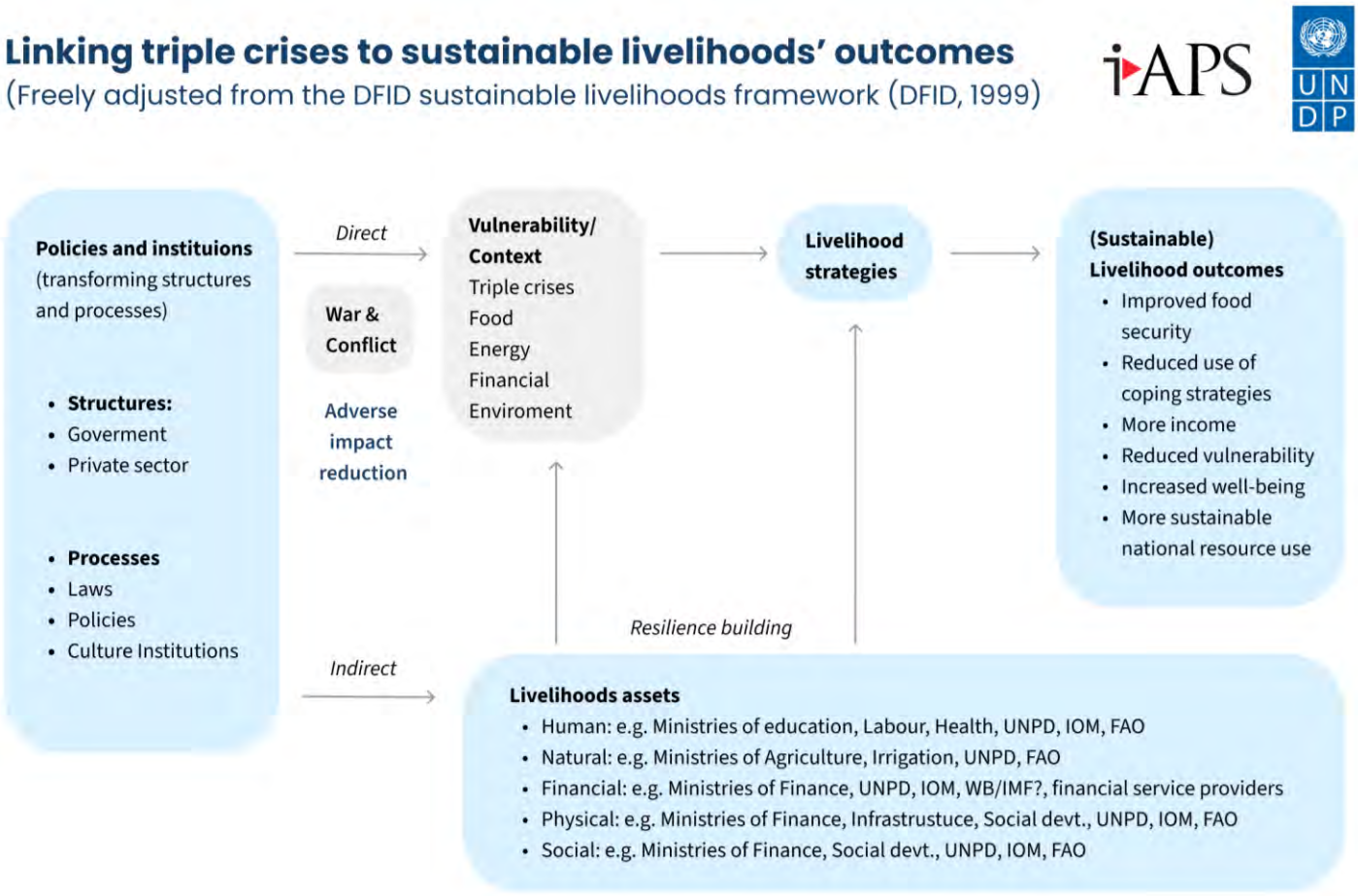
The Sustainable Livelihoods Framework (SLF; see Figure 1) was developed as part of a study funded by DFID (currently FCDO) to help understand and analyze the livelihoods of vulnerable populations. It offers an analytical framework to enhance the creation of sustainable livelihoods. Five types of capital assets are categorized in the literature for the analysis of HH livelihoods: natural capital (mainly land and water), physical capital (buildings, equipment, and inputs), human capital (labor knowledge and health status), financial capital (income and savings), and social capital (social networks, groups, trust, and support).[15] The use of these assets in livelihood strategies is often influenced positively or negatively by institutional arrangements and policies. When considering financial assets/capital, it becomes evident that four elements are important in the analysis of HH livelihoods: income-generating activities, access to credit, level and form of savings (cash, liquid assets, and jewelry), access to vouchers or state cash programs, and access to remittances.

These capabilities, assets, and activities are necessary for supporting a means of living, which they achieve by providing one's HH with adequate food, water, sanitation, health, education, and other basic needs. Stress and shock are the main reasons an individual may not be able to meet these needs or may relapse into poverty. Livelihoods are considered sustainable when they can cope with and recover from stress and shock, maintain or enhance their capabilities and assets both now and in the future, and do so without undermining the natural resource base.

This is fully compatible with the SDG roadmap, where multiple SDGs are explicitly or implicitly included, especially **SDG-1:** End hunger, achieve food security and improved nutrition and promote sustainable agriculture; **SDG-7:** Ensure access to affordable, reliable, sustainable, and modern energy for all; **SDG-13**; and **SDG-16.**

[15] Department for International Development (1999), *Sustainable Livelihoods Guidance Sheets*, https://www.livelihoodscentre.org/documents/11409769o/114438878/Sustainable+livelihoods+guidance+sheets.pdf/594e5ea6-99a9-2a4e-f288-cbb4ae4bea8b?t=1569512091877

Figure 1: Sustainable Livelihood Framework for Triple Crisis.



Source: i-APS Technical Team

Figure 1 shows the entire Sustainable Livelihoods Framework, with the "triple crisis" as the main context/vulnerability (or shock). This crisis has affected food security, the five livelihood assets, and livelihood impoverishment. Here the main shocks have been war/conflict, COVID-19, energy and food market liberalization policies (price hikes), and climate change.

A mixed methods approach was used with both quantitative (e.g., HH surveys) and qualitative data collection methods (KIIs, FGDs, and desk review) at the federal and state levels. The original plan was to include states representing the East, South, and West of the country to generate findings that could be generalized at the country level. However, due to the April 2023 crisis and resulting access and security constraints, this was no longer feasible, and instead, three states in East Sudan were purposefully selected based on accessibility and security considerations: Kassala, Gedaref, and Red Sea State.

Federal-level KIIs were held with key informants, including senior staff/experts from the government, UN agencies, donors, academics, and non-state actors.

These were supplemented with a literature review and a triangulation of results to provide findings and recommendations that contribute to a better understanding of the adverse effects of the triple crisis on

vulnerable populations across Sudan. This enhanced understanding informs strategic decision making about possible future interventions, with the goal of reducing vulnerability and strengthening resilience in crisis-affected communities in the three states and/or nationwide.

The HH survey aimed to collect quantitative data, including information on location, demographics, HH economy, availability of specific livelihood assets, the impact of the triple crisis on LH assets, and the use of various coping strategies, as well as the environmental, gender, and migration dimensions of the triple crisis. The team used a stratified, two-stage cluster sampling approach, turning, in the first stage, to blocks/villages and then, in the second stage, to a random selection of respondents. Urban and rural areas were given proper representation when selecting respondents. Using an estimated beneficiary population of 1.5–2.5 million per state, a confidence level of 95%, an error margin of 5%, and an estimated design factor of 1.25[16] resulted in a calculated sample size of 480 per state (stratum). The total sample size of surveys for all three states was 1,440. For each state, 30 clusters were randomly selected from a list of geographical locations. For efficiency reasons, data collection was limited to two representative localities per state, one more urban and one more rural. However, the total number of HH surveys collected was 1488. Interviews took place face-to-face in all three states.

The household surveys in the three targeted states were conducted from February to March 2024, with the FGDs and KIIs taking place concurrently. The desk review covered numerous reports and documents from governmental, WB, and UN sources (see Annex J for a detailed reference list). Meanwhile, the FGDs (50% females) and KIIs covered causes and impacts from before and after the April 2023 crisis to enhance an understanding of *who* was impacted and *how* food insecurity, energy, and finance challenges can be addressed. Important crosscutting issues, such as gender, migration/displacement, conflict, insecurity, environment (i.e., climate change, extreme weather conditions), and economic downturns, as well as other shocks/crises, were part of the questionnaire. This is expected to improve informed strategic decision making about current and future development interventions, with the aim of reducing vulnerability and strengthening resilience in crisis-affected communities in the three states and/or nationwide.

2.4 Fieldwork

The fieldwork was divided into two stages. Stage one of the fieldwork comprised the KIIs in Khartoum state (federal level), conducted in March and April 2023. Due to the April 2023 crisis and escalation in violence, the second phase of fieldwork was paused until 2024. It encompassed household surveys, KIIs, and FGDs in Kassala, Gedaref, and the Red Sea states, after the team received permission from the Humanitarian Aid Commission (HAC).

For the Kassala data collection, the team gathered information from January 9 to January 23, 2024. Work in Gedaref state began on March 9 and finished on March 23, 2024, and in the Red Sea states, between March 14 and March 28, 2024. Eighteen team members were deployed across the three states, six per state, including one survey manager and five trained enumerators. Two representatives from the Ministry of Finance & Economic Planning (MoFEP) and four from HAC participated in all three states.

[16] To compensate for the reduced degree of randomness since cluster sampling was used instead for example list-based random sampling

Most of the primary data collection involved in-person surveys at the HH level. Additionally, smaller numbers of qualitative data were collected via KIIs and FGDs. All data was collected using Kobo Toolbox software. Survey managers trained the teams, ensuring that high-quality data collection and that the interviewers understood the definitions and concepts underlying the language of the questions. The survey managers also supported the teams, enabling them to ensure protocol was followed, and they reviewed each complete questionnaire.

Progress was slowed at times, with almost daily movement restrictions in Gedaref. This stagnation was accompanied by low response rates in both states (including the Red Sea), which required the team to extend the time to conduct fieldwork in both states.

A total of 1,488 households were surveyed in the three states shown in Table 1 below:

Table 1: Respondents by State and Locality

State	Location	Number of HHS Interviewed	KIIs	FGDs
Khartoum	Khartoum	NA	27	NA
Kassala	Urban Kassala	336	6	2
	Rural Kassala	169	1	2
Gedaref	Central Gedaref	340	6	2
	Eastern Qalabat	146	1	2
Red Sea	Port Sudan	391	5	2
	Sinkat	107	1	2
TOTAL		**1,488**	**47**	**12**

2. 5 Assessment Limitations

The assessment team originally planned to conduct fieldwork in three states: Kassala, representing the eastern part of Sudan; North Darfur state, the western region; and South Kordofan, the southern. These states were selected as representatives of the broader region in terms of population and types of livelihoods. However, the war between RSF and SAF in April 2023 completely changed the in-country security dynamics and postponed the fieldwork for nine months. Khartoum and Darfur witnessed

intensive fighting, which is still ongoing at the time of this report, while the situation in the South is also very volatile, making primary data collection in these areas impossible.

Due to the conflict in North Darfur and South Kordofan states, the evaluation team and focal points from RCO, UNDP, IOM, FAO, and MoFEP agreed to limit primary data collection fieldwork in Kassala, Red Sea, and Gedaref states, which, according to Sudan's security authorities, were classified as safer. In February 2024 the field team received permission to conduct the fieldwork, and it restarted in March 2024.

The initial objective of the assessment was to generate findings and recommendations based on data collection from representative states from the various regions, which would then be generalized at a national level. However, due to the April 2023 crisis, this was not possible, and instead, three states from the eastern region of Sudan were selected. As a result, this may limit the extent to which the findings and recommendations can be generalized at the national level. Taking into account the logistical and time constraints, the team collecting the data was limited to two representatives within each state, as was agreed upon during the inception phase. Each state included one more urban and one more rural locality, which includes a variety of population groups, like host communities, IDPs, and refugees.

The (partially) random nature of the final cluster/village selection caused some challenges for the fieldwork. The field team was aware that Port Sudan, Red Sea State, and Gedaref Town were experiencing tribal conflicts. The main security issue identified was that communities in these clusters became more reluctant to interact with noncommunity members. In these localities, the field team attempted to do the surveys with support from community facilitators, but the response rate remained low. Accordingly, the plan was changed; changes were made at the community level within clusters, and the sample sizes were proportionally allocated to safer localities.

Kassala State
KII with Executive Director of Rural Kassala Locality, Kassala State

3. National-level Findings

3. National-level Findings

Since the South's secession in 2011, Sudan's economy has been in a downward spiral, with the gross domestic product (GDP) falling from USD 66.4 billion in 2011 to USD 51.6 billion in 2022 but increasing to USD 109.3 billion in 2023.[17] This has been intensified by frequent natural disasters (e.g., droughts and floods) and social tensions due to tribal conflicts. Sudan's government adopted several ambitious reform programs to mitigate the negative effects and achieve economic stability. In 2020, PM Hamdok's government devalued the currency to encourage exports[18] and attract remittances through official channels, cancelled fuel and wheat subsidies, enhanced public financial management and social protection through an expansive cash transfer program, and initiated anticorruption and tax reform.[19]

However, these policies resulted in triple-digit hyperinflation, leading to dramatic price hikes for mainly food commodities and energy. The inflation rate slowed to two digits in 2022, down from 422.8% in July 2021. The volatile exchange rates, compared to USD, devalued to 1,670 SDG / USD in May 2024, down from 585 SDG / USD in January 2023, further increasing inflation and prices.[20] The acceleration of the inflation rate, driven by high production and food costs, shortages of goods and services, and elevated transportation costs, significantly impacts deficit financing through borrowing from the banking system, leading to cost-of-living increases. Higher rates of poverty and inequality in the country are already evident. Even before the April 2023 conflict, the financial crisis was already considered a significant contributor to food insecurity, largely due to exchange rate volatility and hyperinflation. These issues are exacerbated by the suspension of certain types of international donations (World Bank announced the suspension of disbursements for operations in Sudan as a consequence of the military's seizure of power) for large-scale support due to the civil government change in 2021.

Since the April 2023 conflict, the economy has further deteriorated, adding to the five consecutive years of contraction.[21] The overall economy, including its digital economy (financial services, business, e-services), is limited. For instance, the supply of digital skills is low, affecting the ability of individuals and businesses to leverage existing digital platforms and products.[22] The decline in remittance flows from Sudanese working abroad and the reduction or even halt of foreign financial support (e.g., WB); additionally, investments have seriously impacted the country's overall output capacity. Combined with the enormous domestic and external debt, this puts further pressure on the financial system. The current inflation rate, which is expected to remain high, makes it hard to have sustainable investments.

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[17] World Bank Group (2023), *GDP (Current US$)–Sudan*, https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=SD The evaluation team could not verify the cause of this seemingly excellent economic performance during COVID and the Ukraine crisis. A possible cause might be the use of a standard USD-SDG exchange rate, which has been much higher than the actual exchange rate, meaning the reported GDP is in SDG (which increased due to inflation) and appears much higher than when in USD. Other sources are contradicting this performance. For example, see https://www.dabangasudan.org/en/all-news/article/report-dismal-performance-of-sudan-economy-will-continue-if-military-rule-persists

[18] Increased illegal trade and smuggling of food and nonfood items (e.g., gold, sesame, gum Arabic, and petroleum materials) to Eritrea, Ethiopia, Egypt, and Chad. See World Bank Group (2023).

[19] UNDP/SDN/RFP/22/032 (2023, October 11). Assessment of the Adverse Impact of the Triple Crisis (Food, Energy, and Financial) on Food Insecurity and Livelihood Impoverishment on the Resident Population, Internally Displaced Persons, and Host Communities in Sudan and Its SDG Roadmap. Progress Report.

[20] VAM Food Security Analysis (2024, February), *WFP Market Monitor Report February*, https://reliefweb.int/attachments/e69a2ca4-fefe-4141-8818-4206a6799c30/WFP-0000157567.pdf

[21] World Bank, Poverty & Equity and Macroeconomics, Trade & Investment Global Practices (2023), *Sudan*, https://thedocs.worldbank.org/en/doc/bae48ff2fefc5a869546775b3f010735-0500062021/related/mpo-sdn.pdf

[22] World Bank (2022), *Digital Economy for Africa (DE4A): Diagnostic Assessment for The Republic of Sudan the World Bank Group*, www.worldbankgroup.org

These devastating humanitarian and socioeconomic effects have further hampered the federal government's ability to collect revenues for salaries and social services, such as health care, education, social assistance, and family support services. The productive capacities in the country were heavily compromised, damaging and destroying food-manufacturing facilities and markets. This slowed production and marketing, forcing some key private sector actors to lay off workers. Sudan has the highest unemployment rate in the world, hovering at 49.5%.[23] Unemployment levels are likely to continue soaring, with laid-off workers in desperate need of financial support and sustainable livelihood opportunities. The private sector is also in urgent need of financial and technical support from the international community (e.g., the international financial institutions, through concessional loans) to resume its economic activities and to provide job opportunities.

3.1 Food (Security) Crisis

Food security has three main pillars: food availability, access to food, and food utilization and one cross-cutting pillar called stability.[24] The FAO defines food security in the following way:

> **"Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life"** [25]

The interaction among a broad range of agri-environmental, socioeconomic, and biological factors typically determines the food security status of any household or individual. The complexity of the food security problem can be simplified by focusing on three distinct but interrelated dimensions: aggregate food availability, household food access, and individual food utilization.

A food crisis refers to inadequate food availability (in terms of quantity and quality) and poor access, with availability indicating production, agricultural productivity, food stocks, imports, and distribution systems. Access means an individual's ability to obtain and afford the available food items, which involves income levels, purchasing power, market prices, transportation, infrastructure, and social safety nets.[26] Sudan produces a wide variety of food items, meaning basic items are generally available in the market, except wheat.

Achieving food security has been a major challenge for policymakers. The April 2023 conflict and other shocks significantly worsened the already dire food security situation. According to the latest projections (for June to September 2024) from the Integrated Food Security Phase Classification (IPC), intense conflict and organized violence, coupled with continued economic decline, have driven approximately 25.6 million people across Sudan (54% of the analyzed population) into high levels of acute food insecurity, Phase 3 or above (crisis or worse). Among these, 755,000 people are in IPC Phase 5

[23] International Monetary Fund (n.d.), *Sudan*, https://www.imf.org/en/Countries/SDN
[24] Stability is also considered the fourth floor, but it is really applied across the three pillars and is mostly relevant to the development phase (not in emergency).
[25] https://www.worldbank.org/en/topic/agriculture/brief/food-security-update/what-is-food-security
[26] https://fscluster.org/sites/default/files/documents/fs_dimensions-_access.pdf

(catastrophe), 8.533 million (18%) are in IPC Phase 4 (emergency), and 16.309 million people (34% of the population analyzed) are in IPC Phase 3 (crisis).[27]

Due to the April 2023 crisis, according to the Humanitarian Needs Overview, 13.6 million children (49%) and 24.8 million people (49%) urgently needed humanitarian assistance in 2024.[28] A 2022 IMF report indicated an alarming heat map for food, energy, and debt vulnerability indicators.[29] Based on data from the World Bank, the Food and Agriculture Organization, and the International Energy Agency, the generated heat map, which assessed the risks faced by 35 low-income countries, including Sudan, showed that Sudan was among the most vulnerable countries in all three dimensions. The report attributed Sudan's high vulnerability to the combined effects of conflict, political instability, economic crisis, climate shocks, and the COVID-19 pandemic. The report also highlighted the need for urgent reforms and international support to mitigate the risks and prevent further deterioration.

3.1.1 Food availability (production and supply)

In 2023 national cereal production, including those wheat crops to be harvested in March 2024, was estimated at about 4.1 million tons, 46% below the output obtained in the previous year and about 40% below the average of the previous 5 years. Sorghum production in 2023 was estimated at about 3 million tons, 42% lower than in 2022 and 34% below the average. Millet output was estimated at about 683,500 tons, 64% lower than the output obtained in 2022 and 60% below the average. Production of wheat, which was to be harvested in March 2024, was forecasted at about 377, 900 tons, about 20 % lower than the previous year and 46% below the average.[30]

The drastic decrease in total cereal production in the country in 2023 was mainly due to the impact of the ongoing conflict on agricultural activities, either directly affecting it through displacement and lack of access to land or indirectly due to the resulting scarcity and high prices of agricultural inputs. Most inputs, including fertilizers, herbicides, and agricultural machinery, were very scarce and extremely expensive during 2023 and/or not timely or available, which delayed planting and other agricultural operations. In addition, recurrent climatic shocks, such as below average or erratic rainfall, adversely affected livestock and crop production outputs, resulting in low yields.[31]

Production challenges, whether natural (e.g., weather conditions, climate change) or resulting from events like conflicts over resources between farmers and pastoralists, as noted by WFP staff during the KIIs, negatively impacted food and nutrition security (FNS). As noted in the 2024 progress report, the agricultural sector is inadequately financed by both the public and private sector financial institutions.

3.1.2 Access to food

During the Khartoum KIIs, one of the UN partners communicated that poor access to income generation is the main cause of this food crisis, as without income, people cannot pay for food. Production, availability, and access are closely linked: greater local production should result in better

[27] Integrated Food Security Phase Classification (2024, April–May), *Sudan: Acute Food Insecurity for April–May 2024 and Projections for June–September 2024 and October 2024–February 2025*, https://www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1157066/?iso3=SDN
[28] OCHA (2023, December), *Sudan Humanitarian Needs and Response Plan 2024 (December 2023)*, ReliefWeb, https://reliefweb.int/report/sudan/sudan-humanitarian-needs-and-response-plan-2024-december-2023
[29] International Monetary Fund (2022), *IMF Country Report No. 22/266*.
[30] Food and Agricultural Organization of the United Nations (2024, March 11), *Special Report: 2023 FAO Crop and Food Supply Assessment Mission (CFSAM) to the Republic of Sudan*, https://fscluster.org/sites/default/files/2024-04/CFSAM%20Sudan%20March%202024%20CCEN.pdf
[31] Integrated Food Security Phase Classification (2024, April–May), *Sudan: Acute Food Insecurity*.

availability/supply, reducing prices and enhancing access. An example of the interrelatedness between availability and access is the Ukraine conflict, which resulted in higher global wheat prices since Ukraine is a major producer and exporter, and its production capacity has been strongly reduced.

According to the WB, Sudan imports 2.5 million metric tons (MT) of wheat, making Sudan heavily dependent on wheat imports and vulnerable to global food price fluctuations. The cereal import requirements for the 2024 marketing year (January/December) were forecasted at 3.38 million tons, with 2.44 million tons of wheat; 662,000 tons of sorghum; and smaller amounts of rice, millet, and maize.[32] With the higher prices of imported food items, the purchasing power of the people will further decline and consequently cause an increase in food insecurity in the country.

The global increase in wheat prices has reduced access for those who cannot afford it. These imports have also put pressure on foreign currency requirements, showing their interrelatedness with the financial crisis. Multiple Khartoum stakeholders mentioned that production and yield were negatively affected by factors such as climate change and low use of technology, such as high-yield varieties (HYV), seeds and fertilizer, irrigation systems, climate-smart practices, and limited access to finance.

The cost versus affordability challenge for a healthy diet in Sudan is ongoing, with the cost estimated at USD 3.1 per person per day, meaning an overwhelming part of the population (85%, or 39 million) is unable to afford a healthy diet.[33] Reduced purchasing power at the HH level affects food quantity and diet diversity, with HHs resorting to (food) coping strategies, as noted by FAO and WFP during the central level KIIs.

Lastly, the massive displacement caused by the April 2023 crisis caused a general deterioration in living standards due to a loss of assets, homes, and land, as well as the resulting high unemployment that followed the collapse of the private and governmental sectors. This adversely affected the food security of large parts of the population.[34]

3.1.3 Food consumption (and nutrition/ health)

The major factors that contribute to the health and nutrition situation in the country include HH food insecurity, the lack of infrastructure, including health services, a lack of trained staff, and poor health education.[35] Other reasons are the type and pattern of food intake and cultural eating habits, resulting in pervasive micronutrient deficiencies and high malnutrition rates. Previous empirical evidence from food security emergencies demonstrates that large kilocalorie deficits coupled with high disease incidence due to poor water, sanitation, and hygiene conditions lead to high levels of acute malnutrition.

[32] FAO (2024, March 11), *FAO-CFSAM.*

[33] FAO (2022), *The State of Food Security and Nutrition in the World*, https://openknowledge.fao.org/server/api/core/bitstreams/67b1e9c7-1a7f-4dc6-a19e-f6472a4ea83a/content

[34] Elfatih Ali Siddig (2023, November) *The Impact of Sudan's Armed Conflict on the Fiscal Situation and Service Delivery*, https://www.unicef.org/sudan/media/13276/file/The%20Impact%20of%20Sudan's%20Armed%20Conflict%20on%20the%20Fiscal%20Situation%20and%20Service%20Delivery.pdf

[35] Abu-Manga M, Al-Jawaldeh A, Qureshi AB, Ali AME, Pizzol D, Dureab F. (2021, May 1), Nutrition Assessment of Under-Five Children in Sudan: Tracking the Achievement of the Global Nutrition Targets, *Children (Basel), 8*(5), 363, https://doi.org/10.3390/children8050363; Africa Health Business (2021), *Sudan's Health Sector*, https://www.ahb.co.ke/wp-content/uploads/2021/07/Country-Overview-Sudan.pdf; World Bank (2023, June 26), Sudan's Health Workforce Matters, https://documents1.worldbank.org/curated/en/099062823021014007/pdf/P175196027650f0c099be0717f6f5ffccf.pdf

The Simple Spatial Survey Method (S3M) indicators for wasting and stunting in children under 5 are also alarming (13.6% and 36.4% respectively [2018]).[36] The prevalence of anaemia in women was 36.5% in 2023 (15–49 years) gives an alarming indication of their poor nutritional status.[37]

3.1.4 Food stability

Food stability is a cross-cutting dimension that encompasses the above factors in terms of the consistency of adequate consumption of food by households. Stability includes [a] reducing risks of adverse effects on the availability, access and utilization; [b] promoting resilience of food systems that improves HH and community food security; [c] regularly monitoring the food security situation, needs and factors affecting the stability of food supply, access and utilization and [d] establishing/strengthening "strategic food reserves" to keep the market prices of food stable.

A Strategic Reserve Corporation (SRC) was established in 1992 in Sudan to stabilise cereal prices by adjusting the supply of sorghum, rice, wheat and millet available to the market during periods of deficit production years. It purchases and markets the sorghum and promotes the surplus for export. Moreover, it provides facilities for the promotion and development of the agricultural sector through the provision of equipment, services and finance. The SRC has a storage capacity of 290,000 mt of cereals. Most of these facilities are in Gadaref and Port Sudan.

3.2 Energy Crisis

Some of the interviewed Khartoum stakeholders viewed the energy crisis as the cause of both the food and financial crises, making it the most pressing issue. Others believed the energy crisis resulted from the financial crisis. Sudan's energy sector is known for its challenges: persistent blackouts, inadequate energy infrastructure, and a lack of coherent government policies to address them, exacerbated by hyperinflation, fuel shortages, and a lack of infrastructure maintenance, as well as the ability to import the spare parts needed to run power stations.[38]

South Sudan's secession resulted in a loss of 75% of Sudan's oil reserves and 25% of its hydropower. As a result, only 60% of the country's electricity needs are met, leaving millions enduring frequent, often long-lasting power cuts.[39] In addition, it changed Sudan from a net exporter into a net importer, making the nation dependent on international oil prices and foreign reserves to pay for imports. Further, the secession put pressure on the national currency and created a risk of importing inflation. The US Energy Information Administration (EIA)'s 2024 report indicated that in 2021, only 62% of the country's population had access to electricity[40] (urban populations had substantially more access [84%] than rural populations [49%]). Under pressure to provide more electricity, thermal power plant construction was prioritized during the al-Bashir era, deepening the need for imported fuel (while exchange rates were

[36] OCHA Services (n.d.), *Sudan National Survey (S3M II),* https://data.humdata.org/dataset/simple-spatial-survey-method-s3m-ii-for-sudan-2018?

[37] FAO (2024), *FAO Emergencies and Resilience*, https://www.fao.org/emergencies/where-we-work/SDN/

[38] International Journal of Environmental Studies (2023). *An analysis of Sudan's energy sector and its renewable energy potential in a comparative African perspective*. https://www.tandfonline.com/doi/full/10.1080/00207233.2023.2177417

[39] https://www.tandfonline.com/doi/full/10.1080/00207233.2023.2177417#:~:text=The%20decrease%20in%20energy%20supplies,obstacles%20to%20its%20full%20use.

[40] US Energy Information Administration (2024, March 20). Sudan Overview. https://www.eia.gov/international/analysis/country/SDN

unstable, and inflation increased). Electricity costs increased, impacting greenhouse gas emissions as people shifted to other environment-unfriendly sources, like wood and coal.

Impact

In 2019 the transitional government implemented a gradual increase in all types of fuel prices as a way to eliminate government subsidies, and a three-year electricity price reform and subsidy elimination program began.[41] Part of the reform program the authorities increased prices by 500% for household consumption, which triggered large-scale public protests. This price reform also applied to the industrial sector, with the agricultural sector seeing a more than fourfold increase in energy prices. This resulted in the closure of many SMEs and the further deterioration of foreign investment.[42]

In a 2020 report, UNDP made the case for the nexus between energy, poverty, and gender.[43] One cannot meet his or her needs when access to energy services is limited, especially considering that energy is needed for growing and cooking food, livelihood activities, and mobility. As such, reduced access to energy is an important root of poverty, for it severely limits income generation opportunities, especially for poorer HHs. Since the energy and April 2023 crises further resulted in less production and higher prices, this will have a severe negative impact on large parts of the population.

Production

Given its strategic importance, the energy/oil sector was one of the sectors most affected by the April 2023 crisis and the war. For example, the largest oil refinery, Al-Jaili, witnessed massive fighting and is currently controlled by RSF. There is no clear information about its operations and daily production. In addition, the pipeline used for South Sudan's oil exports was damaged in areas under RSF control and may require maintenance. Other effects include the following: some producing blocks have shut down—for example, block 6 is producing about 20,000 BPD, block 17 is producing around 2,000 Barrel Per Day (BPD), and block 4 (partially) is producing about 5,000 BPD; the Petro-Energy pipeline shut down (28 inches of pipeline equaling 713 Km); there was the looting of Balela Central Processing Facilities offices' furniture, operating vehicles, spare parts, tools, and equipment in block 6; there was the Obied refinery incident and the partial destruction of some Khartoum Refinery Facilities; and the latest was the shutdown of BAPCO Pipeline transporting the Dar Crude oil from South Sudan blocks 3 and 7, which is operated by DPOC, a consortium that includes Nilepet, China's CNPC and Sinopec, and Malaysia's Petronas, with a daily production of 95,000 BPD, the crude is transported to the Marine Terminal in Bahayer Oil terminal on the Red Sea crossing Sudan territory (32 inches of pipeline, equaling about 1,600 Km in length).[44]

These damages to oil infrastructure resulted in a considerable increase in local oil prices, as well as price hikes in other services, such as transportation. They also caused a loss of the foreign revenues generated from South Sudan fees. Nevertheless, the government claimed to focus on increasing electricity by

[41] Ndip, E., Paci, A., & Pierella (2019, June) *Fuel Subsidy Reform in Sudan: An Assessment of the Direct Welfare Impact on Households*, World Bank Group, https://documents.worldbank.org/en/publication/documents-reports/documentdetail/124871628489531757/fuel-subsidy-reform-in-sudan-an-assessment-of-the-direct-welfare-impact-on-households

[42] Ndip, Paci, & Pierella (2019, June) *Fuel Subsidy Reform in Sudan.*

[43] UNDP (2020): Empowering Sudan: Renewable Energy Addressing Poverty & Development

[44] Elnourani, M., Hamid Elhag, H. S., Alasad, W. I., & Bashier, M. N. (2024, August), Khartoum War's Echoes in Oil and Energy Sectors: Economic and Environmental Implications for Sudan and South Sudan, *Heliyon, 10*(15), https://doi.org/10.1016/j.heliyon.2024.e34739

constructing new power plants and expanding transmission and distribution networks in the country, especially in Kassala state.

Link to food security and livelihoods

Food security is closely linked to energy security. MoEn reported that 52% and 20% of national fossil fuels and electricity were consumed by the transportation sector, respectively; agriculture and industry made up the rest. DSRI-UoK stated that the high price of fuel significantly increased transport costs, which affected all goods and services. Due to a number of the reasons stated above, including energy (production and transportation), staple food prices rose by 230%+ in one year,[45] and the cost of electricity increased by 5.6 times. The impact on the overall economy is elaborated in Section 3.3, titled Financial Crisis, which shows the interrelatedness of the three crises.

Examples of direct impact on national food production were also provided. The Ministry of Industry (MoI) highlighted the edible oil-processing industry, where efficiency had substantially decreased due to the fuel and finance crises, hindering operations and the creation of new businesses. MoFEP noted that most industries currently run at below-average capacity due to power failures and the high costs of fuel/electricity. Other stakeholders who commented on the impacts of limited access to energy, shortages of it, and a lack of alternatives in industries, especially food industries, included UNDP, FAO, IMO, and most governmental entities interviewed.

3.3 Financial Crisis[46]

There are several key structural causes of the financial crisis, the effects of which were exacerbated by the triple crisis and the April 2023 crisis. It has been more than 25 years since Sudan was placed on the US and EU sanctions lists, which effectively blocked Sudan's access to financial markets and hard currency. The sanctions also excluded Sudan from programs sponsored by major financial institutions like WB and IMF. Sudan-USA relationships have improved in recent years, and sanctions were supposed be partially lifted. However, Sudan's hope of clearing USD 50 billion worth of debt through IMF's Heavily Indebted Poor Countries Debt Initiative (HIPC-DI) was eliminated due to regime changes.

The consequences of limited access to financial systems and hard currency were partially mitigated by the hard currency gained from significant exports of oil (and, to a lesser extent, of gold and valuable agricultural commodities, like Arabic gum). This reduced the pressure on the national currency. The secession of South Sudan both reduced the hard currency earnings from exports and caused an increase in oil imports to Sudan. However, this put a lot of pressure on the national currency and made Sudan very vulnerable to exchange rates against the USD.

Sudan has always had a relatively high (double-digit) inflation rate. However, while rates were fluctuating from 0% to 40% from 1997 to 2017, they have increased structurally since 2017, with an extreme of 359% in 2021 (during the COVID-19 crisis). Although it went down to 138 in 2022% and 77% in 2023,[47] during 2024, it went up to 200% again. This clearly shows the negative impact of the triple and April 2023 crises.

[45] FEWS NET (2022, November 24), *Sudan Food Security Outlook, October 2022 to May 2023*, https://reliefweb.int/report/sudan/sudan-food-security-outlook-october-2022-may-2023.

[46] It was noted that the extent to which there is a financial "crisis" was disputed by some key informants at state level as well as some workshop participants. However, all agreed that there are important and pressing challenges in the financial sector that need to be addressed.

[47] It is unclear how reliable the 2023 and 2024 figures are, given the conflict situation.

Impact

Political instability led to an economic downturn, which reinforced the effects of the triple crisis, thus reducing the effectiveness of mitigation measures and structural reforms (e.g., the liberalization of the energy market). This caused unprecedented price hikes and a further depreciation of the national currency against the USD, creating a vicious circle affecting the entire country, both rich and poor. The devaluation of the currency encouraged people to withdraw their deposits from the banks and convert them to stable foreign currencies, which applied even more pressure to the national currency and resulted in a foreign reserve crisis.

The financial crisis, along with the energy crisis, significantly escalated production costs, impacting the competitiveness of Sudanese businesses and products in relation to imports. This foreign competitive edge has already resulted in certain SMEs closing. There are a variety of reasons behind the high production costs, particularly the following examples: the volatile exchange rates/high inflation combined with the inability to do business in hard currencies, high energy prices, frequent power cuts, a shortage of financing and high running costs, high costs and low-quality products (compared to imported goods), and reductions in food/ crop production, including key export products. With the economy shrinking and business activities declining, salaries are either being reduced or stagnating (even when there is high inflation), decreasing the purchasing power of households. Then unemployment rises, reducing the regular income sources of households.

The deterioration of the SDG-USD has especially affected SMEs, which pay a significant portion of their costs in USD but generate sales in SDG and are often unable to charge the increased cost to their customers. Other challenges have also affected them, including (access to) financing, collateral and guarantees for finance, and repayment modalities. In addition, their access to both national and international markets is limited. As a result, many have sold their assets, increased their debt, decreased their productivity, and increased their domestic needs prices, with some even closing their businesses.

Social allowances are often linked to salaries (developments) and have been affected similarly. For example, pensions (3,000 SDG/month) have not increased, regardless of the three-digit inflation rate, while prices have increased tenfold. Government salaries were largely stopped or significantly reduced in many states (in Gedaref, government officials did not collect salaries from April to the end of December 2023 due to a lack of revenues from taxes and customs).

Khartoum KII interviews and the literature review show that social remittances (zakat and sadaqah) were the only source of in-kind/cash income for the poor from the rich (zakat/waqf system) in all of Sudan after the end of the Thamarat program (which provided assistance to the poor as a mitigation mechanism to subsidy removal). With government revenues dropping significantly and salaries not being paid, the savings of most HHs were substantially reduced or depreciated by inflation, and the sale of HH assets (clothes, furniture, etc.) became a more common negative coping strategy. Public safety nets had limited coverage, with poor access to public health/livelihoods insurance as well as to financial services. The removal of SDG devaluations and subsidies negatively affected all of these social services.

The government implemented financial policies to manage the April 2023 crisis—for example, discontinuing microfinance, ending social safety nets like zakat and so forth, and denying salaries to government employees—but these further aggravated the situation and pushed many families into food insecurity, depriving them of their livelihoods.

Financial service providers

Commercial banks dominate the financial sector in Sudan,[48] operating in accordance with Islamic laws since 1984. Budget constraints for both government and private banks are common, with many banks undercapitalized; improvements in banking regulation and supervision capacity are needed. The banking sector was seriously affected by the April 2023 crisis due to the closure of the headquarters premises in Khartoum, when branches were closed for weeks and underwent major financial losses due to credit defaults.

The structural problems and continued weak economic performance of the financial service providers has affected their capacity to support and provide financial assets, which has restricted their ability to support initiatives for financial inclusion. Several key financial assets in Sudan include access to LH or income-generation opportunities, formal and informal financial services, credit, and savings, as well as remittances, pensions, and external assistance.

Even the alternative financial service providers are currently weak, especially the microfinance institutions (such as the financial cooperatives that serve as institutional foundations for financial intermediation and drivers of financial inclusion). This highlights a system-wide gap that hinders access to financial services, limiting economic growth and development opportunities. Notably, the prices of agricultural inputs in 2023–2024 increased in all states, limiting farmers' access to those inputs required for crop management, harvest, and storage. This was exacerbated by a lack of financing for farmers, the devaluation of the local currency, limited supplies at local markets, and limited access to cash.

3.4 Livelihood Assets

Assets are stocks comprised of different types of capital that can be used directly or indirectly to generate livelihoods. They can give rise to a flow of output but can then possibly become depleted, or they may be accumulated as a surplus to be invested in future productive activities. Access to assets increases the potential capacity of households to manage and mitigate shocks (including drought and conflict) and ensure consumption during crisis periods. However, this potential depends on multiple factors, such as the types of assets (e.g., selling a house is a complicated and one-off event), the ownership (e.g., rented land cannot be sold), and the nature of the shock. Furthermore, access to assets can help such households handle income uncertainties and escape poverty.[49]

The major livelihood assets are organized into five categories—namely, natural, physical, human, financial, and social. Other resilience frameworks, like FAO's Resilience Index Measurement and Analysis (RIMA) framework[50] and ICRC's framework for community resilience,[51] use similar categories. The five

[48] The financial system includes 37 banks and several nonbank financial institutions—mainly insurance companies and small-scale microfinance institutions, with limited sizes relative to the economy. Four state-owned banks (with 14% of total banking assets) operate as specialized banks, and these focus on providing credit to targeted sectors, such as agriculture or infrastructure development.
[49] FAO (2021) *Analysing Resilience for Better Targeting and Action—Food and Nutrition Security Resilience Programme in South Sudan Baseline Report*, Rome, https://doi.org/10.4060/cb6729en.
[50] FAO (2024), *Agrifood Economics*, https://www.fao.org/agrifood-economics/areas-of-work/rima/en/.
[51] IFRC (2018, August 3), *Framework for Community Resilience*, https://www.ifrc.org/document/ifrc-framework-community-resilience.

types of capital identified by the Sustainable Livelihoods Framework, as mentioned above, are shown in the Table 2. [52]

Table 2: Livelihood Assets Description	
Five Capitals of Livelihoods	**Short Description**
Human capital	"Human Capital represents the skills, knowledge, ability to labor and good health that together enable people to pursue different livelihood strategies and achieve their livelihood objectives" and is constituted by the quantity and quality of labor available. At the household level, therefore, it is determined not only by household size but also by the education, skills, and health of household members.
Social capital	The nature of social capital is often determined by the social class of the stakeholder and influenced by gender, age, and/or caste. The inclusion of stakeholders into a network or group implicates the exclusion of others, which can result in an interference with development. The high local value of the social capital clearly comes from its capacity to compensate for calamities or the shortages of other capitals. Any assets, such as rights or claims, are derived from group membership. This includes the ability to call on friends or kin for help in times of need, support from trade or professional associations (e.g., farmers' associations), and political claims on chiefs or politicians for aid.
Physical capital	Created by economic production, this includes infrastructure such as roads, irrigation works, electricity, reticulated equipment, and housing. The role of this asset can be seen in the context of opportunity costs, where an existing accessible infrastructure releases either labor or provides time as a resource for example education.
Natural capital	This consists of land, water, and biological resources, such as trees, pasture, and biodiversity. It describes, especially for resource-dependent communities, the stock on which all livelihood activities are built. This capital represents rural communities, which have a high proportion of poor stakeholders, an essential value that, in fact, is prone to calamities. Not seldom are these calamities caused by natural processes (e.g., floods, fires, seasonal storms, and earthquakes). The productivity of these resources may be degraded or improved by human management.
Financial capital	Financial capital can be accumulated from two different sources; one source is represented by available stock in the form of cash or equivalent available assets, such as livestock, and the other source is characterized by the external inflow of money that originates from labor income, pensions, remittances, or other types of financial liabilities. Of the five capitals, the financial capital most enables people to adapt to different livelihood strategies. It sets the precondition for the creation or improvement of capitals other than financial capital.

[52] Elasha, B. O., Elhassan, N. G., Ahmed, H., & Zakieldin, S. (2005, August), *AIACC Working Paper No. 17*, https://www.start.org/Projects/AIACC_Project/working_papers/Working%20Papers/AIACC_WP_No017.pdf; Lax, J. & Krug, J. (2013), *Livelihood Assessment: A Participatory Tool for Natural Resource Dependent Communities, Thünen Working Paper No. 7*, Johann Heinrich von Thünen-Institut, https://www.econstor.eu/bitstream/10419/87578/1/767805186.pdf

3.4.1 Human assets

Sudan has an abundant supply of labor within the country. However, livelihood opportunities are limited, as agriculture has been heavily impacted by droughts and hard-hit by the April 2023 crisis. The unemployment rate of adult men and women is quite high in Sudan. According to the SLMPS 2022, before the April 2023 crisis, the unemployment rate among the labour force was 8% (7% males and 15% females)[53], however, in other reports, 15% of the adults (+25 years of age) were unemployed (2022), whereas the female adult participation rate was only 25% for the same age group (2022).[54] The unemployment rate for 2023 was reported at 21%,[55] while it is forecasted to be 49% by the end of 2024, and the number of unemployed people in Sudan is predicted to be 7.03 million in 2024.[56] However, the International Labour Organization (ILO) reported the unemployment rate as 11% (15+ years of age) in 2023 and 12% in 2024, whereas the female unemployment rate was reported at 19.9% and 19.8% for the same age group during 2023 and 2024, respectively.

Regarding skills and knowledge, around 6.9 million children in Sudan remain out of school despite the growing number of schools and enrolled students over the past decade.[57] Opportunities for skill and vocational training are quite inadequate. Sudan recognizes the importance of skilled manpower and actively seeks to fortify its workforce.

The lack of LH opportunities has also resulted in a consistent flow of international migration of skilled laborers (a so-called brain drain), particularly to Gulf countries; see Section C5.3.

3.4.2 Natural assets

Sudan is well-endowed with a variety of natural resources, including 19,823,160 hectares (10.72% of the country's total area) of arable land, water, minerals, and climatic conditions. The agricultural sector remains the backbone of Sudan's economy, accounting for more than one-third of the GDP, with cotton, sesame, groundnuts, and gum Arabic being its key export earners. Additionally, the sector is a main source of the country's food supply. In Sudan the main food staples are sorghum, millet, and wheat. In normal seasons, the country is self-sufficient in terms of sorghum and millet; however, Sudan is a net importer of wheat.

Additionally, policies related to accessing resources, such as land for farming, are widely criticized, as many population groups—that is, small farmers, women, and refugees—have no access to land.[58]

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[53] The SLMPS 2022 was carried out under very difficult economic and political conditions, which have undoubtedly affected the quality of the data that were collected. The refugee camps were not surveyed and some of the PSUs were changed due to access issues.

[54] WB (2023, October), *Human Capital Country Brief: Sudan,* https://thedocs.worldbank.org/en/doc/64e578cbeaa522631f08focafba8960e-0140062023/related/HCI-AM23-SDN.pdf

[55] Statista (n.d.), *Sudan: Unemployment Rate from 2004 to 2023*, https://www.statista.com/statistics/727151/unemployment-rate-in-sudan/

[56] https://www.statista.com/search/?q=sudan&p=1

[57] UNICEF (2019), *Education: UNICEF Sudan*, https://www.unicef.org/sudan/education

[58] Sudan Country Office (2016), *African Development Bank Group: East Africa Regional Development & Business Delivery Office*, https://www.afdb.org/fileadmin/uploads/afdb/Documents/Knowledge/Sudant-Darfur_Infrastructure_Development_Report_-_06_Feb_2017.pdf; Ranganathan, R., & Briceño-Garmendia, C. (2011, June), *Sudan's Infrastructure: A Continental Perspective*, Africa Ifrastructure Country Diagnostic, https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/2022-06/AICD-Sudan-country-report.pdf; UNHCR (2022, June 21), *Sudan Livelihoods Road Map (2023–2025)*,

3.4.3 Physical assets

Physical assets are generally inadequate and not up to standard in Sudan. Sudan's road network covers approximately 30,000 km of road, of which only 7,000 km are asphalted; 4,300 km are graveled; and the remaining 18,700 km is unpaved.[59] This increases the time and cost of accessing markets. Regarding electricity, 60% of Sudanese are without electricity, and only 32% have access to the national grid—and most of those live mainly in urban areas.[60]

Farming is not fully mechanized (due to poor physical assets), and the traditional methods used result in lower capacities and poor harvests. Semi-mechanized rain-fed agriculture is practiced in a broad belt of 6.7 million hectares, which runs mainly through Kassala, Gedaref, Blue Nile, Sennar, White Nile, and South Kordofan states, receiving an average of more than 500 mm of rainfall annually.[61] Livestock is raised in almost all parts of the country, and animals are owned primarily by nomadic tribes. In 2023 the livestock population was estimated at 111.8 million heads, comprising about 41.4 million sheep, 32.8 million goats, 32.7 million cattle, and 5 million camels. Pastoralists efficiently use natural resources, moving herds around the country in response to weather conditions and the availability of forage and water (FAO, 2024). However, the recent drought and expansion of farming resulted in a decline of pastoralism in the country, meaning a reduction in livestock as one of the major livelihood sources in Sudan.

3.4.4 Financial assets

Financial assets domestically and internationally have declined in Sudan since the April 2023 crisis. Nationally, per capita income has shrunk due to poor farming. The April 2023 crisis exacerbated this issue, further depleting or even eliminating incomes, causing many people to lose their LHS and become IDPs or refugees. Banks are also in crisis due to a lack of hard currency and large monetary withdrawals by people struggling with rapid devaluation. The energy and food market liberalization policies of the government have further fueled the prices and reduced savings at all levels.

In terms of livelihoods and social protection, the triple crisis and especially April 2023 have had severe economic implications. Although recent data is not yet available, the impact might be comparable to that of the COVID-19 pandemic, which also caused a partial or complete closure of the private and governmental sectors. Studies from ILO and the WB revealed that lockdown measures during COVID-19 caused strong adverse effects, including a stoppage of business operations, reduction of labor wages and number of working hours, movement restrictions, and a lack of access to inputs for sectors such as agriculture. These outcomes associated with the coverage rate and quality of social insurance were much

https://data.unhcr.org/en/documents/details/93788; USAID (2011, August), *Livelihoods Zoning "Plus" Activity in Sudan*, FEWS NET, https://fews.net/sites/default/files/documents/reports/sd_livelihoods%20descriptions.pdf; FEWS NET (2015, January), *Sudan: Rural Livelihood Profiles for Eastern, Central, and Northern Sudan*, https://fews.net/sites/default/files/documents/reports/Sudan%20Profiles%20Final%20en.pdf; Haseeb, A., Etang, A., Fuje, H., Touray, S. (2022, November), *Agricultural Productivity and Poverty in Rural Sudan*, World Bank Group, https://documents1.worldbank.org/curated/en/099605111302227222/pdf/IDU0281208e30f589045050 8d8d03fbab20947f7.pdf.

[59] Logistics Cluster (2024), *2.3 Sudan Road Network*, https://lca.logcluster.org/23-sudan-road-network

[60] Transnational Institute (2022, October 14), *The Electricity Crisis in Sudan*, https://www.tni.org/en/article/the-electricity-crisis-in-sudan

[61] FAO (2024, March 11), *FAO-CFSAM.*

lower for the most economically vulnerable people, highlighting a poor social safety net system, which has led to severe economic struggle for households.[62]

Since the triple crisis affects especially vulnerable populations, social protection systems are an important component in protecting people from the impact of various shocks. The social protection project from MoSD offered promise, as it included direct cash payment and microfinancing elements. However, it appeared not to be sustainable in its current setup and was hampered by a lack of dedicated government support. Due to the April 2023 crisis, both social protection and microfinancing were put on hold by the government, and assistance is currently provided primarily via the Zakat bureau or in cooperation with international partners.

For example, the Mother and Child Cash Transfers (MCCT) program is being rolled out by the Federal Ministry of Social Development (MoSD) in collaboration with UNICEF. This initiative aims to support vulnerable women and children during the critical first 1,000 days of life.

3.4.5 Social assets

The social assets in Sudan traditionally appeared in the form of tribes or ethnic/religious groups. The Sudanese population is largely culturally diverse, comprised of a combination of original inhabitants of the Nile Valley and migrants from the Arab peninsula. There are 19 major ethnic groups and over 597 ethnic subgroups speaking more than 100 languages and dialects. Arab-speaking Muslims are considered the largest single ethnic group at about 70% of the total population, while other ethnicities, such as Nubians, Copts, Beja, and others make up the remainder.[63] The social capital in the form of tribes has played a vital role in power dynamics. Tribes serve as the primary social units in Sudan, with significant roles in historical, social, political, and economic contexts. "The Nile riverain Arab tribes, particularly the Ja'aliyiin, Shaygiyya, and the Dangala, have dominated Sudan's political, economic, and security sectors since the precolonial days.[64] Despite the establishment of a modern state, Sudan's existence remains intertwined with its tribal composition.

In addition to tribal tensions, there are increasing tensions over scarce natural resources, as well as between different types of livelihoods, exacerbated by the impact of climate change.[65] In combination with a persistent and increased (especially after the April 2023 crisis) number of long-term IDPs, this scarcity places a heavy strain on natural resources, leading to tensions with host communities and undermining the often already fragile social cohesion between different groups. It follows that any livelihood assistance efforts need to pay careful attention to community dynamics to understand the relationships and existing or potential tensions within communities.

To enhance social inclusion and gender equality and empowerment, it is important to engage different community groups (i.e., women, youth, PWDs, and IDPs). Both government and international actors have established various types of community organizations, like village development committees,

[62] International Labour Organiztion (2021, December 8), *Rapid Assessment of the Socie-Economic Impact of the COVID-19 Pandemic with a Focus on Khartoum, West Kordofan and East Darfur, Sudan*, https://www.ilo.org/publications/rapid-assessment-socio-economic-impact-covid-19-pandemic-focus-khartoum-0
Central Bureau of Statistics (2020, December), *Socioeconomic Impact of COVID-19 on Sudanese Households*, The World Bank, https://documents1.worldbank.org/curated/en/394981620725892919/pdf/Socioeconomic-Impact-of-COVID-19-on-Sudanese-Households.pdf
[63] World Atlas (2024), *Ethnic Groups in Sudan*, https://www.worldatlas.com/articles/the-ethnic-groups-in-sudan
[64] Johns Hopkins SAIS (n.d.), *Sudanese*, https://sais.jhu.edu/sites/default/files/Sudanese
[65] Note that livelihood differences often overlap with tribal differences.

women groups, village savings and loans groups, farmers associations, and youth groups. However, the prevalence of these groups is limited, and many have limited financial and operational capacity.

3.5 Crosscutting (Gender, Migration, and Environment)

3.5.1 Gender

Scholars and reports from different national and international institutions highlight that women and girls are facing severe challenges and gender inequality in Sudan, which represents one of the major factors hindering Sudan's advancement as a country. International indicators related to gender equality are low. For instance, the Women Peace Security Index 2023/2024 ranks Sudan as 164th out of 177 countries.[66] Another international indicator shows that Sudan ranks 172nd in the Gender Development Index.[67]

Per the desk review, many humanitarian organizations—including UN agencies and NGOs—are striving to achieve gender parity at leadership levels. The UN has committed to reaching full gender parity at the Under-Secretary-General and Assistant Secretary-General levels well before an initial target of 2030. However, in view of the current situation, Sudan is far away from the UN gender parity target. As a result, various UN agencies have launched initiatives to enhance gender inclusion and empowerment. Examples include Supporting Women's Participation in Inclusive Peacebuilding (Blue Nile) and Seeds of Peace: Supporting Feminist Peacemakers in Sudan (by UN Women). In addition, UN Women, the United Nations Integrated Transition Assistance Mission in Sudan (UNITAMS), and United Nations Development Programme (UNDP) collaborate on projects promoting women's participation in the political arena through roundtable discussions, capacity-building workshops, and seminars across Sudan.

This gender-specific impact of the triple crisis was acknowledged by Khartoum informants, who agreed that while no one was spared of the impact, women, the elderly, and children were specifically noted as the groups most adversely affected. Particularly in rural areas, women were affected at both household and income-generation levels. Pregnant and lactating women (PLWs) were increasingly malnourished due to price hikes and purchasing power reductions, and all women surveyed bore the brunt of unpaid labor.

CBOs noted that an average of 65% of HHs and SMEs with access to microfinance were women and that they were knowledgeable with the basic skills needed, including digital access to finance, despite the many challenges (e.g., collateral and guarantees). Female solidarity groups receiving loans are part of this system.

The April 2023 crisis has further exacerbated the negative effects for women, including GBV, especially for IDP women. The ongoing war has resulted in a humanitarian crisis across the entire country, including an increase in violence against women, poor economic participation, and diminished access to health and shelter services.[68]

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[66] Georgetown Institute for Women, Peace and Security (2024), *Women, Peace, and Security Index 2023/24*, https://giwps.georgetown.edu/wp-content/uploads/2023/10/WPS-Index-full-report.pdf

[67] United Nations Development Programme (2022, September 18), *Human Development Report*, https://www.undp.org/sudan/publications/human-development-report-2021-22

[68] UN Women Sudan (2023, December), *Sudan Crisis: In-depth Gender Assessment Report,* East and Southern Africa Regional Office, https://africa.unwomen.org/en/digital-library/publications/2024/02/sudan-crisis-in-depth-gender-assessment-report; UN Women (2023), *Regional Gender Assessment of the Impact of Sudan Conflict on Women and Girls in Sudan and Its Neighbouring Countries*,

3.5.2 Migration, refugees, and IDPs

Sudan is both a net receiver of foreign (economic) migrants and refugees and a net exporter of Sudanese (economic) migrants and refugees. Moreover, various conflicts inside Sudan since its independence have resulted in continuous internal displacement of populations. However, compared to its neighboring countries, Sudan experiences relative safety and economic opportunities, having previously made it an attractive place for migrants (refugees).

IOM, GoS agencies, and United Nations High Commissioner for Refugees (UNHCR) reported that most migrants and refugees are from South Sudan, Ethiopia, and Eritrea; however, language barriers make formal employment more difficult, as does legal status, resulting in most migrants and refugees working in the informal/daily labor sector. Comparatively, Syrian refugees have access to the labor market in Khartoum and have been largely able to make a living in line with their profession. Yet the refugees from the above three countries have faced their series of barriers in Sudan, including discrimination, arbitrary detention, economic exploitation, and protection risks.

Prior to the April 2023 crisis, Sudan had many IDPs due to various conflicts, such as that in Darfur, which put additional pressure on host communities' natural resources (e.g., water) and governmental services, such as health care (which is free, but poor or inadequate, as explained by UNDP). Internal displacement and, to a lesser extent, (economic) migration often imply the loss of livelihood assets (e.g., land, agricultural tools, animals), making the IDPs or migrants highly vulnerable.

According to MoFEP, there were over 5 million Sudanese abroad, especially in the Gulf area. The academics interviewed expressed their concerns about highly educated people (e.g., university professors, scientists, and researchers) leaving due to the economic situation, causing a brain drain from Sudan. Moreover, a massive number of people fled the war and took refuge in Egypt, Chad, and Ethiopia (the shortest overland option from Khartoum)[69] because of the April 2023 crisis. WFP identified an expected increase in migration to urban centers and increasing pressure on local services as the most adverse impact of the triple crisis.

3.5.3 Environment

Sudan is normally described as a semiarid country characterized by exceptionally high average temperatures and fluctuating rates of rainfall. Its climate is generally hot most of the year, with seasonal rainfall decreasing the farther north you go. About 72% of Sudan is desert and sparsely populated. As a result, water is one of the most precious and contested resources in Sudan. With frequent droughts, high rainfall variability, and an economy heavily dependent on natural resources, Sudan is one of the most vulnerable countries to climate variability and climate change.[70]

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https://africa.unwomen.org/sites/default/files/202402/regional_gender_assessment_of_the_impact_of_sudan_conflict_on_women_and_girls_in_sudan_and_its_neighbouring_countries.pdf
ANCAPS Analysis Hub (2024, January 23), *Sudan: Impact of the War on Women and Girls*, https://www.acaps.org/fileadmin/Data_Product/Main_media/20240123_ACAPS_Sudan_Analysis_Hub_thematic_report_Impact_of_the_war_on_women_and_girls.pdf

[69] Only the most common and primary arrival countries are mentioned. Refugees may have traveled onwards from Egypt or requested asylum in European countries, the UK, or US. See IOM UN Migration (2023, August 16), *DTM Sudan—Situation Report (18)*, Global Data Institute, https://dtm.iom.int/reports/dtm-sudan-situation-report-18

[70] UN Environment Program (2020, September 9), *Sudan First State of Environment and Outlook Report 2020*, https://www.unep.org/resources/report/sudan-first-state-environment-outlook-report-2020

Findings from many reports and studies reveal that Sudan faces three key challenges related to the environment: First, drought has impacted the agriculture sector by reducing the productivity of farmlands, resulting in livelihoods lost and food shortages. This, in turn, has caused displacement and fueled conflicts over natural resources, like land and water. Second, floods occur primarily during the rainy season, causing crop losses and damage or destruction of agricultural assets (e.g., soil degradation, irrigation canals) and infrastructure (e.g., roads). Third, there is a significant gap in the integration of environmental concerns into government policies and strategies, including a lack of plans and programs to sustainably manage natural resources. Fourth, rural-urban migration and displacement due to desertification and civil strife have led to overpopulation in specific areas, resulting in the deterioration and depletion of natural resources.[71]

From 2011 to 2015, the United Nations Environment Programme (UNEP) supported the Sudan Integrated Environment Programme, through which the country developed its National Adaptation Plan (NAP) in 2016, following a comprehensive and inclusive consultation process in all 18 states. One of its focus areas, in addition to water resources management, is reducing national greenhouse gas emissions via the Nationally Determined Contributions (NDC) as a signatory of the Paris Agreement to reduce and adapt to the impacts of climate change.[72]

Per the desk review and KIIs conducted at the Khartoum/ federal level, the triple and the April 2023 crises both negatively affected the environment overall. A key reason for this is that although environmental and conservation efforts are known to have positive longer-term impacts, they are usually the first to be sacrificed in times of crises due to their high costs and/or in favor of short-term gains. Some examples of the generic negative impacts are as follows:

- **Natural resources depletion**: Displacement as well as economic needs increase the pressures on natural resources via overexploitation of forests, water resources, and land, exacerbating environmental degradation.
- **Pollution and waste**: The economic downturn and energy crisis affected the ability to the government to provide services (e.g., energy, waste management), which may encourage inappropriate disposal and use of alternative fuel sources, like wood and charcoal. This may thus increase pollution, affecting air, water, and soil quality.
- **Climate change coping strategies**: Loss of employment and income generation activities due to the triple crisis forces HHs to rely on their HH reserves and apply negative coping mechanisms. This means their buffers are not available to mitigate normal shocks, such as spells of droughts, which are exacerbated by climate change.
- **Loss of conservation efforts**: Budgets for conservation efforts are often the first to be reduced in times of crises, causing general degradation and, possibly, the loss of prior efforts.

At the HH level, climate change particularly impacts agricultural livelihoods, with the triple crisis further exacerbating this. Climate change has changed weather patterns by increasing overall temperatures and

[71] Siddig, K., Stepanyan, D., & Wiebelt, M., Zhu, T., & Grethe, H. (2018), *Climate Change and Agriculture in the Sudan: Impact Pathways Beyond Changes in Mean Rainfall and Temperature*, https://www.researchgate.net/publication/328462631_Climate_change_and_agriculture_in_the_Sudan_Impact_pathways_beyond_changes_in_mean_rainfall_and_temperature https://nai.diva-portal.org/smash/get/diva2:712485/fulltext01.pdf; Ali, A. M., & Abdelrahman Khidir, O. (2021), *Sudan—Land, Climate, Energy, Agriculture and Development*, ZEF Working Paper Series No. 23, Univeristy of Bonn, Center for Development Research, https://hdl.handle.net/10419/246472; El Moghraby, A. (n.d.), *State of the Environment in Sudan*, UNEP EIA, https://www.iaia.org/pdf/EIA/EIA/CaseStudies/SudanStudy.pdf

[72] UN Environment Programme (2024), *Climate Change and Adaptation*, https://www.unep.org/sudan/climate-change-and-adaptation

changes in rainfall quantities and timings. Extreme weather is becoming more frequent, resulting in both droughts and floods. This might cause direct damage, such as a loss of crops or even machinery or irrigation systems (in the case of floods), as well as indirect damage, such as general deterioration of the natural environment, especially soil fertility. These environmental changes have reduced the productivity of the land and, therefore, the people's ability to meet their basic food needs via agriculture. For example, average cereal yields are declining, with sorghum and millet yields having dropped from 350 kg/feddan in the late 1950s to under 200 kg/feddan in 2016/17. To compensate for the falling yields, farmers have been expanding the land under cultivation at a rate of 3.71% per year.[73]

The triple and April 2023 crises reinforced this process—for example, due to the high prices of fertilizer, IDPs started cultivating new plots of land near their area of displacement, causing deforestation. Similarly, an increased use of semi-mechanized farming methods without appropriate mitigation measures may further contribute to soil erosion and environmental degradation. At the same time, due to the triple and April 2023 crises, authorities have less capacity to monitor and correct this behavior.

Additionally, due to increasing spells of drought (often the result of reduced rain), there is a growing need for irrigation water. The impact of climate change on the water sector in Sudan is evident. For example, the Arbaat Dam went from storing 15 million cubic meters in 2003 to 9 million cubic meters in 2011, and the Salloum farms were left behind, abandoned, as the water basin dried up.

Regarding the triple crisis, the link between the energy crisis and the environment is especially evident. The high prices of fuel (due to the high international oil prices and the cancellation of subsidies) for HH needs, such as cooking and heating, caused vulnerable HHs to resort to environmentally unfriendly alternatives, such as wood and charcoal. While UNHCR has distributed charcoal, ethanol, and solar lamps to refugees who manage their own cooking energy, off-camp IDPs and host communities may not receive assistance. Consequently, these groups, previously reliant on LPG and electricity, may now turn to firewood and charcoal, which leads to deforestation. Note that the earlier-mentioned cultivation of new lands is another likely key cause of deforestation.

To cope with the effects of the triple crisis and the lack of income-generating opportunities, people seek alternative means of obtaining their livelihoods. Logging and charcoal production, traditionally supplemental income sources, have become increasingly attractive due to high energy prices and the demand for alternatives. This heightened demand has led to indiscriminate tree cutting and, in severe cases, complete deforestation, worsening soil degradation and ecosystem disruption.

Per the KIIs conducted in Khartoum, many environment and/or climate change initiatives (e.g., EU Global Climate Change Plus Initiative (GCAA+)) have taken place over the years, but the combination of the triple crisis followed by the April 2023 crisis might have undone part of their achievements. Moreover, as mentioned before, the development-oriented funding and projects were halted due to the 2021 government change, and a further shift (at the expense of environmental projects) toward short-term humanitarian projects is likely to happen.

[73] UNEP (2020, September 9), *Sudan First State of Environment*, https://www.unep.org/resources/report/sudan-first-state-environment-outlook-report-2020

4. State-Level Findings

4. State-Level Findings

The triple crisis assessment took place in three states—namely, Kassala, Gedaref, and Red Sea. Stratified sampling was conducted using the states as strata to ensure representative findings at the state level.

4.1 Kassala State

4.1.1 Introduction

The state lies in the eastern part of Sudan, bordering Gedaref, Red Sea, Khartoum, and River Nile states. It also borders Eritrea and Ethiopia. The state covers 52,949 km^2, equivalent to 2.25% of the total area of Sudan, with a population of 2.9 million, an annual population growth rate of 2.8%, and a population density of 48 persons/km^2. It is administratively divided into 11 localities,[74] with Kassala as its capital with a population of 420,166 (16.7% of the state's population).[75]

Agriculture and livestock are the mainstay of the Kassala economy. The total arable land is 5.3 million feddan (2.23 million hectares), of which an estimated 2 million feddan are used for growing cash crops like sesame, wheat, beans, and cotton, as well as the citrus fruits for which the state is famous.[76] The land used represents only a third of the state's arable land. Major agricultural schemes are located in Halfa, El Gash, Seteet, and Kahoat. The state is considered one of the richest in the country in terms of livestock, with around 8.7 million heads of cattle in the state, as well as 2,000 tons of fish caught annually. The most recent economic information shows the gross public revenue of the state increased to SDG 6.3 million in 2020, up from SDG 2.1 million in 2019.[77] Around 70% (2014 data) of the population in Kassala state lives in rural areas.[78]

The major ethnic groups are the Hadandwa, Bani Amir, Nuba, Shukria, Iahwain, Fallata, and Hawsa. The average HH size is 5.5 people (according to WFP, whereas the i-APS survey found 6.4 individuals). There are 1,271,780 children (aged 0–18) and 25,338 youth (aged 19–24). According to WFP (2022),[79] the level of food insecurity in Kassala remained at the same level (17%) in 2022 as it had in 2021. However, multiple localities in Kassala have high levels of food insecurity, such as Hamshkoreeb (39%), Rural Kassala (19%), and Aroma (19%). Of those living in Hamshkoreeb, 7% are severely food insecure (WFP & UNICEF 2022). The northern parts of Kassala bordering the Red Sea State are considered chronically food insecure. Kassala is vulnerable to recurrent droughts, floods, and tribal conflicts (WFP 2022).[80] The situation has deteriorated further in 2023 and 2024 due to poor economic conditions and the April 2023 crisis. According to recent date from IPC[81], around 48% of Kassala's population is currently classified as phase3+.

[74] Atbara River, Hamashkoreeb, Kassala Town, New Halfa, North Delta, Rural Aroma, Rural Kassala, Seteet, Wad El Helew, West Kassala, and Telkok.
[75] UNICEF Sudan (2022), *State Profile—Kassala*, https://www.unicef.org/sudan/documents/state-profile-Kassala
[76] UNICEF Sudan (2022), *State Profile.*
[77] UNICEF Sudan (2022), *State Profile.*
[78] https://globaldatalab.org/areadata/profiles/SDNr104/
[79] World Food Programme FP (2022, June), *Comprehensive Food Security and Vulnerability Assessment (CFSVA)—Sudan*, https://fscluster.org/sites/default/files/documents/cfsva_summary_report_q1_2022.pdf
[80] WFP (2022), *(CFSVA).*
[81] IPC (2024): www.ipcinfo.org/fileadmin/user_upload/ipcinfo/docs/IPC_Sudan_Acute_Food_Insecurity_Jun2024_Feb2025_Report.pdf

Kassala hosts the third largest refugee population in the country, with over 116,000 refugees and asylum seekers taking refuge in the state.[82] Kassala is a route for illegal human trafficking and migrant movement from Ethiopia and Eritrea to Europe.

Some facts about Kassala:[83]

- 2.9 million population in 2023 (national: 49.7 million)
- 81 in 1,000 number of children die before their 5th birthday (national: 68)
- 89.5% of children complete primary school and continue to secondary school (national: 90.7%)
- 48.4% of young women (15–24 years) are literate (national: 59.8%)
- 45.1% of girls marry before the age of 18 (national: 38%)
- 48.8% of children under 5 experience chronic (severe and moderate) malnutrition (national: 38.2%)
- 18.5% GAM (global acute malnutrition) prevalence among children under 5 (national: 16.3%)
- 186,710 children under 5 suffer from GAM (national: 3.1 million)

The fieldwork in the state took place in January 2024. Two localities were selected—namely, Kassala and rural Kassala localities. In consulting with the state statistical office, the assessment team randomly selected specific blocks/villages from site lists in line with the purposely selected sample defined by the assessment team. For HH surveys, 504 respondents[84] were randomly selected (note: there were differences between the sample sizes of the localities and villages, reflecting the differences in population sizes). For qualitative data (i.e., KIIs and FGDs), the field team implemented seven KIIs, mainly with state government staff from different line ministries and institutions, as well as four FGDs with community representatives, including women groups. Table 3 below presents a summary of the responses per cluster/block in the state.

[82] OCHA (2023) Sudan: Kassala State Profile (March 2023).
[83] OCHA (2023, March 29), *OCHA: Sudan: Gedaref State Profile*, ReliefWeb, https://reliefweb.int/report/sudan/ocha-sudan-gedaref-state-profile-march-2023
[84] The respondents mainly the heads of HHs or other senior HH members, including women.

4.1.2 Triple Crisis

All interviewed local authorities in Kassala agreed that the triple crises are among the most important crises to have occurred in Sudan, though other crises and problems were mentioned, including conflicts, traditional harmful practices, poor health, negative customs and traditions, and poor nutrition indicators (which can be considered outcomes of the crises). Around half believed these crises were addressed effectively by responsible government agencies and policies.

Regarding the food and energy crisis, those interviewed pointed out that fuel subsidies were completely lifted and flour subsidies partially lifted. Fuel, gas, and flour are now available in the market again, after price liberalization. However, the impact of climatic conditions was also emphasized by the interviewees, who stated that in 2022–2023, before the war, there was a decline in food security in localities such as Kassala and Halfa Al-Jadida, which had previously been among the most food-insecure localities in the state and then which again dropped to the food-insecure bracket due to insufficient rainfall. This also resulted in fodder shortages, negatively impacting animal husbandry.

Per the FGDs conducted with Village Development Committees (VDCs) in Kassala, there were already challenges prior to the April 2023 crisis. For example, the Ukrainian war caused increases in wheat prices and production costs. It was mentioned that while these developments had a negative impact, there were also other causes of the reduced availability and access, including low rainfall, poor rain distribution, and a decrease in the productivity of agricultural land (soil degradation) and dairy animals. This was confirmed by women's groups in Kassala stating that although the April 2023 crisis has been serious, prior global developments had already affected the country, especially the high input costs, which then affected agricultural production (see the *food production* section for details).

4.1.2.1 Impact of April 2023 and triple crisis

The respondents identified an average of 3.4 main impacts of the ongoing April 2023, the most mentioned being reduced governmental services (61%), reduced food availability (60%), loss of HH income sources (48%), inflation/reduced exchange rates (45%), ongoing displacement (34%), and increased fuel-electricity prices (31%).

Table 3: Main Impacts of April 2023 Crisis in Kassala—Localities

Main Impact	Kassala	Kassala locality	Rural Kassala
1. Death of the head of household/ main breadwinner	7.5%	9.6%	3.6%
2. Major loss of property (e.g., housing) and/or productive assets (e.g., equipment, shop)	25%	30%	14%
3. Ongoing displacement	34%	37%	28%

Table 3: Main Impacts of April 2023 Crisis in Kassala—Localities			
Main Impact	**Kassala**	**Kassala locality**	**Rural Kassala**
4. Loss of HH income source(s)	48%	57%	29%
5. Reduced food availability/increase in food prices	60%	63%	54%
6. Reduced or lack of governmental services like health and education	61%	64%	56%
7. Inflation/reduced USD/SGD exchange rate; increase in prices	45%	47%	41%
8. Lack of access to financial services / bank accounts	24%	28%	17%
9. Increase of fuel-electricity prices	31%	33%	26%
Other	1.0%	1.5%	0%
None of the above	1.8%	0.9%	3.6%

4.1.2.2 Personal and external circumstances (shocks)

In addition to the triple and April 2023 crises, 62% of respondents across the two localities indicated that they encountered an average of 1.3 personal circumstances that significantly affected their HH economic situation during the last one to two years, although those in Kassala were affected by more circumstances than those in rural Kassala. There were no major differences in the types of circumstances, with the most mentioned being the loss of a primary income source (35%), recent displacement (17%), and major financial problems (16%).

To a large extent, the respondents considered all external circumstances important during the last 12 months (referring to the one year before the data collection, so roughly the year after the April 2023 crisis), except for gender-specific issues. However, **the availability and prices of food, electricity, and other basic services (e.g., water and health) were highlighted as the biggest effects**, as well as the overall economic situation and changes in government (support) systems. Likely due to its more rural, agriculture-based economy, a significant percentage of respondents in rural Kassala considered financial and exchange-rate development less important. For a summary of the effects of these circumstances, see Table 4 below.

Table 4: Impact of External Circumstances on HH During the Last 12 Months[85] Kassala								
Description	Very Important		Important		Neutral		Less Important/ Unimportant	
	Kassala	Rural	Kassala	Rural	Kassala	Rural	Kassala	Rural
Availability/prices of food	82%	71%	18%	28%	0.3%	0%	0%	0.6%
Availability/prices of fuel and/or electricity (for HH and/or agricultural use)	76%	54%	23%	36%	0.6%	1.8%	0.3%	8.3%
Changing exchange and/or interest rates	52%	31%	34%	30%	3.9%	11%	10%	28%
Overall economic situation / availability of jobs	65%	49%	30%	33%	2.1%	5.9%	2.7%	13%
Difficulties accessing finance (e.g., loans, remittances)	32%	20%	35%	30%	5.4%	14%	28%	36%
Environmental/climatic conditions (e.g. rainfall, desertification)	33%	34%	33%	31%	14%	23%	20%	12%
Gender-specific issues (e.g., discrimination for jobs or access to land, cultural constraints)	9.3%	6.0%	18%	12%	24%	39%	48%	43%
Changes in government structures and/or support systems	60%	36%	19%	29%	9.0%	20%	12%	15%
Availability/price of other basic services (e.g., water, health, education)	74%	58%	21%	34%	3.3%	4.7%	0.9%	3.0%

4.1.2.3 Current Needs

The respondents selected an average of 2.6 needs, with the biggest HH needs identified by the respondents being food (100%), health care (75%), and WASH (34%), although the latter was more so the case in rural Kassala. Education (19%) ranked fourth in Kassala, at par with livelihoods/jobs (19%). All eight respondents who selected "other" mentioned shelter-related needs (see Table 5).

[85] The last 12 months refers to the period of April 2023 till the data collection -February/ March 2024. In other words, the roughly one-year period after the outbreak of the April 2023 crisis.

Table 5: Biggest HH Needs in Kassala—Localities*			
HH needs	Kassala State	Kassala	Rural Kassala
Food	100%	100%	99%
Water and sanitation	34%	26%	51%
Health care	75%	76%	73%
Education	19%	19%	20%
Agricultural inputs	1.4%	0.3%	3.6%
Livelihoods/jobs	15%	19%	5.9%
Protection	1.2%	0.9%	1.8%
Psychosocial support	1.2%	1.5%	0.6%
Electricity/energy needs	6.5%	7.5%	4.7%
Debt relief	4.0%	2.4%	7.1%
Access to finance (e.g., loans, remittances)	0.2%	0%	0.6%
Communication	1.0%	1.2%	0.6%
Transport	0.2%	0%	0.6%
Other	1.6%	2.1%	0.6%

** There was an issue with the survey entry, enabling only one choice instead of all that applies.*

4.1.2.4 Mitigation efforts

According to the KIIs with local authorities, the priority is the focus on food security and agricultural production; this confirms that, as some informants stated, the food crisis might be considered the most pressing crisis yet in terms of its direct impact on local populations.

The Zakat Bureau focuses on emergency response for IDPs by providing shelter and food items. Regarding the triple crisis, the Bureau concentrated on increasing food production by providing agricultural inputs to producers and distributing livestock to those interested in animal production. Similarly, MoPER responded to evolving developments with strategic stockpiling, anticipating rainfall. Furthermore, they are guiding and educating farmers on planting products and making efforts to reduce the food gap at the national level.

A local authority in Kassala mentioned the cooperation between the Diwan[86] and a WB project, which focused on increasing access to food. The Diwan provided trainees with equipment, while the World Bank–funded project focused on providing technical and administrative training.

Under the Abu Aalka project, efforts were made to regulate agricultural holdings in coordination with the Ministry of Agriculture. Two partners were engaged: one responsible for training farmers and technicians and another for irrigation. The local authorities currently need technical and financial assistance to achieve these objectives.

4.1.3 Food

The desk review shows that the level of malnutrition in Kassala state is extremely high compared to the national average and global indicators. Empirical evidence demonstrates that residents experience large kilocalorie deficits coupled with high disease incidence. This is largely due to poor water, sanitation, and hygiene conditions, which have led to high levels of acute malnutrition; children, women, PLWs, disabled persons, refugees, and other vulnerable groups are most at risk.[87] Information from secondary data reviews show that food security in the Kassala state is alarming, with only less than one-fifth of the population being food secure (IPC 2024). Almost 1.13 million (38%) are acutely food insecure (crisis or worse) as of June 2024. An average of 89% of HHs reported a change (meaning an increase)[88] in needs after the April 2023 crisis, although the type of needs did not change significantly. Food was the most quoted need (95%), followed by education (34%), health care (32%), and WASH (21%). A total of 80% believed that the decreased food availability was mostly/fully related to April 2023.

Local authorities stated the triple crisis affected both the availability of and access to food (e.g., purchasing power), which are interrelated: less availability increases the prices, further reducing access. Most informants considered that urban food insecurity was mainly related to access rather than availability. The problems with availability and access affect all of Sudan, not only Kassala.

All informants agreed that the triple crisis and climatic conditions have mainly reinforced each other, intensifying their negative impacts.

As this is not necessarily the case in other localities, policy makers should be cautious about generalizing the results. It should be noted that some other HHs in other localities are intensively involved in farming and livestock (more than solely those in the two surveyed localities).

In terms of access to food, most respondents (82%) buy "most [of their] food from the market," although the percentages of their own (or partial) production are significantly higher in rural Kassala, which aligns with the reported HH income sources above (see Table 4). The VDCs confirmed that food security during the past year was worse than in previous years due to increased food prices, while job opportunities and, therefore, HH income were reduced. See Table 6 for these percentages concerning access to food.

[86] Zakat Chamber.
[87] Per WFP, FAO, UNICEF, and IPC reports quoted before, see other footnotes. For example: IPC (2024, April–May), *Sudan: Acute Food Insecurity for April*;
[88] From the answers provided to other questions, the team could determine that this clearly meant an *increase* in needs.

Table 6: Access to Food			
State	Most Food from Own Production	Food Produced and From the Market (App. 50-50)	Most Food from the Market
Kassala	14%	4.2%	82%
Kassala locality	13%	0.3%	86%
Rural Kassala	16%	12%	72%

4.1.3.1 Food production

Per the desk review, production came mainly from rain-fed agriculture, which, in recent years, was affected by erratic rainfall, pests, diseases, and tribal tensions. On average, 76% of the surveyed respondents did not use any land for economic activities. This number was significantly higher in Kassala than in rural Kassala, where 19% owned land, and 17% rented land. An average of 56% of respondents across the two localities reported a (major) decline in land cultivated, while 40% stated it remained the same. There were no significant differences between the localities. A main reason quoted for the decrease was the April 2023 crisis, although this was considered more important in Kassala (49%) than in rural Kassala (24%), where a "lack of expected rains" (38%) was most reported, compared to 20% in Kassala. Lack of access to finance and high fuel prices were considered less important.

In terms of food availability, local authorities and women's FGDs mentioned various factors affecting production: increased costs, availability of/access to inputs (e.g., energy and finance), fluctuation in rainfall, and traditional low-productivity methods. Storage policies, product marketing, support policies, lack of export promotion, protection of farmers from livestock grazing by fencing, and other measures, including allocation of pastures, were also mentioned.

The same local authorities also pointed out that, for example, the fuel crisis negatively influenced food security in the state, leading to many farmers' departures. In 2024 wheat cultivation decreased from 112,000 to 36,000 acres, causing a strong reduction in local supply. The cultivated area of cash crops decreased; for instance, cotton fields went down from 60,000 to 6,000 acres in 2024. Similarly, the increased reliance on expensive imports negatively affected access to food and, hence, food security. This is due to inflation and currency exchange rates. The situation was further hampered by instability in the electricity supply, forcing many food industries to halt production. Vegetable production was also adversely impacted by the rise in fuel prices. Per one woman's FGD, farmers have reduced crop production due to high input costs, with low production attributed to the fluctuation in the seasons' climatic conditions. VDCs stated that besides the current and prior crises, factors like rainfall, soil degradation, and the decreased productivity of dairy animals also played a sizeable role in reducing agricultural (food) production. Additionally, water scarcity has caused vegetable production to disappear completely.

Global developments, as well as the April 2023 crisis, increased the costs of agricultural inputs in Sudan. This compelled farmers to reduce their use (e.g., fertilizer) and/or buy lower-quality inputs, which significantly impacted crop yields. As a result, especially after their experiences of the 2016 onion crisis, many farmers refrained from or abandoned agriculture, fearing potential losses. In addition to the input

prices, the changes in weather patterns and lack of rain significantly impacted production and created a fear of engaging in agriculture.

4.1.3.2 Food availability

Per the survey, an average of 89% across the two localities stated there was a (large) decrease in HH food availability over the last 12 months, although the percentage was somewhat lower for rural Kassala, where 13% stated it had remained the same, compared to 6.5% in Kassala. The likely explanation is HH-level food production. While an average of 80% across the two localities considered that the decreases in HH food availability were mostly or fully related to the April 2023 crisis, this percentage was much lower in rural Kassala, with 31% replying, "Somewhat." This may indicate that rural livelihoods are somewhat less exposed to these developments because of domestic food production, which aligns with the reported LHs. See Table 7 for a summary of these percentages.

Table 7: Change of HH Food Availability During the Last 12 Months

State / Locality	Big Decrease	Decrease	Stayed the Same	Increase	Don't Know / Not Sure
Kassala State	45%	41%	8.7%	4.0%	0.2%
Kassala	50%	40%	6.5%	3.3%	0.0%
Rural Kassala	38%	44%	13%	5.5%	0.6%
Red Sea State	29%	39%	16%	13%	1.6%
Port Sudan	24%	40%	19%	16%	0.3%
Sinkat	48%	34%	7.5%	2.8%	6.5%
Gedaref State	54%	35%	8.4%	3.0%	0.2%
Central Gedaref	55%	33%	8.2%	3.6%	0.3%
Eastern Qalabat	51%	38%	9.0%	1.4%	0.0%

4.1.3.3 Food consumption (see also coping mechanisms)

Already before April 2023, food consumption in Kassala was below the minimum requirement and national and regional averages, and the residents of the state were subject to low dietary diversity, frequency, and nutritional quality. About 26% of the households had a severe or moderate food consumption gap, and 54% had poor or borderline food consumption, indicating a high level of food insecurity and malnutrition risk.[89] However, food security and consumption drastically changed after the crisis due to civil unrest, displacement, and market disruption.

[89] FAO (2023, December) *Household Food Security and Livelihoods Assessment (HFSLA)*.

According to the desk review, the main reasons for low food consumption were high prices, low income and purchasing power, limited access to markets and services, recurrent shocks and conflicts, and poor agricultural production and livelihoods. The food consumption pattern was dominated by cereals, mainly sorghum and millet, which accounted for 61% of the total food intake.[90] The consumption of pulses, vegetables, fruits, meat, eggs, milk, and dairy products was very deficient, indicating a lack of dietary diversity and micronutrient intake. Even when food items were generally available, residents could rarely purchase them in the market due to high prices, their low income and purchasing power, and limited access to markets and services. WFP, UNICEF, and other partners provided food assistance mainly through general food distribution, cash and voucher transfers, and school feeding programs. Other sources of aid include gifts (mainly from relatives, friends and neighbors, especially during religious and social occasions) as well as hunting, fishing, gathering, and borrowing.[91]

The above findings were confirmed by both the quantitative and qualitative data collection. The survey findings showed that overall food consumption declined in quantitative and qualitative terms across the localities. Percentagewise, the decrease was likely more significant in Kassala than in rural Kassala, which may be explained by the ability of rural agricultural production to supplement diets. The strong decreases in the consumption of fresh (i.e., more expensive) products like dairy, proteins, and fruits are especially striking. Although it is impossible to verify this in the absence of a baseline, it is likely that beneficiaries were spending less on food, resulting in respondents now consuming items only several times a week that they had previously consumed daily. This is especially damaging for groups that already had lower food consumption scores. While rural Kassala scored lower in general, the urban poor in Kassala may also be especially vulnerable, for the reduced consumption rates likely reflect reduced availability and access.

In addition, interviewed local authorities quoted the following as the main reasons for the lack of access to food: rising prices, income development not matching food price increases, fluctuations in the SDG exchange rate, and the lifestyle of communities (where many depend on a single food item—e.g., Bagara tribes). Women's groups in Kassala Fatou and Kassala explained that villagers buy food from the market throughout the year, except for the few engaged in HH food production (contrary to the report of Fatou VDC that many were dependent on rain-fed agriculture). Food was widely available, but access was challenging due to the high prices, which became even more severe after April 2023. **Families that used to meet their needs with corn and grains have become very vulnerable due to their reluctance to engage in agriculture and the rising food costs**. Agriculture and cultivated land in Kassala has generally decreased—for example, the southern Sakiya lands were turned into residential areas due to water scarcity.

Both women's groups in Kassala elaborated on how the negative effects of the April 2023 crisis have deepened the existing food crisis. The resulting problems concern both the availability of certain food items in the market (especially perishable ones) and access due to high prices, meaning families have reduced their consumption frequency (see Table 8). For example, milk used to be consumed daily by both

[90] WFP (2024, June), *Food Security and Nutrition Monitoring System (FSNMS)*, https://fscluster.org/sites/default/files/2024-05/FSNMS_COVID19_0.pdf
[91] WFP (2024, June), *FSNMS*.

children and adults, but now, it is only available once or twice a week, and meat has been replaced by lentils and beans. These statements align with the survey findings.

Table 8: Food Groups' Consumption Before and After April 2023 Kassala State										
Description	Daily or Almost Daily		Several Times per Week		Several Times per Month		Several Times per Year		Never	
	Before	After	Before	After	Before	After	Before	After	Before	After
Cereals (e.g., wheat, sorghum, rice, bread, pasta)	72%	51%	20%	33%	6.7%	15%	0.6%	0.8%	0%	0.4%
Pulses/nuts (e.g., beans, peas, lentils, peanuts)	29%	39%	52%	42%	15%	16%	1.8%	1.8%	1.6%	2.0%
Milk/dairy (e.g., yogurt, white cheese)	59%	16%	26%	35%	8.3%	26%	1.6%	6.6%	5.2%	17%
Meat-fish	23%	2.4%	30%	16%	28%	32%	12%	27%	7.4%	23%
Eggs	28%	7.6%	37%	31%	18%	26%	5.6%	10%	12%	26%
Vegetables	58%	24%	27%	40%	13%	28%	1.0%	6.0%	1.0%	1.8%
Fruit	16%	2.8%	27%	9.9%	32%	33%	11%	24%	14%	30%
Oil	86%	77%	9.8%	15%	3.6%	6.8%	0%	1.4%	0.2%	0.2%
Sugar	90%	82%	6.5%	11%	3.2%	5.8%	0%	1.4%	0.2%	0.4%

4.1.3.4 Malnutrition

Secondary data sources, as well as global indicators, show that the levels of malnutrition in Kassala state were extremely high compared to the national average. According to UNICEF,[92] the rate of GAM (global acute malnutrition) is 10.2% for children, compared to 14.6% for caregivers, which is close to the 15% emergency threshold determined by WHO.

4.1.3.5 Coping mechanisms

Per the BS, to cope, respondents appear to have applied mainly stress strategies over the last 12 months: relying on less expensive food, spending their savings, and buying on credit. Two crisis strategies HHs commonly used were to reduce the number of meals (> 63%) and to decrease nonfood expenses on health (around 40%). The most frequently applied emergency strategy was to skip an entire day of eating.

[92] UNICEF (n.d.), *Malnutrition in Sudan*, https://www.unicef.org/sudan/malnutrition#:~:text=In%20Sudan%2C%20approximately%202.5%20million,nutrition%20to%20advance%20children's%20wellbeing

Although it is positive that, for the moment, fewer coping strategies affecting LHs were used, the high percentages of food- and health-related coping strategies are very concerning.

Local authorities and survey findings confirm an increased use of coping mechanisms, with people selling household assets, (productive) animals, and humanitarian aid, along with reducing expenditures on health care. The most frequently applied emergency strategy was to go an entire day without eating. The women's FGDs also confirmed a decrease in food intake in terms of both frequency/quantity and quality. Per the VDCs, the hunger gap, or more precisely, the period that food is least available and most expensive, occurs from May to August. The most affected people are those in the marginal professions or self-employment, such as daily workers, pensioners, and female-headed HHs. Many families reduced their food intake to one meal per day, and the nutritional quality of the meals decreased—for example, eating bread crusts with water and salt or hot bread. For a summary of coping strategies, see Table 9. Indications of malnutrition are (re)emerging, especially among children under 5 and breastfeeding mothers.

According to the women's FGDs, many families have often obtained food by using savings or resorting to debt. Widespread diseases—anemia, diarrhea, and pregnancy-related issues for mothers—have become prevalent due to food shortages.

Table 9: Coping Strategies' Use During the Last 12 Months In Kassala

Description	Often (e.g., Every Month) or Throughout the Year		Sometimes or During a Specific Period of the Year		Rarely or in Exceptional Cases (e.g., Sickness)		Never	
	Kassala	Rural	Kassala	Rural	Kassala	Rural	Kassala	Rural
Stress Strategies								
Relying on less preferred food to reduce food expenses	72%	68%	25%	24%	0.3%	5.9%	2.7%	2.4%
Purchased food on credit	38%	34%	36%	41%	3.3%	6.5%	23%	18%
Spent savings	43%	43%	29%	16%	5.7%	15%	23%	25%
Borrowed money from formal lender	7.5%	3.0%	19%	9.5%	2.4%	11%	71%	77%
Reduced expenses on education (e.g. children to other school)	20%	19%	31%	20%	3.3%	12%	46%	49%
Sold more animals (nonproductive) than usual	10%	6.5%	15%	20%	2.1%	15%	73%	58%
Selling household assets or humanitarian assistance	13%	7.1%	20%	15%	7.8%	15%	60%	63%

Table 9: Coping Strategies' Use During the Last 12 Months In Kassala								
Crisis Strategies								
Reduce the number of meals or food quantity per day	69%	63%	16%	22%	4.8%	6.5%	9.9%	8.9%
Sold productive assets or means of transport	16%	7.7%	14%	15%	6.0%	15%	65%	62%
Withdrew children from school	3.3%	7.1%	7.8%	12%	5.7%	7.7%	83%	73%
Decreased expenditures on fertilizer, pesticide, fodder, animal feed, veterinary care	9.0%	11%	14%	8.4%	4.8%	7.2%	72%	73%
Reduced nonfood expenses on health (including drugs)	40%	39%	28%	31%	11%	17%	21%	12%
Household member migrated informally due to lack of food	12%	4.1%	21%	19%	3.9%	2.4%	63%	75%
Emergency Strategies								
Skip an entire day of eating	25%	16%	20%	30%	11%	14%	45%	40%
Sold last female animal	5.4%	4.7%	8.1%	13%	3.3%	8.9%	83%	73%
High-risk / socially degrading job	9.3%	6.5%	12%	13%	3.3%	11%	76%	69%
Sold or mortgaged house or land	5.4%	3.0%	14%	7.1%	8.4%	13%	72%	77%
Begged	2.4%	0.6%	7.2%	4.1%	4.2%	11%	86%	84%
Sent children < 16 years to work	4.8%	7.1%	9.0%	10%	5.7%	4.2%	80%	79%
Early marriage of daughter (< 16 years)	2.4%	1.2%	5.1%	11%	0.6%	3.6%	92%	85%

4.1.3.6 Mitigation efforts

As explained in section 4.1.2.3, most of the mitigation efforts for the triple crisis and April 2023 crisis focused on food security–related interventions, such as providing food assistance to vulnerable populations.

4.1.3.7 Current interventions

Due to the April 2023 crisis, most of the structural efforts to address the underlying causes of the food and other crises were put on hold. Instead, as explained in Section 4.1.2.4, most of the current mitigation efforts are focused on emergency food assistance, especially for IDPs.

4.1.4 Energy

Local authorities disagreed about whether the energy crisis persists, with around half stating government agencies and policies have effectively addressed it. further pointed out that fuel subsidies were completely lifted and flour subsidies partially, resulting in fuel, gas, and flour now being available after price liberalization, with a higher price (99% increase in wheat price since last year [April 2023 to April 2024; see Section 4.1.2]). However, others pointed out the high fuel prices and increased costs of inputs, which reduced agricultural production. For example, vegetable production was adversely affected by the rise in fuel prices. The main causes mentioned were the high exchange rate due to Sudan's dependence on energy, cross-border smuggling, and subsidies (although they were canceled). The energy crisis predates April 2023 and the recent crises, including the war in Ukraine.

4.1.4.1 Fuel

An important finding from the HHS is the negative effect on the environment in Kassala due to the triple crisis. The crisis led to the increased use of wood and charcoal as fuel sources. Although environmental and conservation efforts are known to have positive, longer-term impacts, they are usually the first to be sacrificed in times of crisis in favor of short-term gains. To cope with the effects of the triple crisis and the lack of income-generating opportunities, people are looking for alternative sources. Logging and charcoal production are proving appealing additional HH income sources, especially when faced with fuel shortages and/or high energy prices. However, few respondents considered wood/ charcoal a primary or secondary HH income source—3.0% and 3.8%, respectively. In rural Kassala the percentage of respondents considering charcoal production as a secondary income source was higher, reaching 6.5%. This may be partially explained by the limited forestation in the state.

There were no major differences in changes in the fuel type used across the two localities, with respondents in both localities mentioning that this mainly resulted in increased use of charcoal (57%) and wood (25%). Less LPG, fuel, and diesel were used by an average of 13% and more solar power, by 2.4%. This seems to indicate that the high fuel prices had a negative environmental impact in terms of increased emissions from less clean energy sources (e.g. coal) and possible deforestation due to the increased use of firewood. One answer is quoted as it provides quite a worrying example: "*Using plastic as fuel caused the mother to have a severe chest infection.*"

4.1.4.2 Electricity/connectivity

The survey findings confirmed the importance of electricity, with 31% considering the increase in fuel/electricity prices as one of the main impacts of the April 2023 crisis.

An average of 46% of those residing across the two localities considered the availability/access to electricity "acceptable," and 30% considered it good, although there is a big difference between Kassala (37%) and rural Kassala (15%). **In Rural Kassala 21% rated electricity access as "very bad," while 3.6% had no electricity altogether—much higher percentages than in Kassala** (see Table 10).

Table 10: Availability/Access to Electricity						
State / Locality	Very good	Good	Acceptable	Bad	Very Bad	No Electricity
Kassala	2.0%	30%	46%	14%	6.9%	2.0%
Kassala locality	1.2%	37%	46%	15%	0.0%	1.2%
Rural Kassala	3.6%	15%	46%	13%	21%	3.6%

The survey asked about availability/access to telephone and internet services (coverage). No major differences were reported between the localities, with an average of 38% considering the coverage "acceptable" and 20%, "good." **An average of 39% considered the coverage very bad, with higher percentages reported in rural Kassala.** This finding is also relevant to fintech (see Table 5 for survey findings).

According to a report by the Sudanese Ministry of Energy and Mining,[93] recent initiatives have focused on increasing electricity generation by building new power plants and expanding transmission and distribution networks in the state. These ongoing efforts aim to reduce dependency on traditional fuels, improve energy reliability, and stimulate regional economic growth. However, these plans are understood to be on hold due to the April 2023 crisis.

Additionally, renewable energy projects (e.g., solar power installations) have gained traction in Kassala, offering a sustainable alternative to conventional sources. Renewable energy contributes nearly 1% to the total consumption of the country. However, the team is not able to determine the scale of renewable energy used in Kassala, as that information is not available. Despite these advancements, challenges persist, including limited financial resources, technical constraints, and the need for further infrastructure development.[94]

4.1.4.3 Impact of energy crisis on other sectors

Local authorities and VDCs agreed that the energy crisis increased overall transportation and production costs in both the agricultural and non-agricultural sectors. Most informants believed the impact was especially severe for agriculture, particularly for small producers.

Local authorities stated that the triple crisis applied additional pressure on natural resources, especially due to the energy crisis, which had an extreme, direct impact on, for example, forest lands, where trees were cut down to meet HH energy needs. In addition, it caused societal tensions, particularly between farmers and herders. Although the urgent nature of the issue is recognized, there is currently no clear response to mitigate the impact, nor are there any (dis)incentives. There are laws,[95] but political

[93] HCENR, UNIDO, UNITAR, GEF, & NSC (2021), *Minimata Convention Initial Assessment in Sudan*, https://minamataconvention.org/sites/default/files/documents/minamata_initial_assessment/MIA-Sudan-2021.pdf
[94] US Energy Information Administration (2024, March 20), *Sudan Overview*, https://www.eia.gov/international/analysis/country/SDN
[95] Community Land Law: This law governs community land and aims to resolve conflicts related to land use and access. It outlines procedures for resolving disputes and provides mechanisms for compensation when crops or livestock are damaged due to migration or other conflicts.

instability has hampered effective implementation. There is currently little institutional capacity to achieve any goals in this area.

In summary, promoting and increasing the adoption of solar energy, particularly in rural areas, has had some positive impacts. However, no widespread use of solar energy has been reported in Kassala locality. Additionally, on the downside, there has been an increased reliance on charcoal, reported by 57% of respondents, and firewood, mentioned by 25% in Kassala, as a fuel source. This trend adversely affects the forestry sector, leading to land degradation and potentially accelerating climate change.

4.1.4.4 Current interventions

Local authorities stated that there are some energy initiatives, especially for solar power in rural areas, supported by government-supervised organizations. For example, solar energy is being used to operate drinking water stations.[96] Recently, some private sector initiatives have also emerged.

In general, the government has not adopted any initiatives or (dis)incentives in this regard, particularly concerning charcoal and firewood production. It should be noted that in Kassala locality, producing charcoal and firewood is beneficial to some extent, as these combat the spread of acacia trees. However, in other localities, such as Wad El Hilew, this production poses a threat to the forestry sector and is detrimental to the environment as well as the future of the agricultural sector. A key issue is that the forests in that region lack proper management and suffer from a shortage of personnel and resources.

The energy situation remains challenging, yet it is subject to ongoing improvements. Kassala state has historically faced issues related to energy access and reliability, with many residents relying on traditional biomass fuels for cooking and heating due to limited access to electricity. However, efforts have been underway to enhance energy infrastructure and expand access to modern energy sources in the region.

4.1.5 Financial Crisis

Although the focus of this section is on financial assets, it also reveals links to energy and food security.

According to the desk review, the April 2023 crisis increased food insecurity, mainly affecting already vulnerable groups. However, conflicting parties blocked humanitarian assistance to the IDPs in Kassala state. An average of 96% of surveyed residents across the two localities stated that since April 2023, their HH income has decreased, and 87% of those stated it had decreased a lot. Respondents in rural Kassala were somewhat less impacted, possibly because of their domestic food production. When asked to assess the percentage of decrease, 52% stated that it is "more than 50%", while 13% stated it is "26%–50%," and 9.7% stated it is "11%–25%. Of the respondents, 22% did not know or were not sure.

Local authorities disagreed about whether a financial crisis still exists, with around half stating that government agencies and policies had effectively addressed it. For example, the Sudanese Bank's policies effectively addressed and controlled the financial crisis until the April 2023 crisis, but the situation later worsened. The leading cause of the financial crisis mentioned is Sudan's dependence on imports for

[96] No specific organizations were mentioned, but for example, the Netherlands Red Cross has been active in Kassala state for many years and has also implemented this type of activity in recent years.

food and energy needs, which has led to a foreign exchange crisis. This has weakened the national currency, increased inflation, and encouraged citizens to withdraw deposits to convert them into stable foreign currency. This, in turn, further exacerbated the banking crisis. The situation predates April 2023, and recent crises, like that in Ukraine, may have reinforced it.

Multiple underlying technical causes were also stated, such as weak financial regulatory institutions, high inflation, political dimensions, and weak economic development policies, which inspired fear and thus exacerbated the crisis. Different opinions were shared regarding the extent to which policies were developed and have been effective. Some noted that policies are weak, while one informant said that the banking system is stable now. Others stated that there are existing policies to encourage producers to boost their production by providing inputs, facilitating marketing, and supporting legislation. However, the financial situation hurt the performance of these policies. There had been attempts, such as microfinance, that ceased due to the war. The provision of cash support is planned by UN agencies, such as WFP, but the magnitude of assistance is not yet clear.

4.1.5.1 HH income/livelihoods

Around half of the respondents reported an income of > 50,000 SDG. There are no major differences between the two localities, although the percentages in the lowest income groups are higher for rural Kassala. Note that this may be partly offset by agricultural production used for HH consumption and is dependent on whether the respondent considered this aspect.

Per the BS, 96% of respondents across the two localities stated that due to the April 2023 crisis, their HH income had decreased, 87% of whom said it had decreased a lot. Respondents in rural Kassala were somewhat less negative, possibly because of domestic food production. Asked to assess the percentage of decrease, an average of 53% stated it was "more than 50%," another 13% said it was "26%–50%, and 9.9% stated that it was "11%-25%." The remaining 22% did not know or were not sure.

An average of 80% of respondents in both localities depend on a single HH income source. The findings indicate a narrow base of diversification of income sources by HHs to cope with shocks when they occur (see Table 11).

Table 11: Number of HH Income Sources (by State—Locality)

State / Locality	1	2	3
Kassala State	80%	16%	3.4%
Kassala locality	79%	19%	2.4%
Rural Kassala	82%	12%	5.3%
Red Sea State	50%	13%	37%
Port Sudan	42%	12%	46%
Sinkat	78%	19%	3.7%
Gedaref State	72%	23%	5.1%

Table 11: Number of HH Income Sources (by State—Locality)			
State / Locality	1	2	3
Central Gedaref	71%	24%	5.0%
Eastern Qalabat	74%	21%	5.5%

There are important differences between the localities regarding types of HH income sources, although "daily labor—nonagricultural" was the most reported primary income source (29%). In Kassala locality, multiple different HH income sources were reported, but "daily labor—nonagricultural" and "job as employee" were reported most, as well as a secondary source. In rural Kassala "daily labor—nonagricultural" was the largest source, but agricultural and "daily labor—agricultural" were also important sources of both primary and secondary income.[97] (See Table 12.)

Table 12: Main HH Income Sources Kassala—Localities						
Livelihood Activity	Kassala		Kassala		Rural Kassala	
	1st Source	2nd Source	1st Source	2nd Source	1st Source	2nd Source
1. Farming/livestock	6.6%	3.6%	3.6%	1.2%	12%	8.3%
2. Charcoal, wood, and gold (self-employed)	3.0%	3.8%	2.4%	2.4%	4.1%	6.5%
3. Permanent job as employee	18%	10%	24%	14%	5.9%	2.4%
4. Daily labor in agriculture-livestock	7.5%	7.8%	4.5%	5.7%	14%	12%
5. Daily labor skilled-unskilled nonagricultural	29%	13%	24%	11%	39%	16%
6. Self-employed professional (e.g., IT, doctor, lawyer)	2.0%	1.8%	3.0%	2.4%	0.0%	0.6%
7. Shop-trade-handicrafts	8.9%	6.4%	8.1%	5.7%	11%	7.7%
8. Social welfare / humanitarian assistance	1.8%	3.8%	2.4%	4.5%	0.6%	2.4%
9. Pension/retirement money	5.8%	3.8%	7.8%	5.4%	1.8%	0.6%
10. Remittances from family members (abroad)	0.2%	0.6%	0.3%	0.9%	0%	0%
11. None/unemployed	8.5%	36%	11%	40%	4.1%	29%
12. Other	8.1%	17%	8.4%	15%	7.7%	22%

[97] Information obtained from the survey suggests that rural formers producing their own food is not a significant coping strategy in rural Kassala, as reflected in previous food purchase choices (see Table 4). This may also be due to the way questions were framed; they could be interpreted as asking for more immediate "crisis responses" than one's own food production.

The triple crisis lessened government and private sector spending, reducing income opportunities. For example, construction was severely affected, which in turn affected transportation. While workers in the informal sector generally have a better income than those in the formal sector, the crisis affected both the formal (e.g., government employees) and informal (e.g., construction workers) workforce. Currently, the most active industry is commerce, specifically border trade, offering opportunities in transportation and catering. Local authorities explained that the main nonagricultural sectors for employment were the (government) service sector (e.g., health care, education), commerce, construction, transport, food and drink catering) and the informal sector.

HH survey results further show that market purchases were the main food source for many people (see *4.1.2.1 Food*), especially in Kassala locality (86%). Likewise, in both localities, livestock/crop farming was neither a major source of income nor a significant secondary source compared to other income sources. Only 6.5% of the respondents practiced farming and livestock rearing as a main income source.

4.1.5.2 Exchange rates—inflation

According to the local authorities, exchange rate changes were especially problematic because Sudan mostly depends on imports for its energy needs, as well as certain key food items, such as wheat. Depreciated exchange rates (against the USD) increased the prices of various items, including imported food products, harming food security. Although wages also increased, especially in the public sector, these increases were undone by—or even encouraged—further inflation.

The VDCs stated that the increased prices of inputs went on to increase agricultural and industrial production costs. Not all participants in the women's FGDs had a clear understanding of exchange rates, but most somehow understood that the higher dollar rate (or the lower SDG) affected prices in the country. Key examples mentioned were health care, especially imported medicines (almost nonexistent these days), and the price of agricultural inputs.

Asked about the effects of exchange rates and the price increases on SMEs in the area, VDCs in Kassala shared that the response has included asset sales, increases in debt, decreases in productivity, increases in domestic product prices, and the closure of some businesses. Interestingly, women's groups mentioned there were few such companies and that Kassala does not have large capital resources. The price increase affected all goods, and the productivity of SMEs was affected due to the rising costs of inputs.

4.1.5.3 Access to finance/ financial services

Banks were reported to be more available in Kassala locality (49%) than in rural Kassala (25%), while few other financial services—for example, community-saving groups or insurance—were available. Around 20% of respondents in Kassala and 34% in rural Kassala said no services were available. Usage of financial services was low, with an average of 29%, which was considerably higher in Kassala (36%) than in rural Kassala (14%). Use of external lending institutions (e.g., microfinance, private) was as low as 3.9% in Kassala locality and 1.8% in rural Kassala. Findings were similar for government lending or, for example, crop/livestock insurance services, with HHs reporting 1.5% availability in Kassala locality and 0.6% for rural Kassala. Of the HHs in Kassala locality, 2.7% reported the availability of a governmental safety net, employment protection, and/or zakat, with 1.8% in rural Kassala. Although the overall use of financial services was low, they were considered very helpful by an average of 42% of respondents across localities

and "somewhat" for another 42%. Only 4.2% considered them not very or not at all helpful. This may indicate a lack of availability and/or access to the appropriate services.

According to a local authority, financing policies and/or measures to mitigate the financial crisis were insufficient for producers, which led to the non-adoption of necessary technologies and, consequently, decreased productivity. The financing terms were also not favorable, resulting in many farmers being excluded, prompting bankruptcy and, subsequently, more food insecurity.

During a women's FGD, a respondent mentioned that even if a young person has an idea or a project, there are severe difficulties in obtaining financing, as well as stringent funding conditions. Therefore, youth feel that migration is their only solution.

4.1.5.4 Mitigation efforts

Different opinions were expressed by local authorities regarding the capacity of the banking/financial sector to mitigate the adverse effects of the financial crisis. Informants mentioned the banking sector has no local presence and that local bank branches lack the ability to make investment decisions independently, always needing to refer back to the central authority for approval, which weakens their mitigating role. However, another informant stated that microfinance and agricultural financing programs played a significantly positive role in the past and contributed to alleviating the negative effects of previous crises by providing easy access to loans for farmers and small businesses. However, this was discontinued. Some higher-level challenges mentioned include financial deficits, insufficient workforce, and the need for training.

All local authorities agreed that the availability of these services would have a positive impact and contribute to mitigating the negative effects of the financial crisis. Agricultural insurance services could be positive, especially for SMEs. Its influence is expected to extend to various sectors and crops. However, its success depends on insurance premiums, the risks covered by insurance, and farmers' perception of its positive role in risk mitigation. Some mentioned that a number of farmers opted out of insurance, as it no longer covers all the risks faced by the agricultural sector and premiums have become high.

Digital banking was also considered to have the potential to enhance women's access to financial services. (See also *4.1.7.1.*) Hence, in Sudan, financial technology (fintech)[98] could contribute significantly, especially if applied in microfinance. A key challenge fintech, which uses digital technology, faces is the telecommunications network; 39% of respondents reported bad or very bad internet services, while 3% mentioned no service at all. Of the remaining 58%, 38% mentioned it was acceptable, and 20% considered it (very) good.

[98] The term *financial technology* is used to describe new technology that seeks to improve and automate the delivery and use of financial services. At its core, fintech is utilized to help companies, business owners, and consumers better manage their financial operations, processes, and lives.

4.1.6 Livelihood Assets

4.1.6.1 Human Assets

The average age of the head of the household was 48.9 years for both male and female household heads (52.2 years in Kassala locality, compared to 46.2 years for rural Kassala). The HH survey shows an average number of 6.4 individuals per HH. In addition, the majority of the larger-size HHs depend on only one source of income, which may lead to high vulnerability and food insecurity in the case of any shock.

4.1.6.1.1 Education and HH capacity

Education levels were significantly lower in rural Kassala, but no significant gender differences were found. The average number of HH members engaged in economic activities was also lower. Overall job availability decreased due to the April 2023 crisis. Concurrently, the triple crisis affected the less-educated workers more than the higher-educated ones, as indicated by local authorities.

In rural Kassala, the average number of HH members employed in economic activities is lower than those not engaged. Various reasons were quoted for this lack of participation, with "no jobs" being the most quoted. The overall job availability decreased after the April 2023 crisis. Regarding the potential capacity for HHs to be engaged in economic activities, in rural Kassala (1.65), HH members seem generally less available to engage in income or food production activities than in Kassala (1.98). Respondents' main reasons for their absence from HH engagement are "no jobs," reported by 50% in Kassala locality and 37% in rural Kassala, and family care (11% and 15%, respectively). In Kassala locality, a significant percentage (13%) stated that they lacked the education/skills needed, while in rural Kassala, 15% said that cultural restrictions were imposed.

An average of 37% of respondents of the HH survey at both localities stated it is more difficult for women to engage in income or food production activities, which indicates a significantly higher percentage exists in rural Kassala due to sociocultural restrictions (see *4.1.7.1* for more details). In line with earlier statements about the availability of jobs, 92% of the HH survey respondents said that the availability of employment/income-generating opportunities decreased (substantially) over the last 12 months. An average of 86% of respondents across the two localities considered this fully or mostly the result of the April 2023 conflict. Only 3.1% considered the decrease "not related."

4.1.6.1.2 HH health status

Per the household field survey (HHS), the health condition of HH members in Kassala state was affected by the April 2023 conflict and the (related) use of negative coping strategies, such as "reduction in food consumption" and "reduction in medical expenses." These have garnered intense consequences, although this is more so the case in Kassala locality than in rural Kassala. An average of 40% of respondents across the two localities stated that the health situation for some HH members deteriorated, while 14% noted this for all HH members. Residents of Kassala locality reported two times higher a percentage of "deterioration for all HH members" than those in rural Kassala, which may indicate that certain urban populations were severely affected by the April 2023 crisis.

The main reason quoted for the deterioration in health condition was the lack of food quantity and quality, although a big difference was witnessed between Kassala locality (57%) and rural Kassala (35%). This is likely explained by the availability of food through HH production and/or food rations in the refugee camp. "Availability/ high prices of medicines" was mentioned in both localities (17% in Kassala

locality; 13% in rural Kassala), while rural Kassala also experienced reduced HH spending on medicines (16%) and reduced government health services (16%). Sanitation facilities and diseases were another prevalent issue (see also *4.1.4.2*).

4.1.6.2 Natural Assets

4.1.6.2.1 Land use

Although Kassala is considered an agricultural state, most respondents (more in Kassala locality than in rural Kassala) stated they did not use the land for economic activities.

Land cultivation has decreased in both localities for different reasons. In Kassala locality, cultivation decreased (mainly) because of the April 2023 crisis, while in rural Kassala, irregular and even a lack of rains was mentioned as the cause. As is evident from the survey results, an average of 76% did not use any land for farming, which was significantly higher in Kassala locality than in rural Kassala. On average, 19% owned land, and 17% rented the land at both localities. Additionally, an average of 56% of respondents across the two localities reported a considerable decline in land cultivation, while 40% stated it had remained the same. There were no significant differences in terms of a decrease in land cultivation between the localities. The April 2023 crisis significantly impacted households in Kassala, with 63% of respondents citing it as the primary reason for decreased economic stability, starkly contrasting the only 17% in rural Kassala. In rural Kassala, the predominant concern was the "lack of expected rains" reported by 64% of respondents, compared to the 24% reported in Kassala. This indicates a more serious agricultural dependency in Rural Kassala, highlighting the critical role of rainfall in sustaining livelihoods. Finally, factors such as a lack of access to finance and high fuel prices were deemed less significant, suggesting that while these issues are relevant, they do not overshadow the immediate impacts of climatic conditions on household well-being.

4.1.6.2.2 Common natural resources

The condition of natural resources (e.g., water sources, grazing grounds, and forests) deteriorated severely in the state, with Kassala locality being more affected than rural Kassala. Besides the April 2023 crisis, a key reason is climate change. The survey included questions about the respondents' experiences of changes in the condition of a number of natural resources over the last 12 months:

- Number of (natural) water sources
- Water levels in natural water sources (e.g., rivers, lakes, haffirs [underground water reservoirs])
- Water levels in wells
- Quantity of grazing grounds
- Quality of grazing grounds
- Quantity of forest or forest products
- Quality of forest or forest products

Responses were similar across the topics of water sources, grazing grounds, and forests, with 67%–70% in Kassala stating that the resources had decreased, while the remainder said it had remained the same. The percentages were lower in rural Kassala, especially for water sources (around 41%–44%) and grazing forests (52–59%). The influx of new IDPs and the resulting increased population pressure in Kassala locality, especially Kassala city, is a likely reason for this difference. The increased use of wood and charcoal is a major contributor to deforestation, as also confirmed by the KIIs with local authorities.

In addition to the April 2023 crisis, climate change played a major role, with an average of 58% of respondents across the two localities stating that their village/area was affected "a lot" by climate change, while another 34% depicted it as "somewhat." (See also *4.1.4.2.*)

4.1.6.3 Physical Assets

The provision of basic services in the state decreased significantly over the last 12 months, with the most quoted reason being the April 2023 crisis, while, in rural Kassala, respondents also mentioned that "the quality of services decreased/became less reliable." The survey included questions about the availability of / access to several basic services:

- Water for HH purposes (i.e., drinking, cleaning, cooking)
- Water for irrigation, livestock, or business purposes
- Electricity
- Public transport / connectivity to nearby markets or urban centers
- Telephone and internet services (coverage)
- Health services/facilities

Across the two localities, 90% of respondents considered that there was a decrease in the above services, with 51% mentioning that "all or most" and 39% reporting "some" of these services decreased. The April 2023 crisis was cited by 84% in Kassala and 63% in rural Kassala, followed by the note that "the quality of services [had] decreased/[become] less reliable" (7.1%–16%). These findings correspond with reported needs in health and WASH, which can be seen in the following sections. Financial reasons, such as price increases and exchange rates, were considered less important.

4.1.6.3.1 Water

Kassala locality has better HH water provision. Rural Kassala has a better irrigation system, although 22% of respondents across the two localities classified the availability as (very) bad, which may seriously affect their LH options (if it has not already). The availability/access to water for HH domestic use was better in Kassala, with 59% stating it was (very) good, compared to 32% in rural Kassala, where a larger share considered it "acceptable." The percentages for (very) bad were similar for the two localities. Regarding irrigation water, the situation was the opposite: those in rural Kassala 38% said it was (very) good, compared to 26% of Kassala, where a higher percentage described it as "acceptable" or (very) bad.

4.1.6.3.2 Electricity/connectivity

Although the percentages reported without coverage are low, the overall quality of the service provision, especially phone coverage but also electricity and transportation, is not very good in the state, with the Kassala locality scoring better than rural Kassala (see *4.1.4.2* for more detailed findings). An average of 54% considered the availability of (public) transport (very) good, although this was much higher in Kassala (64%) than in rural Kassala (35%), where 20% reported connectivity to be (very) bad.

4.1.6.3.3 Health facilities

Health coverage is better in the Kassala locality than in rural Kassala; an average of 11% in both localities stated there are no health services. The overall availability and access to health services were better in

Kassala, with 32% answering that they are (very) good, compared to 14% in rural Kassala, where 31% responded that they are (very) bad, compared to 19% in Kassala.

4.1.6.4 Financial Assets

4.1.6.4.1 HH income and expenses

The income level substantially declined in the state and two localities surveyed as a result of the April 2023 crisis. Across the two localities, 96% of respondents stated that due to the April 2023 crisis, their HH income decreased, 87% of whom said it had decreased significantly. Respondents in rural Kassala were somewhat less negative, possibly because of their domestic food production efforts. Asked to estimate their percentage of decrease, an average of 53% stated it was "more than 50%," another 13% said "26%–50%, and 9.9% responded with 11%–25%. By far, the category causing the most HH expenses was food, at 97% in Kassala and 91% in rural Kassala; smaller percentages were reported for water (3.6%) and medical (3%). Asked which category(ies) increased the most, almost all respondents answered either "all categories"—more in rural Kassala (54%) than in Kassala (40%)—or "food," especially in Kassala (59%), with Rural Kassala at 46%. Under "other" (n = 1), the respondents mentioned no source of income.

Remittances were considered more important as HH income in Kassala locality (69%) than in rural Kassala (52%). Note that 24% responded that they "don't know," which may indicate they did not receive any. Regarding the decline in remittances, most see April 2023 as the main reason, with more in Kassala (88%) than in rural Kassala (63%) answering this way; 17% answered that they "don't know," and 13% reported that "family members who were earning returned to the village."

4.1.6.4.2 Coverage of need and saving capacity

Across the two localities, an average of 61% stated they were "largely unable" to meet their HH needs over the last 12 months, with another 31% saying they were "sometimes unable." Only 7.3% mentioned being mostly able to meet their needs. The main reason given, according to an average of 92% of the respondents, was the April 2023 crisis, with only 2.2% considering the crisis unrelated.

The inability to meet HH needs affected the saving capacity of many respondents, with an average of 70% stating they were unable to save (Kassala at 73% and rural Kassala at 64%); 19% were able to save some months, and only 0.8%, every month. This was confirmed when respondents were asked directly, as 100% said their savings were reduced a lot. The main response regarding saving modality was "no savings," reported by 76% in Kassala and 65% in rural Kassala. Limited use is made of banks, with only 8.7% in Kassala using them. In rural Kassala, 11% used livestock, and 7.7% invested in agricultural production.

4.1.6.4.3 Financial services

Banks were reported to be more accessible in the Kassala locality (49%) than in rural Kassala (25%), and few other financial services — for example, community-saving groups or insurance—were available. Use of financial services was also low, with an average of 29%; this percentage was higher in Kassala locality (36%) than in rural Kassala (14%). Although the overall use of financial services was low, they were considered very helpful by 42% of respondents across localities, with another 42% indicating they were "somewhat" helpful. Only 4.2% considered them not at all helpful. This may indicate a lack of availability and/or access to appropriate services.

Most respondents believed there were no gender differences in accessing financial services, although more thought this in Kassala (87%) than in Rural Kassala (72%). See also *4.1.7.1*.

4.1.6.5 Social Assets

4.1.6.5.1 Community-based organizations

Village development or neighborhood committees were the most common community-based organizations, and they were more present in rural Kassala than in the Kassala locality. **Respondents were quite optimistic about their capacity to mitigate the negative effects of (food) price increases**. Per the survey, 66% stated that a VDC was present in rural Kassala, compared to 53% in Kassala. Smaller percentages of women's committees (in Kassala) and government service providers (in rural Kassala) were mentioned. Note that under "other," 23% stated they "don't know," which is partially explained by new arrivals' lack of awareness of existing community structures.

An average of 46% believed that CBOs would be fully or largely able to mitigate the adverse effects of food and general price increases, while another 30% stated somewhat. Respondents in Kassala were more positive than respondents in rural Kassala.

4.1.6.5.2 Social cohesion

Social tensions (e.g., among different tribes, livelihoods, and community groups) increased over the last 12 months, especially in the Kassala locality, where 51% stated there was a big increase in social tensions, compared to 23% in rural Kassala. In addition, an average of 22% of respondents across the two localities reported some increase. Interestingly, a significant portion of the respondents (18%) in both localities reported a decrease.

4.1.6.5.3 Migration

Overall, high percentages (> 75%) of respondents reported an increase in both domestic and international migration, although there was more movement in Kassala locality than in rural Kassala. The main reason quoted was the April 2023 crisis, although smaller percentages were also mentioned for other reasons. Lower percentages (average of 56%) were reported for returnees. See also *4.1.7.2.*

4.1.7 Crosscutting (Gender, Environment, and Migration)

4.1.7.1 Gender

Since around half of the respondents were female, the findings should accurately reflect women's perspectives within the state. An average of 47% of the survey respondents were female, though this number was higher in Kassala (50%) than in rural Kassala (41%). In line with Sudan's sociocultural context, most heads of HH were male, with an average of 75% in Kassala and 83% in rural Kassala.

4.1.7.1.1 Gender-specific impact of crises and use of coping mechanisms

Most respondents believed that men and women were affected similarly and that the same coping mechanisms were applied to both sexes. However, the majority of those who mentioned differences believed women faced higher disadvantages. An average of 85% of respondents across the two localities thought that men and women were affected in the same way by the crises, although this percentage was significantly higher in Kassala (91%) than in rural Kassala (72%). Those respondents who

maintain there were differences, the majority of whom live in rural Kassala (17%), considered women/girls as more affected (10%). Disaggregating the findings by gender did not reveal any significant gender gap, although, notably, more men than women considered women to be more affected. The most mentioned examples of these differences include reduced opportunities for women, their dependence on men, and the burden of carrying out additional, family-related tasks.

The same question was asked about the use of coping mechanisms, which revealed similar findings. Eighty-six percent of respondents thought they were used equivalently for both, although the percentage was higher in Kassala. From those who stated there were differences, almost four times as many respondents considered that these strategies were used more by women/girls. No gender gap was found when the team disaggregated the findings by gender.

4.1.7.1.2 Livelihoods-economic opportunities

For those considering that women were more affected by the crises than men[99], one of the primary causes is their reduced access to economic opportunities and financial services, rather than their education level. Especially in rural Kassala, sociocultural restrictions are a key factor, according to the HH survey respondents, although a lack of skills and suitable opportunities was also mentioned. No significant gender difference was identified for the "education level of the head of HH," but there were significant differences in education level found between those in the Kassala locality and rural Kassala, where 28% had received no formal education and 20% had studied in Qur'anic schools. This difference was also reflected in the education level of the highest-educated women in the HH. Although this is a broader locality-level issue for both men and women, limited education translates to reduced access to economic opportunities.

An average of 37% stated it was more difficult for women to engage in income or food production activities, with a significant difference reported between the localities. **Disaggregated by gender, it appeared that a significantly higher percentage of men considered it more difficult for women, but not the women themselves.** Sociocultural restrictions may play a role here, especially in rural Kassala (50%) but also in Kassala (32%). A lack of needed education/professional experience (17%), as well as a lack of access to finance (25%), were mentioned in Kassala. In comparison, the lack of suitable employment opportunities for women was mentioned in both localities (13% and 11%). Similarly, responses noted family care (11% and 15%), normally a woman's responsibility, as the reason why HH members generally were not engaged in economic activities.

Smaller differences were found when respondents were asked about gender differences in accessing financial services, with 87% of Kassala and 72% of rural Kassala stating there were no differences, while 11% in rural Kassala considered it more difficult for women, compared to 2.1% in Kassala. No gender difference was found in the responses. Several examples of specific reasons given for why it was more difficult for women include their lack of documents, illiteracy/lack of educational opportunities, no work/income source (or collateral), and sociocultural constraints.

4.1.7.2 Migration

Migration works two ways in the case of Sudan, as it is/was both a net receiver of foreign (economic) migrants and refugees and a net exporter of Sudanese (economic) migrants and refugees. Since Kassala

[99] Average of 15% of the survey respondents as well as KIIs and FGDs with women.

is a relatively poor and underdeveloped state of Sudan, it has traditionally not been very attractive as a settlement area for refugees, IDPs, or economic migrants, except for those capitalizing on its physical proximity to Eritrea.

The situation in Kassala before the April 2023 crisis can be summarised as follows:

- **Refugees:** These were mainly Eritreans due to their physical proximity to the border.
- **Internal displacement (IDPs)**: These were mainly from within the state due to the spillover of fighting from Eritrea and/or localized conflicts; residents may seek safety in urban centers or garrison towns with stronger police/army presence.
- **Rural-urban migration:** These were mainly rural populations/youth leaving the countryside in search of better livelihoods in urban areas or areas with opportunities (e.g., gold-mining areas). Kassala is also a net exporter, with residents moving to places like Khartoum in search of better opportunities.
- **International migration:** The area was a net exporter for the same reason rural-urban migration happened.

4.1.7.2.1 Refugees and IDPs situation

Changes in the refugee situation and IDPs in Kassala mainly depend on security developments in the countries of origin and other states within Sudan, although climate change (see Section 4.1.4.3) may increase localized conflicts over scarce resources (e.g., water). In general, the triple crisis has further reinforced the above (economic) migration patterns.

The April 2023 crisis reversed internal displacement dynamics, changing Kassala into a net receiver. The ongoing conflict, related insecurity, and collapse of Khartoum as the economic center reversed migration patterns and converted Kassala into a net receiver of IDPs, as it was relatively safe and further away from conflict zones. The survey findings confirmed this.

Although the percentage of IDPs was smaller than in other states, it increased from 2,500 pre-April 2023 to 236,574 by June 2024.[100] Moreover, many Kassala IDPs were previously part of the host community (residents) who had returned "home." When asked how respondents identified their HH situation, 71% in Kassala stated, "Host/not displaced/ returned > 1 year ago"; 16% were IDPs after April 2023; 8.5% said before April 2023; and 4.6% responded they were refugees. None (0%) of the respondents identified themselves as returnees (having returned less than 1 year ago). Per the KII feedback, most refugees in the camp are Eritrean. The percentage of "IDPs after 2023" was almost double that of pre-April 2023, confirming the scale of the current crisis and Kassala's status as an IDP reception area. While most IDPs were residing in "urban" Kassala, more refugees were reported in a refugee camp in rural Kassala.

All survey respondents stated that there was a (significant) increase in IDP/refugee numbers after April 2023. An average of 28% of the population in the two localities would be considered the "resident population,"[101] while 72% would be regarded as part of the host communities. Asked about the presence of IDPs/ refugees in the area or residence, 23% stated there were "mostly IDPs/refugees"; 56% said a "mix

[100] IOM Migration (2024, June 25), *DTM Sudan Mobility Update (03)*, https://dtm.iom.int/reports/dtm-sudan-mobility-update-03
[101] This refers to those who indicated there were few or no IDPs.

of residents and IDPs/refugees"; 23% responded with "few IDPs/refugees", and 4.8% replied with "no IDPs/refugees." Broken down per locality, half the respondents in both localities stated their residence would be classified as a mix of residents and IDPs/refugees. There is a higher percentage of "mostly IDPs/refugees" in rural Kassala, which is explained by the presence of a refugee camp.

IDPs who were more recently displaced utilized different types of accommodations. A higher percentage in the Kassala locality stayed with "family friends," likely because more recently displaced IDPs in rural Kassala were (prior) inhabitants, with significant differences between the two localities. In the Kassala locality, 36% stayed with friends, while this was only true for 6.7% of those in rural Kassala, possibly because a significant percentage here are hosts (as reported under "other"). Renting was used by 20%, with a bit more in rural Kassala, while temporary shelter (25%) use was a bit higher in Kassala. In Rural Kassala, 47% stated "other," most of whom said they planned to migrate abroad or were residing in the area.

4.1.7.2.2 "Voluntary" migration (domestic and international)

High percentages (> 75%) of respondents reported an increase in both domestic and international (economic) migration, although this was more so the case in the Kassala locality than in rural Kassala. The main reason cited was the April 2023 crisis, although smaller percentages also mentioned "other" reasons. Lower percentages (56% on average) mentioned the returnees. Seventy-five percent noted "some" or a "big" increase, although this was much higher in Kassala (83%) than in rural Kassala (58%). The April 2023 crisis was given as the main reason, reported by 91% in Kassala and 74% in rural Kassala; other reasons such as unemployment (11%), loss of assets (14%), and "higher access to work opportunities" (8.2%) were also mentioned.

Regarding migration to foreign countries, an average of 87% of the respondents reported "some" or a "big increase." The main reason quoted is the April 2023 crisis, referenced by 91% in Kassala and 74% in rural Kassala, while 12% mentioned increases in prices. In terms of returnees or remigration, an average of 56% of the respondents reported "some" or a "big" increase, although this was higher in Kassala (63%) than in rural Kassala (42%). It should be noted that 31% of the respondents in both localities indicated they "don't know."

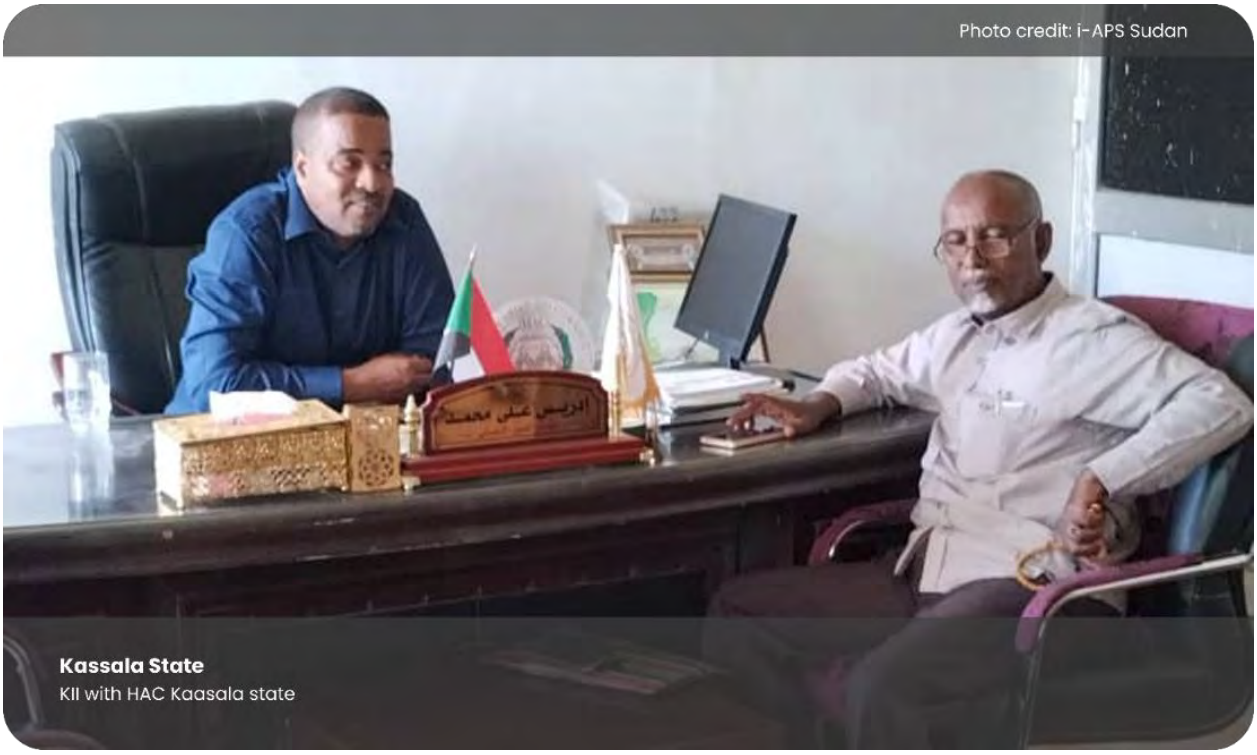
4.1.7.3 Environment

See 4.1.4.1 for the impact of changes in fuel type.

4.1.7.3.1 Climate change

Most respondents in both localities indicated that their village was significantly affected by climate change, with 58% describing it as "severely" affected and 34% reporting it as "somewhat"; **this refers to reduced rainfall / changing rainfall patterns as the primary shift**. **Most respondents believed they were at least somewhat able to adapt to these changes and mentioned multiple reasons that prevented them from adapting, with a lack of financial capacity quoted the most.** "Reduced rainfall" was reported by 72% (Kassalla locality) and 80% (rural Kassala). The remainder was divided over the various other changes, with "changed timings/ reliability of the rainfall" scoring high (9.2% and 13%) in both localities.

An average of 30% across the two localities shared they were able to fully or largely adapt to these shifts, although this was reported as higher in Kassala locality than in rural Kassala. However, in rural Kassala, a significantly higher percentage (57%) replied they could "somewhat" adapt than in Kassala (37%). The percentages stating they were "not really" or "not at all" able to be were significantly higher in Kassala (23%) than in rural Kassala (13%), which may indicate that part of the (urban) population in Kassala is vulnerable. The reasons given for the inability to adjust were lack of financial means (34% both), lack of government or higher-level support (19% both), lack of general knowledge about the changes (19% and 15%), and a "lack of alternative livelihoods/employment opportunities" (15% and 19%). Additionally, a lack of technical knowledge was mentioned more in Rural Kassala (13%) than in Kassala locality (9.4%). The findings show that Kassala state has a limited capacity to confront climate change and adapt measures for better livelihoods.



4.2 Gedaref State

4.2.1 Introduction

Gedaref state, in the eastern part of Sudan, borders the states of Sennar, Gezira, Khartoum and Kassala, and shares an international border with Ethiopia. Gedaref is the homestead of many tribes, including Arabs, Beja, Nubian, and other groups. The state is divided administratively into 12 localities[102] and 21 administrative units. The capital of the state is Gedaref Town, with 468,743 inhabitants, representing about one-fifth of the state's population. There is frequent internal movement to urban areas of those pursuing socioeconomic factors, like the availability of social services and job opportunities.[103] In 2023 the state's population was 2.6 million, with 70.4% living in rural areas, 28.3% in urban areas, and 1.4% living as nomads.[104]

The state is characterized by vast agricultural land with irrigated and large-scale rain-fed agriculture activities, both semi-mechanized and traditional. The state is home to about 6% of the total arable land of Sudan and contributes, with Gezira, almost 50% of Sudanese sorghum production.[105] Gedaref's soil type is a versatile, clay-rich soil that is generally fertile but also has a relatively poor capacity to absorb water. Rain-fed agriculture and Arabic gum production are the main sources of income for people in the state.[106] In 2023 sorghum was the largest crop planted in Gedaref, followed by sesame and millet. Smaller areas are planted with sunflower, cotton, groundnuts, and other crops. The majority of agricultural land is semimechanized, rain-fed agriculture (2.4 million ha), whereas small-scale farmers dominate traditional rain-fed agriculture (0.88 million ha); this contrasts the large-scale irrigated agriculture in Rahad, with 0.0582 million ha, where farmers rely on rainwater for 40% of their water needs.[107]

Food insecurity in Gedaref state is high, with 39% of the population at a food insecure status.[108] Given the socioeconomic characteristics of HHs, the situation likely declined further after April 2023, although scant information is available on the currently deteriorating economic situation. This has been a consistent trend since the last national baseline household survey in 2009.[109]

The 2023 Sudan Integrated Food Security Phase Classification (IPC) report[110] shows that 16% of the population of Gedaref was projected to be acutely food insecure (Phase 3 or more) before the outbreak of war, compared to 19% in the current projection period (October 2023–February 2024). Chronic malnutrition (severe and moderate) among children under 5 is 46%, higher than the national level (38.2%).[111] Only 27.7% have access to safe drinking water. It is worth noting that the state MoH reported

[102] Basunda, Central Gedaref, El Butana, El Fashaga, El Faw, El Quresha, El Rahad, Gedaref Town, East Qalabat, South Qalabat, West Qalabat, and Gala' El Nanal.
[103] UNICEF (2023), *Gedarif State Profile*, https://www.unicef.org/sudan/media/8651/file/Gedarif.pdf
[104] Central Bureau of Statistics, Southern Sudan Commission for Statistics and Evaluation (2008), *Population and Housing Census 2008*, International Labour Organization, https://webapps.ilo.org/surveyLib/index.php/catalog/1360
[105] Mercy Corps (2024, March 20). *Sudan Crisis Analysis: Remote Sensing to Anticipate Agriculture Conditions: Gedaref State March 2024*, ReliefWeb, https://reliefweb.int/report/sudan/sudan-crisis-analysis-remote-sensing-anticipate-agriculture-conditions-gedaref-state
[106] OCHA (2023, March 29), *OCHA Sudan: Gedaref State Profile (March 2023)*, ReliefWeb, https://reliefweb.int/report/sudan/ocha-sudan-gedaref-state-profile-march-2023
[107] Ibid, Mercy Corps (2024), see footnote 99
[108] IPC (2024) www.ipcinfo.org/fileadmin/user_upload/ipcinfo/docs/IPC_Sudan_Acute_Food_Insecurity_Jun2024_Feb2025_Report.pdf is 39%
[109] For instance, in 2010, undernourishment was found to be 22%, with 283 depths of hunger (Kcal/person/day). The average dietary energy consumption was 2,350 kcal /person/day, and food consumption accounted for 59% ot total HH consumption expenditure.
[110] IPC (2023, December 12), *Sudan: Acute Food Insecurity Projection Update for October 2023–February 2024*, https://www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1156730/?iso3=SDN
[111] OCHA (2024), *Sudan Reports*, ReliefWeb, https://reports.unocha.org/en/country/sudan/

Gedaref as the most affected state by dengue fever[112] due to the high density of mosquitoes and the lack of herd immunity.[113]

As of February 2024, the estimated number of IDPs in the state reached over 400,000, about 6% of the total IDPs in the country, many of whom arrived following the clashes in Gezira state in December 2023. Tensions between IDPs and host communities because of shortages of basic goods, including food, and labor market saturation have led to lower wages. These effects are reportedly particularly severe in Gedaref.[114] The state currently hosts over 77,000 refugees, with the potential for more to arrive from Ethiopia. This may further compound food security challenges.[115] It is worth noting that two main refugee camps (Um Rakuba and Um Gargour) and two refugee settlements (Tunaydbah and Babikri) exist in Gedaref state.

In consultation with IOM, two localities, Central Gedaref and Eastern Qalabat, were selected. In March 2024 interviews were held with respondents, including HHs (486), KIIs (7), and FGDs (4). KIIs comprised different government departments, and FGDs were held with men and women separately in both localities. Similar to what is seen with the above states, population size affects the distribution of sample size per cluster.

4.2.2 Triple Crisis

Along with many other states, Gedaref witnessed a significant decline in per capita income due to the conflict, as indicated in a 2024 UNDP International Food Policy Research Institute (IFPRI) study.[116] The study shows the conflict has severely disrupted rural household incomes and exacerbated existing vulnerabilities related to housing, access to infrastructure, and services. Most HHs live in inadequate housing, with disparities in access to water, electricity, and sanitation services posing additional challenges. Rural households' low access to assets, including agricultural land, further complicates their livelihoods. About 45% of households in the state reported that the April conflict disrupted their farming work, and 13.5% felt insecure.[117]

All interviewed local authorities in Gedaref agreed that the triple crises, besides security, were among the most critical crises in Sudan and that they are recognized as such by the Sudanese government and stakeholders. Additionally, political instability and health constraints have been mentioned as urgent crises. Multiple impacts of the triple crisis on food security were mentioned, although they were mixed with the effects of the April 2023 crisis. Overall, there was a severe impact on food security, especially access to food, with the decrease in purchasing power. Notably, in the Gedaref municipality, respondents stated that there was no shortage of goods (e.g., food) and services. A key reason for the lack of access is the prolonged (government) salary cuts, which especially impacted the low-income segment, and price increases/inflation. In addition, there were massive displacements that

[112] Malaria, dysentery, acute respiratory infection, kala-azar, and tuberculosis are the most common causes of mortality and morbidity in the state.
[113] USAID (2023, December 18), *Sudan Crisis: Situational Analysis—18 December 2023*, ReliefWeb, https://reliefweb.int/report/sudan/sudan-crisis-situational-analysis-18-december-2023
[114] IOM UN Migration (2024, February 6). *DTM Sudan Weekly Displacement Snapshot 19*, https://dtm.iom.int/reports/dtm-sudan-weekly-displacement-snapshot-19; IOM UN Migration (2024, February 13), *DTM Sudan Weekly Displacement Snapshot 20*, https://dtm.iom.int/reports/dtm-sudan-weekly-displacement-snapshot-20?close=true.
[115] WFP (2022), *(CFSVA)*.
[116] International Food Policy Research Institute (IFPRI) and UNDP (2024): The socioeconomic impact of armed conflict on Sudanese urban households: Evidence from a National Urban Household Survey.
[117] Ibid, see: https://www.ifpri.org/country/sudan/

put pressure on family budgets. The secondary issue was the market closures caused by curfews imposed for security reasons.

Both urban and rural households were impacted by the crisis, although some informants believed rural communities were more affected, along with daily laborers and low-income households. However, due to the suspension of salaries, formal employees were also adversely affected.

4.2.2.1 Impact of April 2023 and triple crises

On average, the respondents identified 3.9 main impacts of the ongoing April 2023 crisis, with the most mentioned being the following: reduced governmental services (62%), reduced food availability (62%), loss of HH income sources (51%), major loss of property (50%), increase in fuel and electricity prices (45%), inflation/reduced exchange rates (44%), and ongoing displacement (42%); see Table 13.

Table 13: Main Impacts April 2023 Crisis Gedaref—Localities

Main Impacts	Gedaref	Central Gedaref	Eastern Qalabat
1. Death of the head of household / main breadwinner	1.2%	1.8%	0%
2. Major loss of property (e.g. housing) and/or productive assets (e.g., equipment, shop)	50%	57%	35%
3. Ongoing displacement	42%	44%	38%
4. Loss of HH income source(s)	51%	53%	46%
5. Reduced food availability/increase in food prices	62%	63%	61%
6. Reduced or lack of governmental services, like health and education	62%	60%	67%
7. Inflation/reduced USD/SGD exchange rate; increase in prices	44%	49%	34%
8. Lack of access to financial services / bank accounts	26%	23%	32%
9. Increase of fuel and electricity prices	45%	48%	38%
Other	1.2%	1.2%	1.4%
None of the above	7.2%	6.2%	9.6%

4.2.2.2 Personal and external circumstances (shocks)

In addition to the triple and April 2023 crises, 52% of respondents across the two localities indicated that they had encountered an average of 1.3 personal circumstances that significantly affected their HH

economic situation during the last 1 to 2 years.[118] The circumstances varied slightly, with the most commonly mentioned being major financial problems (29%), loss of primary income source(s) (23%), and recent displacement (13%), although this was more so the case in Eastern Qalabat (22%).

In terms of external circumstances, all except gender-specific issues were considered largely important to the respondents. However, **the availability and prices of food, electricity, and other basic services (e.g., water and health) were cited as having the harshest impact,** as was the overall economic situation (see Table 14). Although "changes in government (support) systems" were considered important, there was a sizeable percentage in both localities (but more in Eastern Qalabat) that considered this less important, possibly equivalent to "gender-specific issues."

Table 14: Impact of External Circumstances on HH Over the Last 12 Months in Gedaref

Description	Very Important		Important		Neutral		Less Important/ Unimportant	
	Gedaref	Qalabat	Gedaref	Qalabat	Gedaref	Qalabat	Gedaref	Qalabat
Availability/prices of food	59%	75%	41%	25%	0.3%	0%	0.3%	0%
Availability/prices of fuel and/or electricity (for HH and/or agricultural use)	52%	58%	47%	37%	0.3%	1.4%	0.9%	3.4%
Changing exchange and/or interest rates	32%	46%	63%	42%	0%	2.1%	5.0%	10%
Overall economic situation /Availability of jobs	43%	58%	54%	41%	0.3%	0%	3.5%	1.4%
Difficulties accessing finance (e.g. loans, remittances)	15%	32%	69%	47%	5.9%	8.9%	10%	13%
Environmental/climatic conditions (e.g. rainfall, desertification)	15%	34%	70%	53%	1.8%	1.4%	13%	12%
Gender specific issues (e.g., discrimination for jobs or access to land, cultural constraints)	8.5%	14%	58%	47%	13%	12%	21%	27%
Changes in government structures and/or	14%	21%	61%	39%	3.5%	11%	22%	29%

[118] This refers to the 1-2 years before the data collection, meaning the period before February-March 2024, roughly including one year after the April 2023 crisis and one year before that since personal circumstances are not necessarily related.

Table 14: Impact of External Circumstances on HH Over the Last 12 Months in Gedaref								
support systems								
Availability/price of other basic services like water, health, education	52%	71%	45%	28%	0%	0%	2.9%	0.7%

4.2.2.3 Current needs

The respondents selected an average of 2.9 HH needs, with the biggest being food (92%), health (67%), and WASH (62%; this was mainly in Central Gedaref), education (25%), livelihoods (15%, but more so in Eastern Qalabat), and electricity (12%). Of those responding with "other" (n = 6), two respondents mentioned shelter-related needs: two, water/sanitation, and two, security/protection. (see Table 15.)

Table 15: Biggest HH Needs Gedaref—Localities			
HH Needs	Gedaref	Central Gedaref	Eastern Qalabat
Food	92%	93%	89%
Water and sanitation	61%	72%	36%
Health care	67%	62%	79%
Education	25%	21%	35%
Agricultural inputs	2.5%	2.1%	3.4%
Livelihoods/jobs	15%	10%	25%
Protection	1.0%	1.2%	0.7%
Psychosocial support	2.7%	2.6%	2.7%
Electricity/energy needs	12%	11%	14%
Debt relief	2.3%	1.5%	4.1%
Access to finance (e.g., loans, remittances)	2.1%	1.8%	2.7%
Communication	0%	0%	0%
Transport	1.6%	2.4%	0%
Other	1.2%	1.2%	1.4%

4.2.2.4 Mitigation efforts

According to the local authorities interviewed, due to the April 2023 crisis, most financial resources were allocated to war efforts, and there were no clear financial policies or any other resource allotments to mitigate the effects of the triple crisis. Instead, efforts led by the Ministry of Social Affairs focused on locating IDPs and providing them with food and shelter. The ministry worked closely together with the Zakat Bureau, as well as local and international organizations. Currently, efforts are being made to improve sanitation, and the rehabilitation of health centers to ensure essential services match the increased population density. Only a few informants were familiar with federal-level policy efforts to mitigate the effects, and these referred to climate change policies, as well as various initiatives and financial support from banks, microfinance organizations, and the Zakat Bureau to support vulnerable households. However, all these initiatives are currently halted by the war.

The main challenge is the large number of IDPs, which is beyond the economic capacity of the state. Budgets were constrained and negatively affected by the broader economic situation resulting from the war. Given the circumstances, humanitarian organizations are important, yet so far, the support from both international as well as national organizations has been insufficient.

According to local authorities, several legal, practical, and sociocultural barriers faced by residents/workers have hindered their capacity to mitigate the adverse effects of crises. First, legal limitations related to labor and social insurance laws hamper an adequate response. Second, HHs often host extended families not covered by certain provisions. Third, the recent displacement puts further pressure on host families. One informant mentioned that current laws and procedures prohibit the effective movement of products and services across borders, impacting the ability to conduct business between states. **All local authorities shared that currently, there are no effective government policies in place to, for example, retain employment or prevent excessive business closures, with the biggest obstacle being financial.** Due to the political instability over the last four years (2020-2024), there has been a lack of supervision and legislative institutions, which would have allowed for assessing and monitoring of the effectiveness of any implemented policies.

Possible role of UN agencies in mitigation

Local authorities in Gedaref stated that the UN could play an important role in solving the current crisis by coordinating actors and efforts (e.g., raising awareness and funds, establishing a database of humanitarian agencies, producing statistics), and providing assistance (e.g., food, shelter, medicines). Similarly, political stability could also help solve the food and energy crisis through widespread support of policy development and the provision of grants.

Possible role of the private sector

Local authorities believed that the private sector had played a critical role in job opportunity creation but had been severely affected by the war. Therefore, the private sector is unable to play a significant role at this time, as many businesses have closed.

4.2.3 Food

Although Gedaref state is a major producer of cereals and oil seeds in Sudan, food security has become increasingly volatile in some localities, a paradox that needs to be researched and resolved. This is confirmed by reviews of secondary data and the recent HH field survey, FGDs, and KII findings. According to the latest IPC, only 39% of the state's population (2.8 million) is food secure, while the remaining 61%

face food insecurity. About one-fifth (0.543 million) are highly food insecure, classified according to IPC Phase 3 or above (crisis or worse) as of February 2024.

The VDCs had somewhat different views from the local authorities about the impact of global events like the Ukraine crisis, such as decreased donor attention on Sudan in general and on Eastern Qalabat specifically, as well as an increase in oil prices. While these events may have had an impact, respondents also mentioned a lot of variation in rainfall distribution (even though the rains were good in 2023), disturbing the production process, and ever since, large areas have been out of production. The agricultural season, which begins with rainfall, started early, stopped for some time, and then returned again, damaging agriculture. Climatic conditions were also expected to worsen due to the uncontrolled cutting of forests.

The women's groups differed again from the local authorities and the VDCs, as they did not consider the impact of Ukraine on food security to be significant, for Sudan produces large quantities of wheat in the winter season—although not enough. Instead, the increased oil prices had a bigger impact, as they affected everything, increasing the production and transportation costs (also mentioned by the local authorities). Additionally, food security was affected by wage stagnation and the increased number of IDPs. Despite the good autumn in 2023, there was severe crowding in the markets, a clear shortage of some commodities, and high prices for gas, charcoal, firewood, and loaves.

Regarding access to food (see Table 16), most respondents (85%) buy "most food from the market," although this involves 89% of respondents in Central Gedaref, compared to 76% in Eastern Qalabat, where a more significant percentage is engaged in their own production.

Table 16: Access to Food

State	Most Food from Own Production	Food Produced and From the Market (App. 50-50)	Most Food from the Market
Gedaref	2.1%	13%	85%
Central Gedaref	2.4%	9.1%	89%
Eastern Qalabat	1.4%	23%	76%

The HH findings (see Section 4.2.2.2) show that food is identified as the number one need by 92% of the respondents. Moreover, an average of 95% of HHs reported a change— an increase—[119] in needs after the April 2023 crisis, although the type did not change significantly. A key reason is the large decrease in food availability over the last 12 months[120] reported by 89% of survey respondents, with minor differences found between the two localities; 97% considered this to be fully/mostly related to the April 2023 crisis.

[119] From the answers provided to other questions, it is clear to the team that this indicates an increase in needs.
[120] As per above, this refers to the 12 months before the data collection in February-March 2024, so roughly the year after the outbreak of the April 2023 crisis.

4.2.3.1 Food production

On average, 72% of the respondents did not use any land for economic activities, with a sizeable difference identified between Central Gedaref (80%) and Eastern Qalabat (52%). In Eastern Qalabat 48% of respondents are using land they mostly own (32%). An average of 62% across the two localities reported a decrease in land cultivated, with 8.7% in Eastern Qalabat reporting a large decrease. An average of 35% stated it remained the same. A main reason quoted for the decline was the April 2023 crisis, although this was considered more important in Central Gedaref (60%) than in Eastern Qalabat (41%), where "high costs of agricultural inputs" (47%) was the most quoted reason (compared to 19% in Central Gedaref), which aligns with reported differences in the importance they place on agriculture. Interestingly, the "lack of expected rains" was considered less important, likely due to the result of respondents having access to sufficient water and/or irrigation systems (as confirmed by later questions).

This survey's findings agree with the local authorities' statement that the increased oil prices and liberalization of the energy sector increased agricultural production costs. Climatic conditions, such as droughts in previous periods, also played a role and adversely affected production. However, in terms of rainfall quantity, the 2023 season was considered "not bad" compared to previous years, although it was characterized by significant fluctuations.

Regarding the availability of goods, respondents mentioned various factors that affect food production. While they considered war the primary concern, other key causes of problems were mentioned, including the high production costs; high oil/energy prices, which in turn increase transportation costs; unpredictable rainfall patterns; and currency fluctuations. Some informants also mentioned the effects of climate change and the use of outdated and inefficient production techniques.

When the respondents were asked why the increased food prices did not yet translate into an increased domestic production/import substitution, they mentioned that because of the political instability, no well-defined policies or responses were developed to increase local production, and the country still relies on expensive imports. Despite the high potential of Sudan as a regional breadbasket, no efforts were made to effectively use government resources to boost local production.

As per the above sections, VDCs and women's groups commented on key factors such as the increased costs of agricultural production and high transportation costs. They also referred to climatic conditions, such as rainfall patterns.

4.2.3.2 Food availability

According to the local authorities, the higher prices of food and services, especially transportation, eroded the purchasing power of HHs and hurt food access for many. Respondents viewed increased oil prices and the liberalization of the energy market as key factors in food availability, significantly increasing agricultural production costs and, therefore, lessening availability. Climatic conditions, such as droughts in previous periods, also played a role in bearing consequences. The liberalization of the customs exchange rate in Sudan has affected all imports, including oil. The state may no longer import through direct and official methods, and wheat prices have risen significantly.

Availability is also strongly affected by transportation issues, particularly with either security or high prices of fuel. Poor families living in conflict zones are the most affected, as transportation costs are the highest in insecure areas. The high cost of food has created access (barriers) that affect the food security

of urban populations. While this has been considered primarily an access problem, it is important to note that the two are always interrelated. Certain population groups, like female-headed HHs and certain rural communities, especially those relying on a single source of income and food, have been more vulnerable.

Per the BS, across the two localities, an average of 89% of respondents said there was a (big) decrease in HH food availability over the last 12 months, with minor differences between the two localities. (See Table 17.) All respondents considered this to be related to the April 2023 crisis, with an average of 97% across the two localities answering that they felt this was "mostly" or "fully" the case.

Table 17: Change of HH Food Availability Over the Last 12 Months					
State / Locality	Big Decrease	Decrease	Stayed the Same	Increase	Don't Know / Not sure
Kassala State	45%	41%	8.7%	4.0%	0.2%
Kassala locality	50%	40%	6.5%	3.3%	0.0%
Rural Kassala	38%	44%	13%	5.5%	0.6%
Red Sea State	29%	39%	16%	13%	1.6%
Port Sudan	24%	40%	19%	16%	0.3%
Sinkat	48%	34%	7.5%	2.8%	6.5%
Gedaref State	54%	35%	8.4%	3.0%	0.2%
Central Gedaref	55%	33%	8.2%	3.6%	0.3%
Eastern Qalabat	51%	38%	9.0%	1.4%	0.0%

4.2.3.3 Food consumption (see also coping mechanisms)

An average of 89% of respondents across the two localities stated that there was a (large) decrease in HH food availability over the last 12 months, with minor differences discerned between the two localities. All respondents considered this to be related to the April 2023 crisis, with an average of 97% across the two localities answering that they felt this was "mostly" or "fully" the case.

The overall food consumption was reduced both in quantitative and qualitative terms for both localities. Percentage-wise, the decrease has been bigger for those in Eastern Qalabat than in Central Gedaref, which may be explained by the domestic agricultural production in Central Gedaref having offset some negative effects. The substantial decreases in the consumption of fresh (products like dairy, proteins, and fruits are especially striking and tend to be the most expensive foods. Although it is impossible to verify this in the absence of a baseline, it is likely beneficiaries cut down their expenses on food, which resulted in respondents now consuming items only several times a week that they had previously consumed daily. This will be especially damaging for groups that already had lower FSCs.

Table 18: Food Groups' Consumption Before and After April 2023 in Gedaref State KASSALA										
Description	Daily or Almost Daily		Several Times per Week		Several Times per Month		Several Times per Year		Never	
	Before	After	Before	After	Before	After	Before	After	Before	After
Cereals (e.g., wheat, sorghum, rice, bread, pasta)	82%	62%	16%	25%	1.6%	12%	0%	1.4%	0%	0%
Pulses/nuts (e.g., beans, peas, lentils, peanuts)	35%	37%	60%	47%	4.7%	15%	0.6%	0.2%	0.4%	0.6%
Milk/dairy (e.g., yogurt, white cheese)	78%	16%	18%	39%	2.9%	21%	0.6%	2.5%	1.2%	21%
Meat/fish	59%	6.8%	39%	44%	1.9%	29%	0.6%	5.4%	0%	14%
Eggs	16%	0.9%	70%	26%	11%	41%	0.4%	5.3%	3.1%	27%
Vegetables	76%	27%	23%	47%	1.2%	21%	0%	1.2%	0%	4.4%
Fruit	17%	1.7%	64%	21%	14%	40%	1.4%	9.2%	3.1%	28%
Oil	96%	80%	3.3%	16%	0.2%	3.7%	0%	0%	0%	0.2%
Sugar	99%	85%	1.0%	14%	0.2%	1.0%	0%	0%	0%	0%

Thus, the impact of the triple crisis on food security almost doubled after the April 2023 crisis, while in some cases, it caused multiple shocks to the people — for example, huge-scale migration, leaving the land uncultivated, and business closures.

Local authorities and VDCs mentioned that the food crisis and reduced food intake are issues of availability and access. The April 2023 crisis spurred an increase in imported food prices and simultaneously increased the need for imports due to reduced local production and transportation difficulties. In terms of availability, these groups reported no issues with local food items, which are available in the market. The main concern is wheat, for which the nearest supply point is the Al-Rahad agricultural project. However, especially in Gedaref municipality, food is plentiful, and all necessary goods are available, though access is an issue for portions of the population because of high prices and prolonged salary cuts. In Gedaref municipality, respondents explained that despite (or because) of all the issues, there is an unparalleled availability of vegetables and some fruits, such as tomatoes, melons, oranges, mangoes, and watermelons. The situation has been caused by the inaccessibility of and declined demand from Khartoum, so the items were moved to Gedaref. As a result, there they improved food security.

The women's groups explained that although the state was not directly affected by the war, there were significant impacts on local food systems, as mentioned above. However, in Eastern Qalabat, it was noted that vegetables, cereals, and even bread are sometimes scarce, which is also due to the increased

number of IDPs. However, the suspension of (government) salary payments caused a liquidity shortage and affected people's access. According to these groups, the root of the current problems is the April 2023 crisis, although, like the rest of the world, Sudan has been affected by global development. However, the impact of the Ukraine crisis was considered limited due to the focus on local wheat production. High oil prices, which increased prices and costs overall, were considered more important. In addition, food security was hurt by wage stagnation (reducing access) and the greater presence of IDPs.

Regarding food intake, all informants confirmed a decline in theirs, resulting in a deterioration of food security indicators, such as the diversity of the food intake. Most people changed their eating habits to adapt to the circumstances. There is a clear tendency to consume cheaper or less favored food items, less variety, and fewer meals. Malnutrition rates are rising, with rural and vulnerable populations being disproportionately impacted. The poor and low-income people live on the outskirts of cities, and their food options are limited. One informant stated that Beja subtribes are the most affected ethnic group.

According to the VDCs and women's FDGs, the predominant local food is sorghum, along with other cereals, such as cowpeas and peanuts. In the rural areas of Gedaref city, the dietary pattern mainly comprises maize and local products. Meat is purchased daily in either small or large quantities. In Gedaref municipality some families grow vegetables, such as okra and mallow, and raise poultry and sheep on the outskirts of Hishan, but these practices drop off closer to the city center. An important part of the population does not practice agriculture and therefore gets most of its food from the market, though rural residents typically rely on their own production, putting part of the harvest aside for HH consumption. Urban populations depend fully on the market. There is almost no culture of backyard gardening, with food items like fruits and vegetables, which could have mitigated some of the impacts of the food crisis.

Agricultural production, affected by the increased prices of inputs, dwindled, affecting local food availability and reducing farmers' HH income. Nonagricultural businesses—for example, services like barbers—were also affected, as people lessened their consumption of nonessential goods and services.

4.2.3.4 Malnutrition

The information provided reveals moderately high levels of malnutrition in the two localities, which are close to the national average but still exceed global indicators. The Severe Acute Malnutrition (SAM) rate in Gedaref was 1.31 for children (the national average is 1.6), which is still indicative of health problems for children. More efforts are needed by the MoH, WHO, and INGOs/NGOs to address the management of Moderate Malnutrition MAM, reduce the incidence of SAM, and the prevalence of carer GlobalAcute Malnutrition GAM in some localities in the state, such as Butana (15.94%), Eastern Qalabat (11.64%), and Basunda (10.11%).

4.2.3.5 Coping mechanisms

Per the BS survey, respondents mentioned mainly applying four stress strategies over the last 12 months: "Relying on less preferred food to reduce food expenses," "purchased food on credit," "reduced expenses on education" (47% in Eastern Qalabat), and "spent savings." Two common crisis strategies were to reduce the number of meals (62%–66%) and decrease nonfood expenses, especially for health (around 29%–30%). The most frequently applied emergency strategy was sending children over 16 years old to

work, although they also said that they would "skip entire day [of] eating" and "[sell] last female animal" (more in Eastern Qalabat). Although it is positive that, for the moment, fewer coping strategies affecting LHs were applied, the percentages of food- and health-related coping strategies are concerning. Also, it seems savings are made on education by sending school-aged children to work.

According to local authorities in Gedaref, both the suspension of (government) salaries and the pressure of having large numbers of IDPs residing in host communities negatively affected HHs' capacities to meet their needs.

One informant stated,

> ***"I noticed that large segments of society are unable to meet even a fraction of their needs, so we find that a large part of the family members are looking for jobs, even if they are marginal."***

The most reported coping strategy was to rely on cheaper food, such as relatively inexpensive, ready-made meals (e.g., ta'amiya, fattah), or other foods of low nutritional value. People also borrowed money, and some HHs sold some of their fixed and movable assets (e.g., electrical appliances and furniture).

According to the VDCs, the population mainly consists of farmers, and they used their savings to cover the hunger gap months (July–September). Large segments of the population have been affected by the crises, as confirmed by huge crowds in front of the Zakat Bureau and Social Welfare Office. **A significant number of families, unable to meet their needs, have moved (fully or partially) to shelters to receive free meals.** Malnutrition was common due to food gaps, and its occurrence increased on the city's outskirts. Women's groups also mentioned that food was scarce in autumn, as precious financial resources were needed for agricultural production, resulting in scarce and low-quality food. Meals during the day in the ghetto were typically simple: potatoes with water and onions, loaves with sugar, and so forth. Moreover, there was usually only one meal per day, which was mostly porridge with salt.

VDCs reported that to meet their HH needs, community members borrowed money, sold their belongings/electrical appliances, rented out (part of) their homes, moved in with relatives to reduce HH expenses, and bought items on credit. (see Table 19 for a summary of these strategies.) The nonpayment of government salaries had a severe impact on female staff. Participants stated that the hospital is full of malnutrition cases and the situation is affecting children's development. One participant stated, "*My daughter is sick with sickle cell anemia and is receiving treatment, but I can't provide food for her.*" It was also mentioned that most medicines are imported, rendering the costs further out of reach. Both VDCs and women's groups shared that especially vulnerable groups are most affected, such as the rural poor (who have become even poorer), women and children, the elderly, PWDs, female-headed HHs, and people with chronic diseases and mental conditions (due to a lack of medicines). It was also mentioned that women were the most affected, especially those residing in shelters, possibly exposing them to protection issues (see *4.2.7.1*).

Table 19: Coping Strategies' Use Over the Last 12 Months in Gedaref								
Description	Often (e.g., Every Month) or Throughout the Year		Sometimes or During a Specific Period of the Year		Rarely or in Exceptional Cases (e.g., Sickness)		Never	
	Gedaref	Qalabat	Gedaref	Qalabat	Gedaref	Qalabat	Gedaref	Qalabat
Stress Strategies								
Relying on less preferred food to reduce food expenses	61%	71%	37%	25%	1.2%	3.4%	0.6%	0.7%
Purchased food on credit	25%	40%	36%	34%	9.4%	9.7%	30%	17%
Spent savings	55%	43%	32%	21%	5.7%	12%	7.8%	25%
Borrowed money from formal lender	3.8%	0.7%	18%	4.2%	4.1%	6.3%	74%	89%
Reduced expenses on education	25%	47%	17%	8.6%	7.3%	10%	50%	34%
Sold more (nonproductive) animals than usual	3.8%	9.9%	14%	14%	7.8%	5.7%	75%	70%
Selling household assets or humanitarian assistance	9.5%	5.6%	21%	12%	12%	11%	58%	71%
Crisis Strategies								
Reduce the number of meals or food quantity per day	62%	66%	29%	26%	2.4%	4.1%	6.5%	3.4%
Sold productive assets or means of transport	5.4%	7.1%	27%	17%	13%	15%	54%	61%
Withdrew children from school	4.2%	8.3%	12%	12%	4.9%	11%	79%	69%
Decreased expenditures on fertilizer, pesticide, fodder, animal feed, veterinary care	2.3%	12%	2.3%	12%	2.3%	12%	84%	64%
Reduced nonfood expenses on health (including drugs)	29%	30%	42%	44%	10%	6.3%	18%	20%
Household member migrated informally due to lack of food	2.6%	4.2%	19%	13%	3.5%	1.4%	75%	81%

Table 19: Coping Strategies' Use Over the Last 12 Months in Gedaref								
Emergency Strategies								
Skip entire day of eating	4.1%	8.4%	25%	29%	14%	11%	56%	51%
Sold last female animal	1.3%	10%	12%	9.4%	11%	13%	77%	67%
High-risk/socially degrading job	5.4%	4.9%	12%	7.7%	7.8%	4.9%	75%	83%
Sold or mortgaged house or land	0.9%	1.4%	10%	11%	10%	4.3%	79%	84%
Begged	0.6%	0.0%	4.4%	3.5%	5.3%	2.1%	90%	94%
Sent children > 16 years to work	11%	12%	14%	17%	4.8%	4.3%	71%	67%
Early marriage of daughter (> 16 years)	4.3%	0%	7.1%	8.8%	4.3%	0%	86%	88%

4.2.3.6 Mitigation efforts

Local authorities in Gedaref explained that the impact could have been alleviated by increasing food availability, but donor countries have been reluctant to provide aid, focusing instead on other crises. Due to the liberalization of the customs exchange rate in Sudan, the state may no longer import through direct and official methods to increase availability and mitigate steep price increases. As a result, wheat prices have risen significantly. Despite fluctuating agricultural seasons, farmers can adapt by diversifying crops to minimize losses, as well as grow varieties adapted to climate change.

Concerning governmental intervention, there are no effective mitigation policies currently in place. Unfortunately, the social assistance provided is insufficient and largely ineffective. Before the war, social security institutions were quite successful in addressing economic issues and poverty by financing projects for low-income families, but these institutions are currently not functioning.

4.2.3.7 Current interventions

According to local authorities in Gedaref, national policies and initiatives are in place to lessen the adverse consequences of widespread hunger and malnutrition. Additional measures (e.g., nutrition centers) were also added both at federal and state levels with support from UN agencies like UNICEF, WFP, and FAO. However, given the current crisis, implementing these policies and initiatives is challenging, and mitigation measures depend on the efforts of international organizations and charities at this time.

4.2.4 Energy

Local authorities in Gedaref mentioned various contributors to the energy crisis, stating that it has been an issue since before the April 2023 and Ukraine crises. Key underlying causes include the secession of

South Sudan, as well as interference from and smuggling to neighboring countries. Combined with weak local production, Sudan has been forced to depend on energy imports, which became more problematic with the increase in oil prices and the weak local currency. Fuel subsidies distorted the functioning of the energy market but, helpfully, were lifted in recent years.

4.2.4.1 Fuel

An important finding from the HHS is the negative environmental effects of the triple crisis in Gedaref state due to the increased use of wood and charcoal as fuel sources. Although few considered wood/charcoal as a primary or secondary HH income source (0.4% and 1.4%),[121] its use has increased in the state, especially in rural areas.

Some differences regarding changes in fuel type were identified between the two localities. The most reported changes involved using more charcoal (75%) and more wood (11%), although this was higher in Eastern Qalabat (17%) than in Gedaref (8.8%), where a significant percentage (12%) said they used "less LPG, fuel, diesel." The high fuel prices had a negative environmental impact in terms of increased emissions from less clean energy sources (e.g. coal) and possible deforestation due to the increased use of firewood. One respondent mentioned that *"the region relies mainly on firewood to meet its fuel needs, but in the current period, desertification has increased due to* ***excessive logging and deforestation.****"*

4.2.4.2 Electricity/connectivity

The availability and prices of food and electricity, the overall economic situation, and the decrease in other basic services (e.g., water and health) were raised as the biggest impacts, with increased fuel/ electricity costs cited as an ongoing concern by 45% of respondents. An average of 31% across the two localities considered the availability of / access to electricity "good" and another 30% deemed it "acceptable." An average of 22% considered it (very) bad (Central Gedaref at 24% and Eastern Qalabat at 20%). (see Table 20)

Table 20: Availability of / Access to Electricity

State	Very Good	Good	Acceptable	Bad	Very Bad	No Electricity
Gedaref	4.1%	31%	30%	16%	6.2%	13%
Central Gedaref	5.6%	31%	34%	19%	4.7%	5.3%
Eastern Qalabat	0.7%	29%	20%	10%	9.6%	31%

The survey also asked about the availability of / access to telephone and Internet services. Findings were similar across the two localities, with an average of 21% describing it as (very) good; 27%, acceptable;

[121] This seeming contradiction can be explained in at least two ways. First, community members may still collect and use wood for domestic consumption without selling it (i.e., HH income generation). Note that these "in-kind" HH contributions are always hard to capture in rural settings. Second, it seems that wood and charcoal are also imported from other areas or states, meaning they are still used as such.

and the **remaining 53%, (very) bad or "no network,"** which was reported by 14% in Eastern Qalabat. This finding is also relevant to fintech.

4.2.4.3 Impact of energy crisis on other sectors

Local authorities stated that the increase in energy prices greatly affected all aspects of life and sectors because it affected production and transportation costs. Agriculture was considered one of the most affected sectors. Due to increased transportation costs, the burden has been higher for peripheral areas and those far from the production centers.

Overall, high prices and reduced access to electricity or a network encourage people to use and adopt alternative energies, like solar and wind power, especially in rural areas, although many consider high initial investments a barrier. For example, no solar power was reported to be used in the Qalabat locality. A key reason is that these alternatives require planning and funding, and the April 2023 crisis has shifted the priorities to war/stability, delaying these processes.

VDCs and women's groups in Gedaref explained that increased oil prices swelled production costs, causing increases in the prices of products and cost of living. Increased transportation costs were considered especially problematic, reducing opportunities for travel and social interaction. Growth in unemployment also exacerbated forest encroachments and overcutting, causing environmental damage in the medium and long term.

To cope with the effects of the triple crisis and the lack of income-generating opportunities, people have been looking for alternative sources, especially by migrating to urban areas or other states and countries for better opportunities.

4.2.4.4 Current interventions

Local authorities in Gedaref stated that currently, there are no governmental initiatives or incentives since this is not a priority, and the state budget is geared toward fighting the war and stabilizing security.

4.2.5 Financial Crisis

The local authorities in Gedaref mentioned several factors related to the financial crisis. The key underlying causes noted were the secession of South Sudan and its ripple effects. The secession had a double impact: it reduced the influx of hard currency from oil revenues and increased the oil imports, which in turn worsened inflation. The combination of poor economic policies and high external debts put pressure on the SDG, which decreased strongly against the USD, further increasing inflation. The April 2023 crisis exacerbated the existing issues.

4.2.5.1 HH income/livelihoods

Around half of the respondents reported income > 50,000 SDG, although this was significantly higher for Central Gedaref (53%) than Eastern Qalabat (39%). Similar differences occur across the groups, showing

an overall lower HH income situation in Eastern Qalabat, with 23% reporting a HH income[122] below 10,000 SDG. Note that these percentages may be partly offset by the agricultural production used for HH consumption and depend on whether the respondent considered this.

Per the BS, an average of 93% of respondents across the two localities stated that due to the April 2023 ciris, their HH income decreased, 67% of whom shared that it decreased a lot. When asked to assess the percentage of decrease, an average of 74% said, "More than 50%," and another 19% stated, "26%–50%."

An average of 72% of respondents in both localities depend on a single HH income source, with minor differences reported between the two localities. The findings indicate that 28% have diversified their income sources by having two or more sources (26% of HHs in Eastern Qalabat and 29% in Central Gedaref had more than two contributors to income). These percentages, depicted in Table 21, reflect relatively similar income-based diversification and coping strategies for mitigating shocks and vulnerability.

Table 21: Number of HH Income Sources (by State—Locality)

State / Locality	1	2	3
Gedaref State	72%	23%	5.1%
Central Gedaref	71%	24%	5.0%
Eastern Qalabat	74%	21%	5.5%

There are notable differences between the localities in terms of types of HH income sources, although "daily labour—nonagricultural" was the most reported primary income source (31%). In Central Gedaref the most mentioned HH income source was "daily labour skilled–unskilled nonagriculture" at 32%, followed by "permanent job as employee" at 28%. In Eastern Qalabat "daily labour skilled–unskilled nonagriculture" was reported at 27%, and "farming/ livestock" was at 24%, which aligns with the more rural context. An average of 14% of respondents across the two localities mentioned Shop, trade, and handicrafts. The same answers were provided as secondary HH income sources in both localities, although an average of 26% chose "none/ unemployed." (see the summary in Table 22.)

[122] Reports of HH income are limited, as they cannot accurately conclude to what extent HH food production is included. Also, farmers have not proven adept at estimating this value, even if they desire to do so.

Table 22: Main HH Income Sources Gedaref—Localities						
Livelihood Activity	**Gedaref**		**Central Gedaref**		**Eastern Qalabat**	
	1st source	**2nd source**	**1st source**	**2nd source**	**1st source**	**2nd source**
1. Farming/livestock	15%	12%	11%	10%	24%	16%
2. Self-employed (e.g., charcoal, wood, gold)	0.4%	1.4%	0.6%	0.6%	0%	3.4%
3. Permanent job as employee	25%	9.5%	28%	11%	17%	6.8%
4. Daily labor in agriculture/livestock	2.1%	4.1%	0.6%	2.1%	5.5%	8.9%
5. Daily labor skilled–unskilled **non agriculture**	31%	17%	32%	16%	27%	19%
6. Self-employed professional (e.g., IT, doctor, lawyer)	2.5%	0.6%	2.4%	0.6%	2.7%	0.7%
7. Shop, trade, and handicrafts	14%	7.6%	14%	7.9%	12%	6.8%
8. Social welfare / humanitarian assistance	1.6%	4.1%	1.5%	4.4%	2.1%	3.4%
9. Pension/retirement money	4.1%	4.3%	5.0%	5.0%	2.1%	2.7%
10. Remittances from family members (abroad)	1.4%	2.7%	1.2%	2.6%	2.1%	2.7%
11. None/-unemployed	2.3%	26%	1.8%	26%	3.4%	25%
12. Other	1.6%	17%	1.5%	18%	2.1%	15%

Local authorities explained that respondents participate in many sectors, especially service sectors, such as private businesses, education, banking, water, health, and the informal sector—all of which is reflected in the HHS findings. All of them, formal or informal, were affected to varying degrees by the war. Respondents stated that, compared to the formal sectors, workers in the informal sector make more money. It was also reported that there were significant reductions in employment numbers in the private sector. While salaries increased marginally for governmental workers, these were largely ineffective due to inflation. One informant mentioned that the increases were poorly thought out and may have exacerbated inflation, making the situation worse.

HH survey results further showed that market purchases provided the primary food source for many people (see *4.2.2.1 Food*), especially in Central Gedaref (89%). This contrasts with Eastern Qalabat, where livestock/crop farming was a more important source of income, with 24% mentioning it as their main income source and a similar percentage indicating they produce at least 50% of their food domestically.

4.2.5.2 Exchange rates—inflation

According to the local authorities, exchange rate changes were problematic because Sudan depends on imports for not only its energy needs but also certain key food items, such as wheat. The drop in the exchange rate (against the USD) increased the prices of, for example, imported food items, which hurt food security. The VDCs and women's groups mentioned that many goods were imported and, therefore, affected by exchange rate fluctuations. The dependence on imports increased due to the war, which caused the collapse of industrial infrastructure in Khartoum. As prices increased, people reduced their consumption, switched to lower-quality items, or (partially) refrained from buying important goods. People additionally reduced their consumption, switched to lower-quality items, or (partially) refrained from buying essential goods. However, it was noted that the prices of certain commodities (e.g., bread) did not rise significantly.

VDCs mentioned that there were no small businesses in their areas. However, they also shared that the sellers raised prices to accommodate the increased production costs. Overall, the sale of luxury products, including decorations, cars, and some electronics, decreased because people were reluctant to buy them, focusing instead on necessities. Women's groups stated that businesses increased their prices to accommodate the SDG's devaluation, but this affected their sales and exposed them to losses. These increases affected especially the low-income segment, reducing their access to certain items, which affects their well-being. Alternatively, some shops were forced to close or declare bankruptcy, impoverishing small traders, who are a vital segment of the community.

4.2.5.3 Access to finance/financial services

Banks were reported to be more available in the Gedaref locality (68%) than in Eastern Qalabat (49%), and few other financial services—for example, community-saving groups or insurance—were available. Although banks were reasonably available, the utilization of financial services was low: In Central Gedaref, 28% of HHs reported using them, and only 10% did in Eastern Qalabat. Although the overall use of financial services was low, financial services were considered very helpful.

Per the local authorities, utilization of the financial service agricultural insurance can positively influence all sectors and crops, helping mitigate the effects of the crisis, particularly for SMEs. Insurance rates are high (compared to the gains), so few farmers use them. Another source of aid could be fintech and microfinance, which could make significant positive contributions. Fintech could save time and effort by enhancing access to financial services for women, who were found to have reduced access. However, the poor communication network would be the first challenge. For microfinance, it is important that it be provided in a way that meets beneficiaries' needs, is beneficial, and takes into account the high inflation rate. Although it is now suspended due to the war, microfinance has supported women by financing their projects and enabling them to work from home in commerce and other sectors.

There were no noticeable differences between the two localities regarding perceived gender differences in accessing financial services, with an average of 67% considering it the same and 20% considering it more difficult for women. Specific constraints for women (e.g., a lack of income/savings, lack of property/guarantees, documents, education/banking knowledge) and socioreligious constraints (by "nature") were quoted as the main reasons why access to financial services is more difficult for women.

4.2.5.4 Mitigation efforts

Most stakeholders considered the main financial impact to be indirect, originating in the increased oil prices. This affected all sectors but especially agriculture, as all agricultural operations, including planting and preparation, are highly dependent on fuel. It follows that the prices of agricultural products are expected to rise, which in turn will cause inflation. The increase in oil prices has also adversely affected transport and businesses.

Overall, there have been few efforts to mitigate the effects of the financial crisis. Before the war, there had been microfinance initiatives, but these were put on hold, as had the monetary support provided by UN organizations like WFP. According to local authorities in Gedaref, the impact had been somewhat mitigated by the regulated energy/fuel market in the past. However, the liberalization of the fuel market / cancellation of subsidies is one reason the agricultural sector was hit particularly hard. Governmental actors made attempts to mitigate this impact in conjunction with other organizations by developing alternative energies, such as solar. These attempts have not been widespread or effective.

Local authorities stated that the banking industry, in particular, as well as the broader financial sector, could not lessen the negative effects. Their services would surely be beneficial for promoting investment and the development of profitable enterprises, but their policies and operations needed careful review. Similarly, as a financial service, agricultural insurance could likely positively influence all sectors and crops, helping to mitigate the effects of the crisis, particularly for SMEs. Unfortunately, insurance rates are unreasonable, so few farmers use them. Finally, fintech and microfinance could make significant positive contributions, especially in enhancing access to financial services for women.

4.2.6 Livelihoods

4.2.6.1 Human Assets

The average age of the head of household in Gedaref state is 48.5 years, which includes Eastern Qalabat (45.9 years) and Gedaref (49.6 years). The HH/family size in Gedaref state averaged 7.1 members per HH, with a slightly lower average of 7 in the Gedaref locality than 7.4 in Eastern Qalabat.

4.2.6.1.1 Education and HH capacity

Overall, respondents in Gedaref were to a large extent formally educated, with only 5.6% lacking formal education and 7% having attended Qur'anic schools. Small gender differences were noted in the education level of the head of HH. Additionally, small differences were identified between the localities in the education level of the highest-educated women in the HH. Interestingly, Central Gedaref had both a higher percentage of "no formal education" and of "college/ university", which indicates significant differnces between various groups of urban residents.

Regarding gender, 83% of respondents reported it is more difficult for women to engage in income-generating activities. The most common difficulties respondents acknowledged are lack of access to land, lack of access to livestock or other agricultural resources, lack of knowledge/skills, lack of the needed education or professional experience, fewer opportunities for women (more heavy physical work), lack of access to finance, cultural issues, and care-taking tasks at home.

4.2.6.1.2 HH health status

The health condition reportedly deteriorated in the past 12 months as 21% of HHs reported a decline in the health condition of "most of its members" and 61% "some of its members". The situation in both localities was equally bad in terms of health conditions.

The main reasons quoted in both localities for the deterioration were food quantity and quality (34% and 41%) and "drinking water quantity [and] quality" (18% and 16%). In Central Gedaref 18% mentioned an "increase in diseases in the area" as a powerful factor, while in Eastern Qalabat, 16% noted the "availability/high prices of medicines." Sanitation facilities and "reduced HH spending on medical/health items [for] diseases" were considered less of an issue. Under "other" (n = 51), most respondents spoke of a combination of the answering options provided, often adding war as a cause. Some others mentioned specific medical conditions. Importantly, a significant number of respondents also referred to mental health or the psychological well-being of HH members declining due to the war.

4.2.6.2 Natural Assets

4.2.6.2.1 Land use

Although Gedaref is considered an agricultural state, an average of 72% of the respondents replied that they did not use their land for economic activities, although this is much lower in Eastern Qalabat (52%). Land cultivation decreased in both localities for different reasons: in Central Gedaref, this was mainly due to the April 2023 crisis, while in Eastern Qalabat, the "high costs of agricultural inputs" were given as the main reason. An average of 62% reported a decrease in land cultivation, with 8.7% in Eastern Qalabat reporting a sizable reduction. An average of 35% stated it had remained the same. A primary reason cited for the decrease was the April 2023 crisis, although it was considered more important in Central Gedaref (60%) than in Eastern Qalabat (41%), where a "high cost of agricultural inputs" (47%) was the most quoted reason, compared to 19% in Central Gedaref; this aligns with reported differences in the importance they hold for agriculture. Interestingly, "lack of expected rains" was considered less important, which is likely because respondents have had access to sufficient water and/or irrigation systems (confirmed by later questions).

The result shows that in Gedaref state, a rise in input prices affected land cultivation and consequently reduced local production. Respondents mentioned the April 2024 crisis as one of several reasons for the decline in cultivation, including the leading causes: the price hike of fuel and inputs in addition to security issues.

4.2.6.2.2 Common natural resources

Due to depleting resources, the overall condition of natural resources (e.g., water sources, grazing grounds, and forests) deteriorated in the state. However, Central Gedaref was much more affected, especially in terms of water supply, than Eastern Qalabat, where some increases in water availability were reported. Climate change also played a role, in addition to the April 2023 crisis. The survey included questions about shifts in the condition of a number of natural resources over the last 12 months (see **4.1.3.2**). The respondents' answers during the HHS were similar between the two localities regarding grazing ground and forests but were very different concerning water sources. However, **in Central Gedaref, much higher decreases (around 60%) were reported, especially for water resources, which is almost double the average shared in Eastern Qalabat (around 30%)**; 12% in Eastern Qalabat even mentioned increases in the water sources.

In addition to the April 2023 crisis, climate change was impactful: an average of 37% of respondents across the two localities said that their village/area was affected "a lot" by climate change, while another 54% stated "somewhat." *The climate change impacted the crop production due to low or irregular rainfall. (*see *4.2.4.3* for more details.)

4.2.6.3 Physical Assets

The provision of basic services in the state decreased significantly over the last 12 months. The most quoted reason was the April 2023 crisis, while "the quality of services [decreasing/becoming] less reliable" was also mentioned.

The survey included questions about the availability of / access to several basic services (see **4.1.3.3**). **Across the two localities, an average of 96% considered that "all" or "most" (43%) or "some" services decreased (53%).** The main reason given was the April 2023 crisis (mentioned by 89% in Central Gedaref and 81% in Eastern Qalabat), followed by "the quality of services decreased / became less reliable" (6.1% and 7.9%). These findings correspond with reported needs in health and WASH (see section below). Financial reasons, such as price increases and exchange rates, as well as fuel prices, were considered less important. Several respondents referred to the generally poor condition of services prior to April 2023.

4.2.6.3.1 Water

Eastern Qalabat is better covered in terms of water provision, both for HH and irrigation purposes. In Central Gedaref around half of the respondents classified the HH and irrigation water provision as very bad, which may seriously affect the HH's health status and agricultural LH options. The availability/ access to water for HH purposes was much better in Eastern Qalabat, with 46% stating it was very good, compared to 23% in Central Gedaref, where a larger share (40%) considered it "bad." The percentages for "acceptable" and "very bad" were the same for both localities. In terms of irrigation water, there are noteworthy differences: Eastern Qalabat scored much better, with 36% stating (very) good, compared to 15% for Central Gedaref, where 42% rated the availability as bad. **This may seriously affect LH opportunities.**

4.2.6.3.2 Electricity/connectivity

The overall quality of service provision in terms of electricity and transportation is better in Central Gedaref than in Eastern Qalabat, especially for electricity and phone coverage. The April 2023 crisis was quoted as the main reason for the decrease in services in Central Gedaref. (see **4.1.3.3** for detailed findings.)

An average of 41% considered the availability of (public) transport/connectivity (very) good, and another 38% stated it was "acceptable," with minor differences found between the two localities. The remaining 21% considered it (very) bad.

4.2.6.3.3 Health facilities

Health coverage was similar across the two localities, with 48% classifying the services as (very) bad. The availability of / access to health services and facilities was similar across the two localities, with an average of 20% describing it as (very) good, 25% as acceptable, 48% as (very) bad, and 6.6% as having "no health services/ facilities."

4.2.6.4 Financial Assets

4.2.6.4.1 HH income and expenses

An average of 93% of respondents across the two localities stated that due to the April 2023 crisis, their HH income decreased, 67% of whom said it decreased a lot. When asked to assess the percentage of decrease, 74% stated it was "more than 50%", and another 19% stated it was between "26% [and] 50%." **Almost all respondents (97%–98%) mentioned "food" as the category behind the most HH expenses.** When asked which category(ies) increased the most, the majority of respondents across the two localities answered, "All categories" (76% in Central Gedaref and 55% in Eastern Qalabat). Additionally, respondents in Eastern Qalabat 42% noted "food," compared to 21% in Central Gedaref.

Remittances were considered more important in Central Gedaref (90%) than in Eastern Qalabat (82%). An average of 88% across the two localities considered remittances (very) important, although this was lower in Eastern Qalabat (82%), where 8.2% responded they were "unimportant." The main reason cited for changes in the remittances is the April 2023 crisis (91 and 86%), followed by "difficulties sending money to Sudan/village" (6.9% and 6.6%).

4.2.6.4.2 Coverage of need and saving capacity

The findings were similar across the two localities, with **an average of 42% stating they were "largely unable" to meet their HH needs over the last 12 months, and another 54% stating they were "sometimes unable."** Only 3.5% said they were mostly able to meet their HH needs. The main reason (fully or mostly) was the April 2023 crisis, according to an average of 97% of respondents in both localities, with only 1.1% considering it unrelated (interestingly, all of them in Easter Qalabat).

The difference in households' ability to meet their needs was reflected in their savings capacity. **On average, 90% of respondents reported they were unable to save, and 6.6% stated they could only save some months**. In both localities, none (0%) were able to save all months, and only 1.4% could most months. This was confirmed when respondents were asked directly, with 100% stating that their capacity had significantly reduced. Banks were used most by the respondents (22%) but less in Eastern Qalabat (10%) than in Central Gedaref (28%). Investment in agricultural production or business was used less in Eastern Qalabat (3%) than in Central Gedaref (8%).

4.2.6.4.3 Financial services

Banks were reported to be more available in Central Gedaref (68%) than in Eastern Qalabat (49%), while few other financial services—for example, community-saving groups or insurance—were available. Under the category of "other than bank sources," 89% said none were available, 2.6% didn't know, 2% relied on loans from friends and family, and 6.4% gave various answers. The use of financial services was low in both localities, with 28% in Central Gedaref and 10% in Eastern Qalabat. The primary (and sometimes only) services used were banks. **Although the overall use of financial services was low in both localities, they were considered very helpful by an average of 50% across localities, and another 41% described them as "somewhat."** Only 2.2% considered them not very or at all helpful. This may indicate a lack of availability and/or access to appropriate services.

Most respondents believed there were no differences between the genders' abilities to access financial services, with an average of 67% considering them the same, and an average of 20% thinking it more difficult for women. See *4.2.7.1* for more details.

4.2.6.5 Social Assets

4.2.6.5.1 Community-based organizations

The prevalence of CBOs was much higher in Eastern Qalabat than in Central Gedaref. Village (development) committees and charity/zakat structures were the most reported CBOs. Respondents were somewhat optimistic about their capacity to mitigate the adverse effects of (food) price increases, though less optimistic in Eastern Qalabat. Per the survey, community-based organizations were more present in Eastern Qalabat (99%) than in Central Gedaref (87%). However, these percentages are reduced to 91% (Eastern Qalabat) and 79% (Central Gedaref) if altered to consider answers provided under "other." In both localities, the most common CBOs were village (development) committees (35% and 40%) and charity/ zakat structures (33% and 27%). In Eastern Qalabat, 12% also reported smallholder farmer associations. Very small percentages of women committees, Village Saving and Loan Associations (VSLAs), and government service providers were mentioned. Note that under "other," 19% stated that they "don't know," partially because they are IDPs residing in camps and are unfamiliar with the situation in the villages.

An average of 24% believed that CBOs would be fully or largely able to mitigate the negative effects of food and general price increases; another 37% stated they would be somewhat able to. The big difference between the two localities was that respondents in Central Gedaref were more positive, with 30% saying "fully or largely," while only 10% in Eastern Qalabat were, even though CBOs were more prevalent there.

4.2.6.5.2 Social cohesion

Social tensions in Gedaref increased significantly over the last 12 months, with higher percentages in Central Gedaref. On average, across both localities, 33% stated there was a "big increase," and 39% stated there was "some increase." However, another 7% reported a decrease. There were only small differences between the two localities.

4.2.6.5.3 Migration

Overall, high percentages (> 91%) of respondents reported an increase in both internal (IDPs) and international migration, with minor differences found between the two localities. The main reason quoted was the April 2023 crisis, although smaller percentages of respondents also mentioned other reasons. A smaller percentage (average of 62%) also reported returnees/remigration. See *4.2.4.2* for more details.

4.2.7 Crosscutting Issues (Gender-Environment-Migration)

4.2.7.1 Gender

An average of 57% of the survey respondents were female, with a higher percentage in Central Gedaref (60%) than in Eastern Qalabat (49%). In line with Sudan's sociocultural context, most heads of HH were male: 82% across the two localities.

4.2.7.1.1 Gender-specific impact of crises and use of coping mechanisms

Most respondents answered that men and women were affected in the same way and that coping mechanisms were applied equally across both sexes. **However, in Gedaref, a high percentage (8.3% (n =**

28)) of the total female respondents specifically mentioned gender-based violence, including rape. The assessment team notes this figure requires further investiation, as outlined in our recommendations, to conduct additional assessments and both treatment and mitigation strategies to ensure protection.

An average of 67% thought that men and women were affected in the same way, and 26% stated that women/girls were more affected. Despite these personal beliefs, some gender differences exist when the findings were disaggregated according to the respondents' gender, with respondents from each gender considering themselves more affected. So, while **more women believed that women were more affected, more men held that men were more impacted**. In addition to risk or experience GBV, the examples mentioned mainly referred to the reduced opportunities for women, their dependence on men, need for menstrual hygiene products, and additional, family-related tasks.

The same question was asked for the use of coping mechanisms, which revealed similar findings: 75% thought coping strategies were used for men and women in the same way. Of the remainder, an average of twice as many respondents (16%) in Central Gedaref thought these strategies were used more for women, while in Eastern Qalabat, there was only a minor difference. The main explanation or examples provided referred to cultural differences in men's ability to do various jobs and women having multiple tasks, as well as some gender stereotypes about men being better able to adapt or generally more resilient. Minor gender differences were found when the findings were disaggregated according to the respondents' gender.

4.2.7.1.2 Livelihoods/economic opportunities

One of the reasons women were considered more affected than men is their reduced access to economic opportunities and financial services. Women in the state face distinct barriers compared to men, including lack of income sources and sociocultural restrictions, which result in lack of access to finance, and increased caretaking tasks. There were small differences in the genders' responses regarding the education level of the head of HH, as well as between localities for "the education level of the highest-educated women in the HH". Central Gedaref had both a higher percentage of "no formal education" and of "college/ university", which indicates significant differences between various groups of urban residents.

Eighty-three percent of respondents stated it was more difficult for women to engage in income or food production activities, with a difference found between the two localities: Central Gedaref (86%) and Eastern Qalabat (75%). Disaggregated by gender, a higher percentage of men considered it more difficult for women, but the women themselves did not. The most quoted reason was "few opportunities for women" (46% and 40%). In addition, they added "care-taking tasks (14% and 5%)," "lack of the needed education/professional experience (13% and 8.3%%), and "cultural less/not accepted that women work" (13% and 9.2%) as explanations. Similar responses, especially "there are no jobs" (39% and 40%), with a greater prominence given to "family care" (39% and 44%), were provided when respondents were asked why HH members were not engaged in economic activities.

There were no noticeable differences between the two localities in terms of noting gender access to financial services; an average of 67% considered it the same for both genders, and an average of 20% considered it more difficult for women. There were no significant gender differences. Specific constraints for women (like a lack of income/savings, lack of property/guarantees, documents, and education/banking knowledge), as well as socioreligious constraints (by "nature"), were quoted as the main reasons why it is more difficult for women.

4.2.7.2 Migration (Refugees and IDPs)

Gedaref is a comparatively developed agricultural region located close to the Ethiopian and Eritrean borders. Additionally, security and logistical considerations might contribute to its role as a net receiver of migrants before the April 2023 crisis. Since Gedaref is a relatively well-developed state of Sudan, with large-scale, irrigation-based agriculture, it is more attractive as a settlement area for economic migrants, as well as IDPs and refugees, than the less developed states. Its physical proximity to Ethiopia and Eritrea may also be a pull factor.

The situation in Gedaref prior to April 2023 can be summarized as follows:

- **Refugees:** They were mainly Eritreans due to the state's proximity to the border.
- **Internal displacement (IDPs):** They came mainly from other states.
- **Rural-urban migration (economic):** They were mainly rural populations/youth leaving the countryside in search of better LHs in urban areas. While higher-educated residents might move to a locale like Khartoum in search of opportunities, Gedaref may receive lower-educated residents from other states.
- **International (economic) migration:** They became a net exporter for the same reason that rural-urban migration occurred.

4.2.7.2.1 Refugee/IDP situation

Changes in the refugee and IDP situation in Gedaref have mainly depended on the security situation in the countries of origin and in other states of Sudan, although climate change (see section *4.2.4.3*) **may increase localized conflicts over scarce resources (e.g., water)**. In general, the triple crisis will further reinforce the above (economic) migration patterns. **The April 2023 crisis resulted in massive migration/ displacement to the state**. The ongoing conflict, related insecurity, and collapse of Khartoum as the economic center caused a huge increase in migration, drawing in migrants because it offered relative safety, a space to exit conflict zones, and was close to overland international borders.

The number of IDPs in Gedaref increased from 23,471 in the pre–April 2023 crisis to 633,154 in June 2024. A total of 31% of the survey respondents were newly displaced IDPs, a much higher presence than in Kassala and Red Sea State. When asked how respondents identified their HH situation, 54% stated they were resident/not displaced/returned > 1 year ago, 31% said they were displaced after April 2023, and 15% replied they were displaced before April 2023. Not one (0%) of the respondents identified him- or herself as a refugee or returnee (returned less than 1 year ago). **The percentage of those who indicated they were "displaced after 2023" was almost double that from before April 2023,** which confirms the scale of the current crisis and Gedaref's status as a continued IDP reception area. Most IDPs are in Central Gedaref, where a significant portion of the population are indeed IDPs, including 31% from after April 2023. Eastern Qalabat has a population of 39% IDPs, 25% of whom are from after April 2023.

An averege of 97% of survey respondents stated there was a (large) increase in IDP/refugee numbers after April 2023. Of the population in the two localities, 11% were considered a "resident population,"[123] while 89% were considered host communities. When asked about the presence of IDP/refugees in their area or residence, 15% stated it was "mostly IDPs/refugees"; 74%, a "mix of residents and IDPs/refugees"; 11%, "few IDPs/refugees"; and 0.2%, "no IDPs/refugees." Per locality, there

[123] These are the ones that indicated there were few or no IDPs.

are small differences between Central Gedaref and Eastern Qalabat, with the percentage of "mostly IDPs/refugees" appearing higher in Central Gedaref (15%) than in Eastern Qalabat (8.9%).

Almost all new IDPs stayed in temporary shelters, while a smaller percentage stayed with friends. A minor portion of IDPs in Central Gedaref rented accommodation. When altered to include the answers under "other" (55%), almost all (90%) of the newly displaced IDPs noted that they had stayed in a temporary shelter, 9.2% said with friends, and 1.1% mentioned rented accommodations. However, based on the wrong-answering options from the question about future plans, the percentages are likely significantly higher (13%), especially for respondents in Eastern Qalabat (22%). It is the same situation for renting a room, with an average of 27% for the two localities.

4.2.7.2.2 "Voluntary" migration (domestic and international)

High percentages (> 91%) of respondents reported a "big" increase in both [domestic] and international [economic] migration), with small differences identified between localities. A total of 62% reported they were "returnees to the state," and their main reason quoted was the April 2023 crisis. A higher percentage in Central Gedaref (93%) than in Eastern Qalabat (85%), reported changes in the numbers of IDPs over the last 12 months, with the April 2023 crisis cited by 88% and 76% as the main reason. In Eastern Qalabat 18% mentioned "unemployed" as main reason, compared to 3.8% in Central Gedaref. There 8.2% stated "higher access to work opportunities," while 4.1% said this in Eastern Qalabat. Regarding migration to foreign countries, 96% of the respondents reported "some" or a "big increase." The main reason quoted by those in both localities (97%) is the April 2023 crisis.

An average of 62% of the respondents reported some or a big increase in returnees, although this was much higher in Central Gedaref (72%) than in Eastern Qalabat (45%), where 27% answered, saying there was a "decrease." The April 2023 crisis was cited as a major reason by 90% in Central Gedaref and 88% in Eastern Qalabat, followed by increased prices (3.8% and 7.7%) and social needs (6.7% and 3.1%).

4.2.7.3 Environment

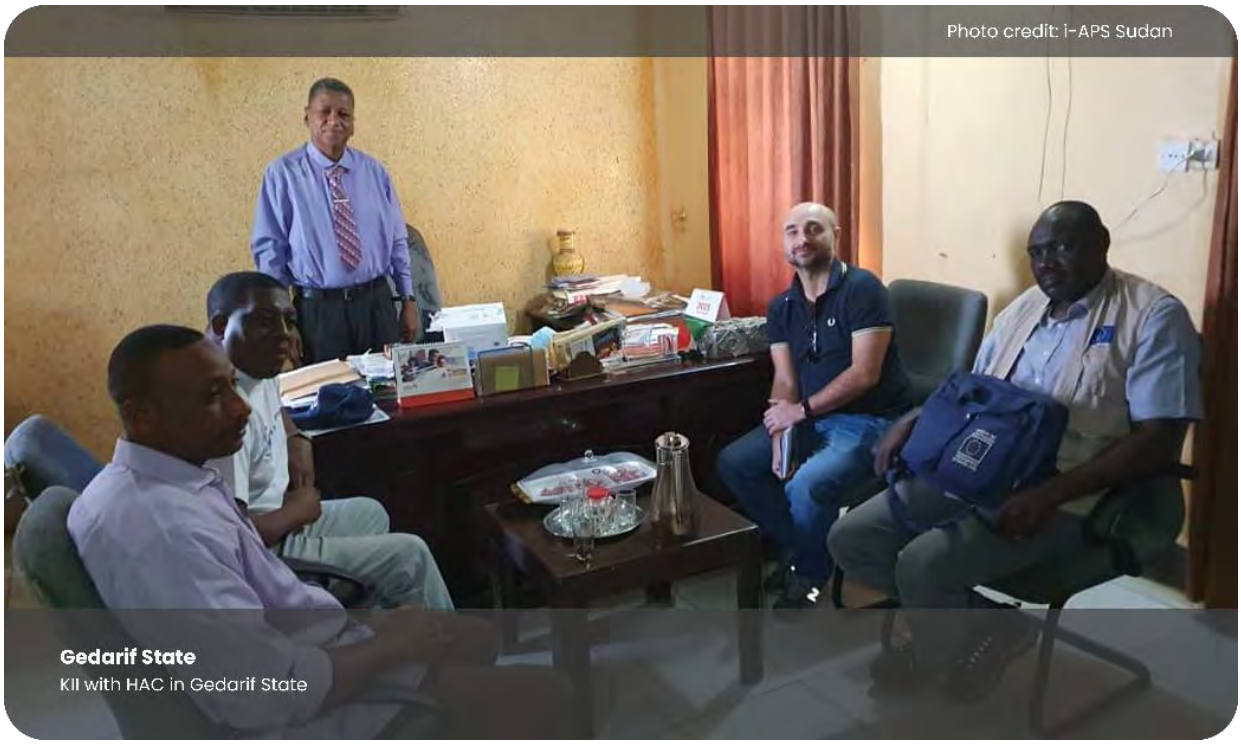
See 4.1.4.1 for the impact of changes in fuel type.

4.2.7.3.1 Climate change

An average of 36% of respondents in both localities, with only minor differences between them, stated that their village/area was significantly affected by climate change (54% said "somewhat"). They mainly referred to increased temperatures, followed by reduced rainfall and changing rainfall patterns (reported more in Eastern Qalabat). Around one-third of the respondents believed they were "fully" or "largely" able to adapt to these changes. A lack of financial means was the main reason mentioned in both localities for an inability to adapt. Only 1.9% thought they were not affected. However, those in Eastern Qalabat reported a significantly higher percentage (18%) of "not at all" being able to adapt. The most mentioned changes were "increased temperatures (59% and 43%), followed by reduced rainfall, although there were more in Central Gedaref (24%) than in Eastern Qalabat (12%), where they were more concerned about the "changed timings/reliability of the rainfall" (18%). **Note that the overall higher prevalence of irrigation schemes may make local populations somewhat less dependent on rainfall (patterns).**

Three reasons mentioned for both localities were a "lack of financial means to adapt to the changes" (45% and 51%), a" lack of general knowledge about the changes" (16% and 18%), and a "lack of

government or higher-level support" (19% and 11%). In Eastern Qalabat 12% also stated a "lack of alternative livelihoods/employment opportunities, compared to 8.2% in Central Gedaref.



4.3 Red Sea State

4.3.1 Introduction

The Red Sea State (RSS) in eastern Sudan covers an area of 212,800 square kilometers, sharing boundaries with Egypt to the north, the Red Sea to the east, and three state boundaries—River Nile, Khartoum, and Kassala states—in the west and south. It is administratively divided into ten localities: Agig, Dordeb, El Ganab El-Awlait, Japoot El-Maadin, Halayeb, Haya, Port Sudan, Sinkat, Suakin, and Tokar, with Port Sudan being the state capital. Besides being the temporary capital of Sudan due to the April 2023 conflict, the state also has the largest sea harbor for exports and imports in the country (Port Sudan), including oil exports to Bashaier Harbor. Additionally, there is an international airport equipped with modern operational facilities and paved runways. About 90% of Sudan's international trade goes through Port Sudan.[124]

The population of the Red Sea state was 1.6 million in 2023.[125] The majority of the population lives in the east, particularly in the Red Sea and Kassala states, which belong to the Beja tribe,[126] a culturally rich Hamitic group whose historic homeland stretches from Egypt to Ethiopia. Tribal identity is one of the most salient features of local livelihood customs.[127] This major ethnic group comprises five main subgroups, as well as some minor subgroups. Notably, 61% of the state's population lives in rural areas, and 19% are nomads.[128]

Although intrinsically food insecure, the state nonetheless has found that food insecurity decreased to 11% from 29% in 2021 to 18% in 2022. However, multiple localities still have high levels of food insecurity, including Haya (32%), Dourdieb (32%), and Sinkat (30%). Food intake is persistently poor due to cultural eating practices (no food diversity), resulting in micronutrient deficiencies and malnutrition. According to the December 2023 IPC analysis, about 397,762 people (24%) were in crisis regarding food security in December 2023.[129] Additionally, per UNICEF, 24,460 children under 5 are severely suffering from acute malnourishment; 39,030 school-aged children are out of school; only 56% of the population has access to safe water; and only 22% have access to sanitation facilities.[130] Of all the states in eastern Sudan, the prevalence of undernourishment in RSS is the most protracted. Given the socioeconomic characteristics of the HHs in RSS, especially in considering their poor eating habits, it is likely the situation has deteriorated since then, although little information is available on the deteriorating economic situation.

Chronic food insecurity and hard economic realities in the state have forced 18% of the population to rely on firewood and charcoal collection, a low-return livelihood activity that indicates a high level of vulnerability. The fact that the Red Sea is below the national level in terms of asset ownership is also indicative of high vulnerability. Agricultural production in RSS is not extensive, with only 1% relying on agricultural labor as their primary income source. The harvest in the Tokar Delta was poor primarily due

[124] OCHA (2023, March 29), *OCHA Sudan: Red Sea State Profile (March 2023)*, ReliefWeb, https://reliefweb.int/report/sudan/ocha-sudan-red-sea-state-profile-march-2023
[125] OCHA (2023, March 29), *OCHA Sudan.*
[126] The Beshariin and the Amarar are the tribes more inclined toward pastoral livelihood, and they occupy the more mountainous wadis of the RSS interior and northern Kassala.
[127] TANGO International (2005, May). *A Livelihood Vulnerability and Nutritional Assessment of Rural Kassala and Red Sea State*. WFP Final Report. The report was prepared as a joint effort between Ministry of Agriculture and the WFP, UNDP, UNICEF, and FAO.
[128] Central Bureau of Statistics (2008), *Population and Housing Census 2008*, ILO, https://webapps.ilo.org/surveyLib/index.php/catalog/1360
[129] OCHA (2023, March 29), *OCHA Sudan.*
[130] UNICEF (2024), *State Profile—Red Sea*, https://www.unicef.org/sudan/documents/state-profile-red-sea

to extended dry spells.[131] The entire state is classified as arid or hyper arid and experiences extremely low, unevenly distributed, and variable rainfall.[132]

Sorghum production in Tokar in the 2023/24 season was 56% below the 5-year average (6.2 thousand tons compared to 11.2 thousand tons).[133] Sorghum was produced in the state in 2023/24 under unirrigated conditions, making a total of 13.1 thousand tons, still far below the population's needs. Notably, the sorghum produced in the 2023/24 season in the traditional rain-fed sector was below the 2022/23 level but 121% above the 5-year average.[134] However, increased opportunities in the mining sector may have mitigated challenges in the agricultural sector, providing a relatively stable income for many households, as evidenced by a relative improvement in HHs' purchasing power.[135]

As the furthest state from the fighting and a transit point for those seeking to secure passports or leave the country, Red Sea state hosts the greatest number of IDPs. Port Sudan, the temporary capital, is defensible position because of its mountainous terrain surrounding the coast. According to DTM data from January 2024, the number of IDPs increased from 15,120 in pre-April 2023 to 246.563 in June 2024.[136] The number of registered refugee minors (about 5,000) is considered to be underestimated.

In the state, enumerators familiar with the selected areas collected the data over a period of 3 weeks in March of 2024. Prior to their efforts, two localities had been selected: Port Sudan and Sinkat. The selection of blocks/clusters within each locality was based on data provided by IOM through DTM round 6 and the Humanitarian Needs Overview 2023.

For the HH surveys (498 respondents), the sample sizes of the localities and clusters differed due to the size of the population. For qualitative data (i.e., KIIs and FGDs), the field team conducted six KIIs, mainly held with state government staff from different line ministries and institutions, as well as four FGDs with community representatives, including women groups. Table 23 shows the distribution of HHs and sampled clusters in each locality.

[131] FAO (2024): Special report 2023 FAO crop and food supply assessment mission (CFSAM) to the republic of the Sudan. https://openknowledge.fao.org/server/api/core/bitstreams/8e198344-f214-46c5-bf37-26404fccbc9f/content

[132] Rainfalls declined from an average of 125–400 mm in 1970 to an average of 50-200 mm in 2010 (FAO-FSPS 2015 policy paper on climate change by Ahmed Abdel Aziz Ahmed).

[133] FAO (2024, March 19), *Special Report—2023 FAO Crop and Food Supply Assessment Mission (CFSAM) to the Republic of the Sudan*, https://openknowledge.fao.org/handle/20.500.14283/cd0053en

[134] FAO (2024, March 19), *Special Report—2023 FAO CFSAM*.

[135] WFP (2022), *(CFSVA)*.

[136] IOM UN Migration (2024), *DTM Sudan Weekly Displacement Snapshot 29*, https://dtm.iom.int/reports/dtm-sudan-weekly-displacement-snapshot-29

4.3.2 Triple Crisis

All interviewed local authorities in RSS agreed that the triple crises are among the most important crises in Sudan and that this fact was recognized by both the Sudanese government and stakeholders, including donors.

Most stakeholders indicated that the triple crisis, especially the food crisis, has affected the entire community. The most affected are the poor, rural, and peripheral-urban populations, as well as female-headed households. In Gebet, participants also mentioned government employees (most no longer receive salaries), low-income groups, and daily workers as at high risk. However, many people received support in kind and/or cash from the Zakat Bureau.

The KIIs and FGDs showed that the VDCs in RSS considered the difference in the food security situation mainly due to the April 2023 crisis and recent developments, which led to increases in food and oil prices.

4.3.2.1 Impact of the April 2023 and triple crises

The respondents identified an average of 1.7 main impacts of the ongoing April 2023 crisis; the most mentioned are reduced food availability (48%), reduced government services (40%), loss of HH income sources (22%), and "major loss of property and/or productive assets" (19%).

Table 23: Main Impacts of the April 2023 Crisis Red Sea State—Localities			
Main Impact	**Red Sea State**	**Port Sudan**	**Sinkat**
1. Death of the head of household/main breadwinner	7.4%	6.6%	10%
2. Major loss of property (e.g., housing) and/or productive assets (e.g., equipment, shop)	19%	17%	29%
3. Ongoing displacement	10%	4.1%	32%
4. Loss of HH income source(s)	22%	20%	29%
5. Reduced food availability/increase in food prices	48%	52%	35%
6. Reduced or lack of government services like health and education	40%	46%	21%
7. Inflation/reduced USD/SGD exchange rate; increase in prices	6.0%	4.6%	11%
8. Lack of access to financial services / bank accounts	2.4%	1.0%	7.5%
9. Increase of fuel and electricity prices	3.0%	3.1%	2.8%
Other	2.0%	2.3%	0.9%
None of the above	7.8%	2.3%	28%

4.3.2.2 Personal and external circumstances (shocks)

In addition to the triple and April 2023 crises, 63% of respondents across the two localities indicated that they'd encountered an average of 1.2 *personal circumstances* that significantly affected their HH economic situation over the last 1 to 2 years[137], although respondents in Sinkat were more affected by these than in Port Sudan. There were no major differences in the types of circumstances, with the most mentioned being a loss of the main income source (39%), recent displacement (15%), and major financial problems (15%).

Respondents across the two localities largely considered all external circumstances, except gender-specific issues, to be important. However, **the availability and price of food, electricity, and other basic services (e.g., water and health) were identified as having the biggest impact on the overall economic situation** (see Table 24). However, significant percentages in Sinkat considered them less critical or even unimportant, which may indicate that the crisis affected parts of Sinkat somewhat less. This also applies to "changes in government (support) systems," where 66% of the respondents in Port Sudan considered it (very) important, compared to 33% in Sinkat.

[137] This refers to the 1-2 years before the data collection, meaning the period before February-March 2024, roughly including one year after the April 2023 crisis and one year before that since personal circumstances are not necessarily related.

Table 24: Impact of External Circumstances on HHs Over the Last 12 Months in Red Sea State								
Description	Very Important		Important		Neutral		Less Important/ Unimportant	
	Port S.	Sinkat	Port S.	Sinkat	Port S.	Sinkat	Port S.	Sinkat
Availability/prices of food	44%	79%	51%	19%	2.6%	2.8%	2.1%	0%
Availability/prices of fuel and/or electricity (for HH and/or agricultural use)	50%	37%	45%	32%	2.0%	18%	3.1%	13%
Changing exchange and/or interest rates	39%	44%	33%	17%	23%	20%	4.8%	20%
Overall economic situation / availability of jobs	45%	57%	39%	34%	13%	6.5%	3.1%	2.8%
Difficulties accessing finance (e.g., loans, remittances)	48%	42%	36%	24%	12%	15%	4.9%	19%
Environmental/climatic conditions (e.g. rainfall, desertification)	43%	14%	30%	22%	19%	33%	6.9%	32%
Gender-specific issues, like discrimination for jobs or access to land; cultural constraints	20%	13%	40%	39%	33%	28%	7.1%	20%
Changes in government structures and/or support systems	31%	22%	35%	11%	25%	31%	8.7%	37%
Availability/price of other basic services, like water, health, education	51%	80%	45%	19%	1.5%	0%	2.5%	0.9%

4.3.2.3 Current Needs

The respondents selected an average of 2.7 needs, with these HH needs identified by the respondents as the biggest: food (91%), education (47%, although mostly in Port Sudan), health care (37%), and WASH (30%, although more in Sinkat). "Livelihoods/jobs" (36%) was mentioned more in Sinkat, while "access to finance" (17%) was chosen more in Port Sudan. Of the seven respondents that answered with "other", six mentioned **shelter-related needs**, and one mentioned needing "nothing."

Although the need for WASH came fourth among the needs described in the two localities, it is worth noting that it was more urgent in Sinkat (55%) than in Port Sudan (23%). The probable reason for education ranking second in terms of priority needs (it ranks much lower in the other two states) is that it was formerly concentrated in the state capital, which has more (expensive) private schools than the free public schools in Port Sudan. Due to this unbalanced distribution of social services, authorities likely put less emphasis on education in Sinkat than they would have in other rural areas. Livelihoods/jobs were considered a higher need in Sinkat (36%), compared to 15% in Port Sudan, while access to finance was mentioned more in Port Sudan (17%) than in Sinkat (4.7%). For the prioritization of needs, see Table 25.

Table 25: Biggest HH Needs in Red Sea State—Localities			
HH Needs	**Red Sea State**	**Port Sudan**	**Sinkat**
Food	91%	90%	92%
Water and sanitation	30%	23%	55%
Health care	37%	36%	40%
Education	47%	55%	16%
Agricultural inputs	1.4%	1.3%	1.9%
Livelihoods/jobs	20%	15%	36%
Protection	7.8%	7.9%	7.5%
Psychosocial support	1.0%	0.8%	1.9%
Electricity/energy needs	8.8%	11%	1.9%
Debt relief	4.6%	2.8%	11%
Access to finance (e.g., loans, remittances)	15%	17%	4.7%
Communication	0.4%	0.3%	0.9%
Transport	1.2%	0.8%	2.8%
Other	1.4%	0.8%	3.7%

4.3.2.4 Mitigation efforts

Local authorities mentioned that the main issue has been a lack of capacity due to an absence of revenues after the war. Moreover, there has been little response from international organizations to the current crisis. The Zakat Bureau provides cash assistance and has small production-oriented projects for poor segments of the population. It also organizes a higher technical committee that mobilizes humanitarian aid from the international community.

Possible role of UN agencies

All local authorities agreed that UN agencies have a major role to play in mitigating the negative effects of the crises through humanitarian aid projects. WFP, FAO, and other UN agencies are providing humanitarian and stabilization assistance on a limited scale.

Possible role of the private sector

Local stakeholders in RSS believe that under these circumstances, it is difficult for the private sector to play any role, as the sector has largely been destroyed.

4.3.3 Food

The HHs field survey, FGDs, and KII findings show that the food security situation in Red Sea state is alarming. According to the IPC report[138] from December 2023, less than one-third (29%) of the state population (1.6 million) is food secure, while the remaining 71% are at risk. In February 2024, 24% of people in the state (almost 0.4 million) fell into high levels of acute food insecurity, which is categorized as IPC Phase 3 or above (crisis or worse). Of those, 62,000 (4% of the population analyzed) are in IPC Phase 4 (emergency). The situation of these groups of people may further deteriorate if no urgent actions are taken to meet their food requirements throughout the remainder of 2024.

Local authorities mentioned increased food prices as the most significant consequence of the triple crisis on food security, followed by the negative impact on local production due to increased production costs. They consider the triple crisis a consolidation of previous developments in Sudan.

The VDCs in RSS considered the difference in the food security situation mainly due to the April 2023 crisis and then of the recent developments that raised food and oil prices.

In terms of access to food, most respondents (62%) said they buy "most food from the market" (92% in Sinkat but 53% in Port Sudan). Interestingly, while agriculture was not identified as a main HH income source, 44% of the population in Port Sudan stated they produced around 50% of their food themselves. For a summary of where these populations access their food, see Table 26.

Table 26: Access to Food

State / Locality	Most Food From Own Production	Food Produced and From the Market (App. 50-50)	Most Food From the Market
Red Sea State	2.2%	36%	62%
Port Sudan	2.3%	44%	53%
Sinkat	1.9%	6.5%	92%

4.3.3.1 Food production

In terms of availability/access to food, most local authorities mentioned various common factors that had affected food production/availability: the war / April 2023 crisis halting production in some states; climate change; high production costs; transportation from production areas to markets (places of consumption); a lack of production and low productivity in traditional production areas; low levels of income, especially for more vulnerable segments; and the smuggling of food to Ethiopia, Eritrea, and South Sudan. Sorghum and millet production in the Tokar Delta were below last year's production and, therefore, not able to meet the population's needs.

[138] IPC (2023): Sudan: Acute Food Insecurity Projection Update for October 2023 - February 2024

4.3.3.2 Food availability

The food availability differs throughout Sudan, and certain populations are more susceptible than others—for example, in regions where climate change causes drought, desertification, and flooding. As a result, there is regional disparity in the availability and scarcity of food. The vulnerability of populations thus varies by topography. In addition, current availability/access is affected by the war / April 2023 crisis; high transportation from production areas to places of consumption; a lack of production and low productivity in traditional production areas; low levels of income, especially for the vulnerable segments, and the smuggling of food to Ethiopia, Eritrea, and South Sudan.

On average, 68% of HHS respondents stated that there was a (big) decrease in availability over the last 12 months, although the percentage was higher for Sinkat (82%) than Port Sudan (64%), with the likely explanation of higher HH-level food production and/or better physical access to Port Sudan. The majority of respondents (67% across the two localities) considered the decreases in HH food availability as mostly or fully related to the April 2023 crisis. This percentage was much higher in Sinkat (78%) than in Port Sudan (58%), where most respondents stated there had been "somewhat" of a decline. This seems to indicate that the impact of the April 2023 crisis was comparatively less felt in Port Sudan, although it was apparent in other parts (see Table 27).

Table 27: Change of HH Food Availability Over the Last 12 Months

State / Locality	Big Decrease	Decrease	Stayed the Same	Increase	Don't Know / Not Sure
Red Sea State	29%	39%	16%	13%	1.6%
Port Sudan	24%	40%	19%	16%	0.3%
Sinkat	48%	34%	7.5%	2.8%	6.5%

4.3.3.3 Food consumption (see also coping mechanisms, 4.3.4.1)

Per the BS findings, an average of 68% of respondents across the two localities stated there was a (large) decrease in HH food availability over the last 12 months, although the percentage was higher for Sinkat (82%) than Port Sudan (64%). Possible explanations include HH-level food production and/or better access to Port Sudan. While an average of 62% across the two localities considered that the decreases in HH food availability were mostly or fully related to the April 2023 crisis, this percentage was much higher in Sinkat (78%) than in Port Sudan (58%), where most respondents stated they felt this "somewhat." This likely indicates that the impact of the April 2023 crisis was somewhat less felt in Port Sudan, which may be due to the fact that the area saw an economic boom resulting from its role as a hub for government and international agencies.

The overall food consumption was reduced both in quantitative and qualitative terms for both localities. Percentage-wise, the decrease has been bigger for Sinkat than Port Sudan, which may be explained by their domestic agricultural production and some reported income increases having offset some of the negative effects. The solid decreases for particularly Sinkat in consuming fresh (more expensive) products like dairy, proteins, and fruits are especially striking. Although this is impossible to verify in the

absence of a baseline, it is likely the beneficiaries reduced their food expenditures, resulting in respondents consuming items only several times a week that they had previously consumed daily. This will be especially damaging for groups that already have lower FSCs. (see Table 28.)

Table 28: Food Groups' Consumption Before and After April 2023 in Red Sea State KASSALA										
Description	Daily or Almost Daily		Several Times per Week		Several Times per Month		Several Times per Year		Never	
	Before	After	Before	After	Before	After	Before	After	Before	After
Cereals (e.g., wheat, sorghum, rice, bread, pasta)	47%	49%	48%	42%	3.6%	7.1%	1.2%	0.6%	0%	1.0%
Pulses/nuts (e.g., beans, peas, lentils, peanuts)	48%	63%	49%	33%	1.8%	4.1%	0%	0.2%	0.6%	0.4%
Milk/dairy (e.g., yogurt, white cheese)	75%	43%	19%	30%	2.2%	13%	0.8%	4.0%	2.8%	9.9%
Meat/fish	19%	4.8%	49%	31%	27%	33%	1.6%	9.6%	3.4%	22%
Eggs	24%	18%	57%	38%	14%	18%	1.4%	5.5%	4.3%	20%
Vegetables	74%	48%	19%	36%	6.3%	9.4%	0%	1.4%	1.0%	4.9%
Fruit	20%	13%	53%	40%	15%	16%	5.3%	5.8%	6.1%	25%
Oil	86%	77%	9.7%	19%	3.0%	2.0%	0.2%	1.2%	0.8%	1.0%
Sugar	90%	83%	6.5%	14%	2.2%	1.0%	0.2%	0.8%	0.8%	1.8%

Local authorities in RSS stated that the triple crisis affected both the availability (lack of supply) of and access to food (due to increased local market prices). They considered urban food security to be mainly related to access rather than availability. Specific factors behind the price increases include the triple crisis, climate change, increased global food prices, increased domestic production costs, and political instability. The availability of food in the country, including in RSS, varies per region, and populations in areas affected by climate change are more vulnerable.

The high prices translated into a reduction in food intake. Currently, there are indications that food insecurity is increasing, as well as malnutrition rates, among poor segments of the population and in rural areas, especially after post-production season. In general, the respondents mentioned that the impact varies between segments of the population and between rural and urban areas. However, according to the HAC, indicators of malnutrition, especially in rural areas, are not due to the triple crisis but to structural poverty and poor nutrition education. No policies were reported to be in place to mitigate these negative impacts, although a Port Sudan informant stated some policies existed before the April 2023 crisis.

Local authorities stated that both poor and female-headed households have been especially affected by the triple crisis. However, per the Zakat Bureau, the challenges vary from one group to another. It was explained that currently, low-income groups, such as public and private sector employees, as well as those working in the informal sector and in government agencies, have been severely affected due to the economic impact of the April 2023 crisis.

Per the VDCs in RSS, some rural residents rely on local HH production for their food, while most people, especially urban dwellers, rely on the market to obtain food.

According to the VDCs, the entire community has been affected by the crises: the poor, rural areas; the peripheral-urban areas; and the female-headed households. In Gebet participants mentioned government employees, low-income groups, and daily workers being affected.

All VDCs in RSS stated that food was less available as a result of the April 2023 crisis. Due to the high costs involved, there has been less farming, leading to increased food prices. Before April 2023, food prices had been lower, but since the conflict, prices have gone up as productivity has decreased. The conflict caused significant displacement, and salary payments were postponed, creating additional demand and affecting HHs' access to food. VDCs stated that due to the increased food and medicine prices, the cost of living increased, forcing people to reduce the number of meals consumed per day.

4.3.3.4 Malnutrition

The reported data reveals high levels of malnutrition in RSS—extremely high compared to the national average and global indicators. Despite efforts by MoH and NGOs to address the management of MAM and reduce the incidence of SAM, the outcomes have not been good. The lack of alternative approaches for the management of MAM underscores the importance of comprehensive malnutrition prevention programs in the state. The level of the GAM is 27.2% for children and 22.3% for carers—more than 15% of the emergency threshold as determined by WHO. SAM rates in Sinkat are 11.24%, compared to 2.76 in Port Sudan, which is likely due to the concentration of health services in the capital.

Factors contributing to the health and nutrition situation in the state include household food insecurity, the lack of infrastructure (including health services), a lack of trained staff, as well as poor health education.

4.3.3.5 Coping mechanisms

According to the VDCs in RSS, food availability is high, and prices are low during the production season, but outside of that period, food becomes scarce, and prices rise. Participants in Port Sudan were less optimistic, stating that food is only widely available in some months, as overall food security is low, and families do not have enough to eat. The summer (Dim al-Nur) and autumn (Sinkat) were also mentioned as periods of scarcity/the hunger gap.

The interviewed VDCs stated that a number of families within their communities struggled to meet their daily needs. The VDCs mentioned that this concerns especially those residing in peripheral areas. They also stated that due to increased food and medicine prices, the cost of living had increased, and people were forced to reduce their meals consumed daily.

According to the survey, respondents seemed to mainly apply three stress strategies over the last 12 months: "[Rely] on less preferred food to reduce food expenses," "[purchase] food on credit," and "[spend] savings." Two commonly used crisis strategies were to **reduce the number of meals** consumed (35% and 28%) and **decrease nonfood expenditures on health** (around 29% and 23%). The most frequently applied emergency strategy was to skip an entire day of eating, although working a "high-risk/socially degrading job" was also used, as well as selling the "last female animal" (in Port Sudan). Although it is positive that, for the moment, fewer coping strategies affecting LHs were applied, the percentages of food- and health-related coping strategies are concerning.

Table 29: Coping Strategies Used Over the Last 12 Months in Red Sea State

Description	Often (e.g., Every Month) or Throughout the Year		Sometimes or During a Specific Period of the Year		Rarely or In Exceptional Cases (e.g., Sickness)		Never	
	Port S.	Sinkat	Port S.	Sinkat	Port S.	Sinkat	Port S.	Sinkat
Stress Strategies								
Relying on less preferred food to reduce food expenses	35%	53%	24%	35%	4.9%	5.6%	36%	6.5%
Purchased food on credit	18%	32%	24%	35%	9.8%	11%	48%	22%
Spent savings	25%	29%	18%	13%	6.7%	12%	50%	46%
Borrowed money from forma lender	7.9%	7.5%	17%	8.4%	9.8%	1.9%	66%	82%
Reduced expenses on education (e.g., send children to other schoo	12%	5.7%	15%	1.9%	9.7%	3.8%	63%	89%
Sold more animals (nonproductive) than usual	7.1%	13%	17%	10%	7.1%	4.7%	68%	72%
Selling household assets or humanitarian assistance	17%	5.7%	17%	10%	8.5%	7.5%	58%	76%
Crisis Strategies								
Reduce the number of meals or food quantity per day	35%	28%	16%	45%	4.0%	9.4%	45%	17%
Sold productive assets or means of transport	17%	7.5%	19%	12%	4.5%	5.7%	59%	75%
Withdrew children from school	12%	4.8%	18%	2.9%	5.6%	1.0%	65%	91%
Decreased expenditures on	6.1%	8.5%	22%	5.7%	6.7%	6.6%	65%	79%

Table 29: Coping Strategies Used Over the Last 12 Months in Red Sea State								
fertilizer, pesticide, fodder, animal feed, veterinary care								
Reduced nonfood expenses on health (including drugs)	29%	23%	25%	32%	6.5%	7.5%	40%	38%
Household member migrated informally due to lack of food	10%	31%	14%	25%	5.5%	5.7%	70%	39%
Emergency Strategies								
Skip entire an day of eating	6.3%	12%	23%	17%	7.9%	24%	63%	47%
Sold last female animal	2.9%	7.5%	20%	2.8%	8.1%	5.7%	69%	84%
High-risk/socially degrading job	9.9%	5.6%	18%	21%	5.3%	20%	66%	54%
Sold or mortgaged house or land	7.5%	2.8%	15%	4.7%	14%	5.6%	64%	87%
Begged	1.3%	1.9%	8.5%	2.8%	3.1%	2.8%	87%	93%
Sent children < 16 years to work	9.0%	1.9%	17%	16%	4.9%	1.9%	69%	80%
Early marriage of daughter (<16 years)	2.4%	1.9%	7.1%	2.8%	6.0%	2.8%	85%	93%

4.3.3.6 Mitigation efforts

According to the local authorities interviewed, there are no policies or mitigation measures in place to retain employment, prevent business closures, or mitigate adverse consequences of the food crisis. Workers also have no obligations (legal or sociocultural) to mitigate the impact of the crises.

When asked why the higher global food prices did not translate into more domestic production or import substitution, RSS local authorities mentioned the political instability, the lack of a national vision, and weak agricultural policies. They considered the idea that this would happen in the near future implausible, and to date, local governments have not provided any incentives.

4.3.3.7 Current interventions

Due to the April 2023 crisis, most structural efforts to address the underlying causes of the food and other crises have been put on hold. Instead, as explained in section 4.3.2.4, most of the current mitigation efforts focus on emergency food assistance, especially to IDPs.

4.3.4 Energy crisis

Local authorities mentioned that the energy predicament existed before the April 2023 crisis, which, they argue, reinforced it. At its root are these key underlying causes: the secession of South Sudan (turning Sudan from a net exporter of oil and gas into a net importer), weak local production, reduced production due to the war, and smuggling to neighboring countries. Increased domestic consumption and the shift to net importing, in turn, created problems due to a lack of the foreign currency needed to pay for the imports, which was exacerbated by the rising oil prices internationally.

The energy and financial crises (e.g., domestic financial bottlenecks and the freeze of international donors' support) added more difficulties, for example, with the increasing transport costs trickling down to all food and nonfood items. Food security was further affected by hyperinflation, sharp decreases in exchange rates, and continued sanctions.

4.3.4.1 Fuel

An important finding from the HHS is the negative effect of the triple crisis on the environment in RSS, where residents have increased their use of wood and charcoal as fuel sources, although 31% more solar was also reported in the state (39% Port Sudan and 1% in Sinkat). However, few (0.5% and 0.9%) considered "charcoal, wood, and gold" as their secondary HH income source. The limited forestation and high prevalence of mesquite in the state might partially explain this.

There were major differences found between the two localities regarding changes in fuel type. In Sinkat, respondents mentioned an increase in their use of charcoal (48%) and wood (29%), while in Port Sudan, a decreased use of "LPG, fuel, and diesel" (37%) but a rise in solar (39%) were reported. For those in Sinkat, the high fuel prices had a negative environmental impact in terms of increased emissions from less clean energy sources (e.g. coal) and possible deforestation due to the increased use of firewood. In contrast, in Port Sudan, the negative impacts partially offset or even countered the positive effects of solar energy production.

4.3.4.2 Electricity/connectivity

The HH survey found, in response to the April 2023 crisis, that the majority of respondents were most impacted by the availability and prices of food, electricity, and other basic services, like water and health. Among the biggest needs, electricity was reported by 9% in the state (more in Port Sudan, at 11%). The availability of / access to electricity was much better in Sinkat, with 98% describing it as (very) good, compared to 34% in Port Sudan, where 49% rated it as "average." All had access to electricity in Sinkat, while 6.4% had no electricity in Port Sudan. (see Table 30.)

Table 30: Availability of / Access to Electricity						
State / Locality	Very Good	Good	Acceptable	Bad	Very Bad	No Electricity
Red Sea State	25%	23%	39%	6.6%	1.8%	5.0%
Port Sudan	16%	18%	49%	8.2%	2.3%	6.4%
Sinkat	58%	40%	0.9%	0.9%	0%	0%

The survey asked about the availability of / access to telephone and Internet services, with major differences identified across the two localities. In Sinkat 88% stated they were (very) good, compared to 28% in Port Sudan, where 33% rated them as "acceptable" **and 35% as (very) bad**. These findings are also especially relevant to fintech.

4.3.4.3 Impact of energy crisis on other sectors

The main impact of the energy crisis has been the increased costs of agricultural and industrial production. Moreover, the consequent increases in transportation costs have affected overall price levels, as well as domestic trade (e.g., between production, abundance, and consumption areas).

Regarding environmental progress, local authorities mentioned both positive and negative effects. One positive impact is that it reinforces a trend toward using renewable energy, such as solar power, in agriculture and nonagricultural sectors. However, a negative and more prominent impact, particularly due to the April 2023 crisis, is the increased consumption of coal and firewood for cooking, brick making and baking, and the resulting deforestation. VDCs also explained that the high oil prices have resulted in a rise in wood and charcoal use. This reduced agricultural productivity and increased the cost of irrigated agricultural production. At the HH level, it reduced mobility and created challenges for food preparation.

4.3.4.4 Current interventions

Per the local authorities, there are currently no incentives to encourage energy saving or reduce the burden for economic actors/businesses or (vulnerable) households. The authorities mainly answered that this dearth was due to the reduced capacity of the government to collect public funds via taxes and customs revenues.

Although the triple crisis, or energy crisis as such, may encourage the use of renewable energy sources, the current situation / April 2023 crisis promotes unfavorable, environmentally damaging behavior, like increasing wood and coal use, resulting in deforestation and environmental degradation.

4.3.5 Financial Crisis

From the HH findings, an average of 80% of HHs across the two localities stated that their income decreased due to the April 2023 crisis, with 61% responding that it had been reduced a lot. When asked to assess the percentage decrease, 83% in Sinkat reported a decline of more than 50%. In Port Sudan 50% relayed a 26%–50% decline, and 25% estimated a drop of 11%–25%. An average of 53% reported a (big) decrease in HH income, although there was a critical difference between Sinkat (68%) and Port

Sudan (49%), where 15% reported an increase. When respondents in the two localities were asked about HH income, the findings were the same, with an average of 70% across the two-reporting a (big) decrease, although in Port Sudan, 12% also reported an increase. With Port Sudan becoming the de facto capital after the April 2023 crisis, due to Khartoum's inaccessibility, its role as an important economic and transport hub is likely reflected in these findings.

There were discrepancies across the two localities regarding respondents' ability to meet their HH needs since April 2023. In Sinkat 63% shared that they were "largely unable" to meet them, compared to 27% in Port Sudan. An average of 36% across the two localities said they were "sometimes unable." Only 6.5% in Sinkat stated they were mostly able to meet their HH needs, compared to 29% in Port Sudan. The main reason (fully or mostly) given is the April 2023 crisis, according to an average of 85% of respondents in both localities, with only 1.4% considering it unrelated.

There was a common perception among HHs that food insecurity had become entrenched after 2019, far before the survey. However, the previous structural problems became increasingly evident after April 2023, when there appeared strong evidence of price hikes due to hyperinflation, along with less international support and continuing US sanctions. With low incomes and high levels of unemployment, respondents expected their food budgets to be higher relative than those reserved for other items in RSS. Yet food costs comprised 88%–96% of HH expenditures due to the removal of wheat and fuel subsidies.

Note that none of the key informants were willing to discuss the financial crisis, and the VDCs and women's FGDs were only willing to a limited extent, as they felt they had limited knowledge.

4.3.5.1 HH income/livelihoods

An average of 31% of the respondents reported income > 50,000 SDG (app. USD 50/month), although this was much higher in Sinkat (63%) than in Port Sudan (21%), where 45% reported an income below 30,000 SDG, compared to 18% in Sinkat.

Per the survey, 80% of respondents across the two localities stated that due to the April 2023 crisis, their HH income decreased, 61% of whom stated it had decreased significantly. Respondents in Sinkat were somewhat less negative. When asked to assess the percentage of decrease, 83% in Sinkat stated that it was "more than 50%." In Port Sudan 50% said it was "26%–50%," and 25% noted "11%–25%."

An average of 50% of respondents in both localities depend on a single HH income source, although there are big differences between the localities: 78% in Sinkat and 42% in Port Sudan, where 46% reported having three different HH income sources. There are important differences between the localities regarding types of HH income sources (see Table 31), although "daily labor—nonagricultural" was the most reported primary income source (29%).

Table 31: Number of HH Income Sources (by State—Locality)			
State / Locality	**1**	**2**	**3**
Red Sea State	50%	13%	37%
Port Sudan	42%	12%	46%
Sinkat	78%	19%	3.7%

In the Port Sudan locality, the most mentioned HH income source was a "permanent job as employee" (42%), followed by 38% who daily labored as skilled or unskilled nonagricultural workers. The percentages were reversed in Sinkat. While these were also important secondary HH income sources in Port Sudan, in Sinkat, most reported no form of employment, or being unemployed. In addition, there were smaller percentages of "self-employed professional" workers and those in "shop-trade-handicrafts." Few respondents mentioned agriculture as primary or secondary HH income source. See Table 32 for a summary.

Table 32: Main HH Income Sources Red Sea State—Localities						
Livelihood Activity	**Red Sea State**		**Port Sudan**		**Sinkat**	
	1st Source	**2nd Source**	**1st Source**	**2nd Source**	**1st Source**	**2nd Source**
1. Farming/livestock	1.0%	1.4%	1.0%	1.5%	0.9%	0.9%
2. Charcoal, wood, and gold (self-employed)	0.2%	0.6%	0.3%	0.5%	0%	0.9%
3. Permanent job as employee	38%	28%	42%	35%	21%	2.8%
4. Daily labor in agriculture-livestock	1.0%	3.2%	1.3%	3.8%	0%	0.9%
5. Daily labor skilled-unskilled nonagricultural	34%	28%	36%	33%	30%	7.5%
6. Self-employed professional (e.g., IT, doctor, lawyer)	7.2%	7.4%	7.2%	8.7%	7.5%	2.8%
7. Shop, trade, and handicrafts	4.8%	5.4%	5.9%	6.4%	0.9%	1.9%
8. Social welfare / humanitarian assistance	0.2%	1.0%	0.3%	1.3%	0%	0.0%
9. Pension/retirement money	3.6%	2.6%	3.3%	2.8%	4.7%	1.9%
10. Remittances from family members (abroad)	1.0%	3.6%	0.5%	4.3%	2.8%	0.9%
11. None/unemployed	2.8%	23%	1.8%	8.7%	6.5%	77%
12. Other	6.0%	6.2%	0.8%	6.1%	25%	6.5%

KIIs with local authorities confirmed the survey findings: the main nonagricultural sectors employment was in the public and private sector, the informal sector, as traders, and in voluntary organizations, with some variety per region. These sectors employed especially the urban populations, who were refugees and laborers from South Sudan and Ethiopia. The triple crisis impacted agricultural production and reduced the need for seasonal agricultural laborers.

The crisis affected the formal and informal sectors in the same way, and there were no social safety nets on which they could rely. For example, government salaries did not increase to match the rise in prices, and at one point, salaries were not paid for three months. Moreover, most authorities confirmed that the IDPs, migrants, and refugees were more numerous in the informal sector. Mixed feedback was given about the extent to which higher-educated workers were affected, with some stating they were, while others said they were not. VDCs in RSS stated that the crises severely impacted the SMEs. In general, the higher costs resulted in less production, staff working hour reductions, the sales of assets, and business closures. As a result, there were fewer job opportunities.

HH survey results further showed that market purchases provided the main source of food for many people in RSS (see *4.3.2.1 Food*), especially in Sinkat (92%). In contrast, in the Port Sudan locality, livestock/ crop farming was more important, with 47% indicating that at least half of their food came from HH food production.

4.3.5.2 Exchange rates—inflation

VDCs in RSS stated that the diminished exchange rates reduced the availability and increased the prices of imported food and medicines, which in turn increased the cost of living. The higher costs also reduced the agricultural output and resulted in increased use of coping strategies, such as reducing the number of meals per day. The most critical aspect has been the curtailment of spending on health due to price increases, which puts people and especially children at risk of sickness.

4.3.5.3 Access to finance/financial services

Regarding financial services, banks were reported to be more available in Port Sudan (47%) than in Sinkat (26%), while few other financial services—for example, community-saving groups or insurances—were available. Under "other" (n = 261), respondents mentioned that none were available (95%), 3.1% said they could access bank services, 1.1% used loans from merchants, and 0.8% gave various answers. Usage of financial services was low in Sinkat, at 27%, but much higher in Port Sudan, at 53%. The main or even only services used were banks. None of the (government) key informants were willing or considered themselves suited to talk about the financial crisis and services.

4.3.6 Livelihoods Assets

4.3.6.1 Human Assets

An analysis of the HHS responses reveals that the HH/family size in RSS was an average of 5.7 members per HH, with a high proportion of dependency (those not contributing to HH income). The average age of the head of HH was 49 years (44.3 years in Sinkat, compared to 50.3 years in Port Sudan).

4.3.6.1.1 Education and HH capacity

Education levels are significantly lower in Sinkat, but no significant gender differences were found. There is a significant difference in the education level of the heads of HH between those in Port Sudan and in Sinkat, where 21% received no formal education, but there was no significant gender difference. However, the education differences between the localities are also reflected in the education level of the highest-educated women in the HH.

Household members' average job availability is lower in Port Sudan than in Sinkat. Respondents quoted various reasons for this lack of engagement, with "no jobs" and sociocultural restrictions cited the most. **The overall job availability had decreased because of the April 2023 crisis, although a portion of the respondents in Port Sudan reported an increase**. Regarding HHs' current and potential capacities to engage in economic activities, there seemed to generally be fewer HH members available to engage in income or food production activities in Port Sudan (1.67) than in Sinkat (2.26). They explained this by saying there were no jobs (53% and 44%) and that there are "sociocultural restrictions for working outside the house" (17% and 16%). In Port Sudan a significant percentage (12%) stated they were too old or young, while in Sinkat, a lack of the needed education/skill was mentioned by 18%, and 11% referred to "family/care-taking tasks."

Seventy-six percent stated it is more difficult for women to engage in income or food production activities, which was found to be significantly higher in Port Sudan, likely due to "no jobs" (which can be assumed based on Sinkat respondents' higher rate of mentioning sociocultural restrictions). See **Section 4.3.4.1** for more details. In line with earlier statements about the availability of jobs, 54% stated that jobs/income-generating opportunities had decreased (a lot) over the last 12 months, although 17% in Port Sudan said there was an increase, which is likely a spin-off of the crisis as well since Port Sudan has become a key coordination and transport hub. An average of 58% of respondents across the two localities considered this fully or mostly the result of the April 2023 conflict, obscuring the main difference between Port Sudan (53%) and Sinkat (73%). Only 3.7% considered the decrease "not related."

4.3.6.1.2 HH health status

The April 2023 crisis and the (related) use of coping mechanisms, such as reducing food consumption and medical expenses, more negatively affected the health condition of HH members in Port Sudan than in Sinkat. An average of 54% of respondents across the two localities stated that the situation for some HH members had deteriorated, although there was a big difference between Port Sudan (58%) and Sinkat (39%), which may indicate that particular urban populations were more intensely affected by the April 2023 crisis than others. Across the localities an average of 11% stated that the health condition had deteriorated for all HH members. The main reason quoted for the deterioration was an "increase in diseases in the area," although a big difference was noted between Port Sudan (53%) and Sinkat (21%). Availability and high prices of medicines (16%-13%) were mentioned in both localities, while in Sinkat, "reduced government health services" (30%) and "food quantity/quality" (15%) were also mentioned. Sanitation facilities and "reduced HH spending on medical/health items" were considered less of an issue.

4.3.6.2 Natural Assets

4.3.6.2.1 Land use

Although RSS is considered an agricultural state, an average of 85% of the respondents stated they do not use land for economic activities. **Land cultivation decreased in both localities, albeit for**

different reasons: in Port Sudan, it was mainly due to the April 2023 crisis, while in Sinkat, it was the lack of expected rains. There were no major differences between the localities concerning land use for economic activities. An average of 42% reported a (significant) decrease in land cultivation, while another 42% stated it had remained the same, but this came with significant differences between the localities. Most respondents in Sinkat (67%) said it had remained the same, while answers were mixed in Port Sudan, where similar percentages stated it had decreased (43%) and remained the same (38%), while 19% reported an increase. A primary reason cited for the decrease was the April 2023 crisis, although it was considered more important in Port Sudan (63%) than in Sinkat (34%), where a "lack of expected rains" (43%) was reported as the most concerning issue, compared to 27% in Port Sudan. Lack of access to finance and high fuel prices were considered less important.

4.3.6.2.2 Common natural resources

The condition of natural resources (e.g., water sources, grazing grounds, and forests) deteriorated severely in the state, affecting Sinkat more than Port Sudan. Besides the April 2023 crisis, climate change also played a notable role.

The survey also asked about changes in the condition of several natural resources over the past 12 months (see **4.1.3.2**). Simlar responses were provided regarding the water sources, grazing grounds, and forest, with 50% in Port Sudan and 65% in Sinkat stating that the condition had decreased, while the remainder said it had stayed the same.

In addition to the April 2023 crisis, climate change played a role, with an average of 31% or respondents across the two localities stating that their village/area was affected "a lot" by climate change, while another 37% stated it had been impacted "somewhat." (see also **4.3.7.3.1**.)

4.3.6.3 Physical Assets

The provision of basic services in the state decreased significantly over the last 12 months due to the April 2023 crisis, which was the most quoted explanation. Respondents also mentioned that the "quality of services decreased/became less reliable," especially in Sinkat.

The survey included questions about the availability of / access to a number of basic services (see **4.1.3.3**). Across the two localities, an average of 91% of respondents noted that all or most (45%)—or some (46%)—services decreased. The main reason given was the April 2023 crisis, which was mentioned by 79% in Port Sudan and 72% in Sinkat, followed by "the quality of services decreased/became less reliable" (8.7% and 18%). These findings correspond with reported needs in health and WASH (see the section below). Financial reasons, such as price increases, exchange rates, and fuel prices, were considered less important.

4.3.6.3.1 Water

Port Sudan is better covered than Sinkat in terms of water provision for both HH and irrigation purposes. In Sinkat 33% (HH) and 64% (irrigation) classified the water provision as (very) bad, which may seriously affect their HH and (agricultural) LH options. The availability of / access to water for HH purposes was a little better in Sinkat, with 44% stating it to be (very) good, compared to 39% in Port Sudan, where a larger share considered it merely "acceptable." However, the percentage that thought it (very) bad was much higher in Sinkat (33%) than in Port Sudan (16%). In terms of irrigation water, Port

Sudan scored much better, with 39% saying it was (very) good, compared to 7.4% in Sinkat. Moreover, those in Sikat 64% rated the availability as (very) bad, compared to 6.4% in Port Sudan.

4.3.6.3.2 Electricity/connectivity

The overall quality of **service provision concerning electricity and transportation was very good in Sinkat,** especially for electricity and phone coverage, while it was reported to be lower in Port Sudan. Since the April 2023 crisis was cited as the main reason for the decrease in services in Port Sudan, this might be (partially) the result of an increased population (and additional offices) putting pressure on the existing networks. **(**See **4.3.4.2** for detailed findings.)

An average of 60% considered the availability of (public) transport/connectivity to be (very) good, although this was significantly higher in Sinkat (75%) than in Port Sudan (56%), where 9.7% reported the connectivity to be (very) bad.

4.3.6.3.3 Health facilities

Health coverage is better in Port Sudan than in Sinkat, where 20% stated no health services exist. The overall availability of and access to health services was better in Port Sudan, with 38% answering that it is (very) good, compared to 21% of respondents in Sinkat. These services were reported to be (very) bad (32%) in Sinkat, compared to 17% who reported the same in Port Sudan. There was also a big difference in the percentages of those who said there were "no health services": 20% in Sinkat and 7.4% in Port Sudan.

4.3.6.4 Financial Assets

4.3.6.4.1 HH income and expenses

An average of 80% of respondents across the two localities stated that due to the April 2023 crisis, their HH income decreased, 61% of whom said it had been reduced significantly. When asked to assess the percentage of decrease, 83% in Sinkat described it as "more than 50%." In Port Sudan, 50% stated it fell between "26% and 50%," and 25% said between "11% and 25%." **By far, the category that dominated HH expenses was "food": 96% in Port Sudan and 88% in Sinkat reported this**; additionally, a much smaller percentage of those in Sinkat also reported "nonfood items including clothes" (8.4%) being a main expense. When asked which categories) underwent the greatest increase, most respondents across the two localities answered that it was food (73% in Port Sudan and 59% in Sinkat), then "all categories" (20% in Port Sudan and 30% in Sinkat). A smaller percentage (7.5%) in Sinkat also mentioned medical costs.

Regarding remittances, 78% of HHs considered them "important to very important" as a HH income source. However, they were held as more important in Port Sudan (83%) than in Sinkat locality (61%), where 27% responded that they "don't know," possibly indicating they did not use any. The main reason quoted for changes in the remittances was the April 2023 crisis (84% and 80%). In Sinkat 11% answered, saying they'd "lost jobs/income."

4.3.6.4.2 Coverage of need and saving capacity

There were notable differences between the two localities regarding the ability to meet HH needs. **In Sinkat 63% stated they had been "largely unable" to meet their HH needs over the last 12 months, compared to 27% in Port Sudan. An average of 36% across the two localities said they were "sometimes unable." Only 6.5% in Sinkat spoke of their capacity to meet their needs, compared to 29% in Port Sudan.** The main reason given (fully or mostly) is the April 2023 crisis, shared by an average of 85% of the respondents in both localities, with only 1.4% considering this is unrelated.

The difference in the ability to meet HH needs is reflected in the saving capacity of the respondents, with **an average of 72% stating they were unable to save** (Sinkat at 86% and Port Sudan at 68%). In Sinkat 0% were able to save all months, and 0.9% said they could most months—much lower than the numbers in Port Sudan. This was confirmed when respondents were asked directly, with 100% stating that their capacity had reduced a lot. The team confirmed this when they asked HHs about reductions in savings: 100% of them said they had reduced a lot.

Banks were used more as a saving modality in Port Sudan (36%) than in Sinkat (16%), where livestock (13%), "investment in agricultural production or business" (13%), and "valuable items" (14%) were also used.

4.3.6.4.3 Financial services

Banks were reported to be more available in Port Sudan (47%) than in Sinkat (26%), while few other financial services (e.g., community-saving groups or insurance) were available. Under the category of "other," the following were mentioned: 95% chose "none"; 3.1%, banking services (a banking app); and 1.1%, loans from merchants. The use of financial services was low in Sinkat at 27% but much higher in Port Sudan at 53%. The main or only services used were banks. **Although the overall use of financial services was low, especially in Sinkat, they were considered to be very helpful by an average of 38% of respondents across localities; another 45% said they were "somewhat."** Only 6.4% considered them not very or not at all helpful. This may indicate a lack of availability and/or access to appropriate services.

In Port Sudan 86% of the respondents thought there were no gender differences in accessing financial services, compared to only 28% in Sinkat; where45% considered it more difficult for women, compared to 8.4% in Port Sudan. A difference between the genders was also found, with more women (24%) than men (16%) thinking women face the greater challenge, while more men considered their challenges equal. (see also 4.3.7.1.*)*

4.3.6.5 Social Assets

4.3.6.5.1 Community-based organizations

The prevalence of CBOs, though limited, was higher in Port Sudan than in Sinkat. Women's committees (29%) were the most reported organization in Port Sudan, while there were few village development committees present in both localities. Nevertheless, respondents were quite optimistic about their capacity to mitigate the negative effects of (food) price increases. Per the survey results, CBOs were more present in Port Sudan (88%) than in Sinkat (64%). However, these percentages are reduced to 61% (Port Sudan) and 36% (Sinkat) when they account for the answers

provided under "other."[139] In Port Sudan, 29% stated that a women's committee was present, compared to 3.7% in Sinkat. In addition, similar percentages of village development committees (6.9% and 9.3%) and charity/zakat structures (7.9% and 10%) were reported. Much smaller percentages of VSLAs, farmers' associations, and governmental service providers were mentioned. Note that under "other," 13% stated that they didn't know, which is partially explained by new arrivals being unaware of existing community structures.

An average of 49% thought that CBOs would be wholly or largely able to mitigate the negative effects of food and general price increases, while another 32% stated they could somewhat. Respondents in Sinkat were more positive than those in Port Sudan.

4.3.6.5.2 Social cohesion

Social tensions in RSS increased over the last 12 months, with higher percentages in Port Sudan. On average, across both localities, 20% stated there had been a "big increase," and 36% said "some increase." However, another 11% reported a decrease. There were no major differences between the two localities.

4.3.6.5.3 Migration

Overall, high percentages (> 66%) of respondents reported an increase in both domestic and international (economic) migration, although this was much higher in Port Sudan than in Sinkat. The main reason quoted was the April 2023 crisis, although smaller percentages also mentioned other reasons. High percentages (70% average), especially in Port Sudan, additionally reported returnees. See also 4.3.7.2.

4.3.7 Crosscutting Issues (Gender, Environment, and Migration)

4.3.7.1 Gender

An average of 46% of the survey respondents were female, although this percentage was much larger in Sinkat (81%) than in Port Sudan (37%). In line with Sudan's sociocultural context, most heads of HH were male, with an average of 68% in Post Sudan and 87% in Sinkat, even though 81% of the respondents were female.

4.3.7.1.1 Gender-specific impact of crises and use of coping mechanisms

Most respondents were of the opinion that men and women were affected in the same way and that coping mechanisms were applied similarly by both sexes. However, of those stating there have been differences, most of these considered women to be at a disadvantage. An average of 87% thought that men and women were affected in the same way, although this percentage was significantly higher in Port Sudan (90%) than in Sinkat (76%), meaning respondents in PS perceived more gender equality. Of those who discerned differences, significantly more respondents considered women/girls to be more affected. Disaggregating the findings by gender of respondents did not reveal any significant gender gap. The examples mentioned mainly referred to women's reduced opportunities, their dependence on men, and their additional, family-related tasks.

[139] In Port Sudan 35% chose "other" as their answer, 78% of whom said that "nothing exists" (meaning 0.78 x 35% = 27% of the total). Similarly, in Sinkat, 36% chose "other," with 78% stating "nothing exists" (meaning 0.78 x 35% = 28% of the total).

The same question was asked regarding the use of coping mechanisms, which revealed similar findings. Across the two localities, an average of 82% of respondents thought that coping strategies were used in the same way for both men and women, albeit with a vast difference between those in Sinkat (47%) and Port Sudan (91%), where 47% indicated that these strategies were used more for men/boys. The main examples provided referred to cultural customs in which men/boys are prioritized, and women/girls are not permitted to leave the house. In other words, the coping mechanism might refer to "privileges" that women/girls have not had in the first place, such as education. Small differences between the genders were found when the findings were disaggregated for the respondents' gender.

4.3.7.1.2 Livelihoods-economic opportunities

One of the reasons why women were considered to be more affected by crises than men is their reduced access to economic opportunities and financial services; there were no statements about their education level. Especially in Sinkat, sociocultural restrictions were a key reason given, although a lack of skills and suitable opportunities were also mentioned. No significant gender difference was found in the answers concerning the "education level of the head of HH," but there was a considerable discrepancy between the education levels reported in Port Sudan and Sinkat, where 21% received no formal education, compared to 9% in Port Sudan. This difference was also reflected in the education level of the highest-educated women in the HH, which likely also results from the more conservative views about women's education in Sinkat. Although this is a broader locality-level issue for both men and women, limited education will translate into reduced access to economic opportunities.

An average of 76% of respondents considered it more difficult for women to engage in income or food production activities, with a big difference identified between the localities: Port Sudan (82%) and Sinkat (53%). This seems to contradict earlier education findings, which refer to Sinkat as more conservative. When the responses were disaggregated by gender, it appeared that a significantly higher percentage of men considered it more difficult for women, but not the women themselves. Sociocultural restrictions play a role here, especially for those in Sinkat (51%) but also in Port Sudan (24%). Moreover, both localities mentioned there are "few opportunities for women" (15% and 18%) and a "lack of the needed education/professional experience (13% and 11%), while 22% in Port Sudan said that employers prefer men over women. Similar responses, including "sociocultural restrictions for working outside the house" (17% and 16%) were provided in response to the question asking why HH members have not been engaged in economic activities.

Similar differences were found when respondents were asked about gender differences in accessing financial services, with 86% in Port Sudan but only 28% in Sinkat, where 45% considered it more difficult for women, compared to 8.4% in Port Sudan. A gender difference was also found, with more women (24%) than men (16%) considering the situation more difficult for women, while more men considered it the same. Religion was quoted as the main reason why it was more difficult for women.

4.3.7.2 Migration (Refugees and IDPs)

Except for security and logistical considerations, RSS was less appealing as a refugee and IDP destination and was a net exporter of economic migrants before the April 2023 crisis. As a relatively poor and underdeveloped state, it has not traditionally been very attractive as a destination area for either refugees or IDPs, except for its physical proximity to Eritrea.

The situation in RSS before April 2023 can be summarized as follows:

- **Refugees:** They were mainly Eritreans due to the state's physical proximity to the border.
- **IDPs**: They were mainly from within the state due to the spillover of fighting from Eritrea and/or localized conflicts. Residents could seek safety in urban centers or garrison towns with stronger police/army presence.
- **Rural-urban migration/labor migration**: This involved mainly rural populations/youth leaving the countryside in search of better livelihoods in urban areas—for example, the seaport or gold-mining areas. It was a net exporter, with inhabitants moving to places like Khartoum in search of better opportunities.
- **International migration**: It was a net exporter of economic labor migrants for the same reasons listed under rural-urban migration.

4.3.7.2.1 Refugee-IDP situation

Before the April 2023 crisis, changes in the refugee situation primarily depended on security developments in the countries of origin. On the other hand, the situation concerning the IDPs depended on the security risk in other states of Sudan. Adding to the turmoil, climate change (see 4.3.4.3) is likely increasing localized conflicts over scarce resources (e.g., water). The triple crisis has further reinforced the above (economic/labor) migration patterns.

The April 2023 crisis reversed dynamics, changing RSS into a net receiver. The ongoing conflict, related insecurity, and the collapse of Khartoum as the economic center all reversed IDP patterns, converting RSS into a net receiver of IDPs, who were attracted to its relative safety, further away from the conflict zone. In addition, Port Sudan has benefited, to some extent, from the situation, as it became the provisional capital and a hub for humanitarian-logistical coordination, which may also be attracting economic/labor migration. The survey findings confirm this.

Although the percentage of IDPs in RSS was smaller than in other states, it was increasing, with most new IDPs residing in the Sinkat locality. When asked how respondents identified their HH situation, 88% identified with being "a resident/not displaced/returned > 1 year ago," with only 8% displaced after April 2023 and 1% as returnees (returned less than 1 year ago). Refugees mainly came from South Sudan, Chad (especially in Sinkat), and Ethiopia, although some may have arrived from Khartoum. The percentage "displaced after 2023" is more than four times the number prior to April 2023, which confirms the scale of the current crisis and RSS's status as a primary destination for IDPs. The percentage of "IDPs after April 2023" is much higher in Sinkat (25%) than in Port Sudan (3.3%), where the number of IDPs before April 2023 was also higher.

A total of 85% of respondents stated there was a (big) increase in IDP/refugee numbers after April 2023. An average of 28% of the population would be considered "IDPs/refugees," and 72% would be considered host communities. Thirty-one percent said there were "mostly IDPs/refugees" in their area of residence; 41%, a "mix of host and IDPs/refugees"; 22%, "few IDPs/refugees"; and 6.2%, "no IDPs/refugees." There are sizable differences between the localities, with 81% in Port Sudan reporting mostly a mix of host and IDPs/refugees, compared to 34% in Sinkat. These findings contrast with the reported displacement status, which revealed higher percentages in Sinkat.

New IDPs used different types of accommodations. A higher percentage in Port Sudan stayed with "family friends," likely because newer IDPs in Sinkat were (prior) residents. Most (40%) of the new IDPs said they were renting accommodation, 18% stayed in temporary shelters, and 15% stayed with

family/friends, although this occurred more often in Sinkat. Twenty-eight percent responded with "other," mentioning plans to return to their area of origin, stay in the shelter center, or move abroad.

4.3.7.2.2 "Voluntary" migration (domestic and international)

High percentages (> 66%) of respondents reported an increase in both internal and international (economic) migration, although this was much higher in Port Sudan than in Sinkat. A total of 70% of average reported being returnees to the state. When asked about changes in the number of IDPs over the last 12 months, an average of 69% of the respondents reported "some" or a "big" increase, with small differences between the localities. The main reasons quoted are the April 2023 crisis (45% and 43%), and unemployment (38% and 43%). In addition, 9.1% in Port Sudan mentioned a "loss of assets."

Concerning (economic) migration to foreign countries, an average of 66% of the respondents reported "some" or a "big increase," although the portion was much higher in Port Sudan (74%) than in Sinkat (39%). Eighty-eight percent in Port Sudan and 69% in Sinkat cited April 2023 as the primary reason due to the increase in prices (11%); "other" (8.3%) was also mentioned. An average of 70% of the respondents reported "some" or a "big increase" in returnees, although this was much higher in Port Sudan (79%) than in Sinkat (37%), where 52% answered that they "don't know." The main reason given for the increase was the April 2023 crisis (56% in Port Sudan and 74% in Sinkat), followed by increased prices (42% and 21%).

4.3.7.3 Environment

See 4.3.4.1 for the Impact of changes in fuel type.

4.3.7.3.1 Climate change

Climate change is another major concern for RSS, as environmental degradation coupled with water scarcity affects its populations; especially worrisome is the lack of access to clean water. Besides the problems of sanitation in the state, problems of agricultural productivity and food security also previl. Due to the chronic nature of food insecurity in the state, 18% rely on firewood and charcoal collection for income,[140] a low-return livelihood activity that indicates a high level of vulnerability. The fact that the Red Sea is below the national level regarding asset ownership also indicates chronic vulnerability. Secondary information shows that, while agricultural production in the Red Sea is not extensive, with only 1 percent relying on agricultural wage labor as their primary income source, the harvest in the Tokar Delta was poor due primarily to extended dry spells.[141]

An average of 31% in both localities stated that their village/area was affected a lot by climate change. These respondents mainly referred to reduced rainfall or changing rainfall patterns as the primary change, although they also mentioned invasive species (e.g., mesquite) and desertification/encroachment in Sinkat. Around half of the respondents felt they were at least somewhat able to adapt to these changes. Thirty-seven percent stated they were "somewhat" affected, and 6.8% thought they were not affected. The reason given for their inadaptability was mainly reduced rainfall (61% in Port Sudan and 30% in Sinkat). In Port Sudan, smaller percentages were also mentioned: no degradation (9.6%), increased rainfall (8.2%), and "changed timing/reliability or the

[140] These relatively high percentages were not confirmed by the BS findings, which were much lower.
[141] FAO (2024): Special report 2023 FAO crop and food supply assessment mission (CFSAM) to the republic of the Sudan. https://openknowledge.fao.org/server/api/core/bitstreams/8e198344-f214-46c5-bf37-26404fccbc9f/content

rainfall" (9.3%). In Sinkat, invasive species, like mesquite (33%), and desertification/encroachment (30%) were mentioned.

More respondents said they were fully or largely able to adapt to these changes in Port Sudan than in Sinkat, with Sinkat reporting a significantly higher percentage (39%) of choosing "somewhat" than Port Sudan (25%). However, 21% in Port Sudan stated they were "not at all" able to adapt, compared to 11% in Sinkat, which may indicate that part of the (urban) population in Port Sudan is vulnerable. Multiple reasons for being unable to adapt were mentioned, with some significant differences between the two localities. Two reasons cited for both localities were the "lack of financial means to adapt to the changes" (20% and 16%) and a "lack of general knowledge about the changes" (27% and 32%). In Port Sudan, 37% mentioned a "lack of technical knowledge to adapt to the changes," while in Sinkat, "a lack of alternative livelihoods/employment opportunities (23%) and a "lack of government or higher-level support" (25%) were mentioned.

5. Generalized Findings

5. Generalized Findings (From the Three States)

5.1 Introduction

Years of economic instability, natural shocks, intercommunal conflicts, political unrest, and shortages of power, medicines, and food resulted in high food insecurity, affecting 54% of the population.[142] The triple crisis is considered a key underlying factor in this situation, impoverishing livelihoods and affecting food security across Sudan. Due to the April 2023 crisis, it was no longer possible to collect data from states across Sudan (north, east, south, and west), and a more purposeful selection was made based on access and the security situation. This will have affected the extent to which the combined findings can be generalized for all Sudan. However, the cross comparison of findings from the three states nevertheless offers valuable insights for strategic programming and policy development.

5.2 Triple Crisis (and April 2023 crisis)

Interviewed local authorities across the localities agreed that the triple crisis is among the most impactful crises in Sudan, although they also mentioned security as a main crisis resulting from the April 2023 crisis. Other crises mentioned include political instability, local conflicts, traditional harmful practices, poor health, negative customs and traditions, and poor nutrition indicators (which the evaluation team considers to be the outcome of the crises). There were different opinions about the extent to which the government effectively responded to these crises with responsible agencies and policies. However, all agreed that the current circumstances have severely affected the governmental capacity and efforts in this regard.

FDGs across the states confirmed that challenges already existed before the April 2023 crisis. For example, the Ukrainian war caused increases in wheat prices and high input/production costs. They also mentioned that while these developments had a negative impact, there were other reasons behind the reduced availability and access, such as low rainfall, poor rain distribution, and a decrease in the productivity of agricultural land (soil degradation) and dairy animals.

In addition to the triple crisis, the impact of climate was emphasized by stakeholders, which they had been touting long before the April 2023 crisis. Some stakeholders mentioned very specific examples of the decline in food security in localities, such as in Kassala and Halfa Al-Jadida (in Kassala state), which had previously been among the most food-secure localities in the state but became food insecure due to insufficient rainfall.

Causes

Stakeholders pointed out that contributing factors of the triple crisis (especially food and energy) included the lifting of fuel (completely) and flour subsidies (partially). This means that the fuel, gas, and flour markets were liberalized, and prices were then determined by (international) supply and demand. A key reason for this decision is that these subsidies strain the governmental budget, which, together with the weak SDG, are key elements of the financial crisis, as they are interrelated. Another reason is that the subsidies may result in artificially higher prices. While these changes are expected to benefit

[142] IPC (2023): Sudan: Acute Food Insecurity Projection Update for October 2023 - February 2024. https://www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1156504/?iso3=SDN

both the government and local populations in the longer term, their implementation has severely impacted the local population in the short term, especially for already vulnerable groups. This impact was negatively reinforced by international developments.

April 2023 crisis

The April 2023 crisis had a massive impact on the overall situation in Sudan, making it hard for informants and community members to separate the effects of this crisis from those of the more generic and existing triple crisis. Note that most stakeholders thought the April 2023 crisis mainly reinforced the effects of the triple crisis, meaning the reported impact should be representative. In addition to the effects of the triple crisis, the April 2023 crisis had some very specific additional impacts:

- **The collapse "disappearance" of Khartoum**: Sudan was a very centralized country, with Khartoum as its political, economic, financial, and logistical capital. With the April 2023 crisis ongoing, the country has had to reorganize itself without Khartoum.
- **The disruption of the governmental system**: As it was when Sudan had Khartoum as its capital, all ministries were centralized and located in Khartoum, while capacity at the state and local level has been much less.
- **Available government budgets**: Besides that, tax incomes were severely reduced, and the government budget has been primarily spent on the war and its humanitarian consequences.
- **Security considerations**: These pose restrictions on the movement of people and goods, directly affecting LHs and the food availability in parts of the country.

5.2.1 Impact of the Triple and April 2023 Crises

Stakeholders across the states mentioned multiple impacts of the triple crisis, although the circumstances make it hard to separate them clearly from the impacts of the April 2023 crisis. Per the interviewed stakeholders and survey findings, food (and, thus, the food crisis) is considered the most important, with stakeholders acknowledging that it is closely linked to the other two crises. Overall, there was a severe impact on food security, both in terms of production/availability and access. Regarding production, the high fuel and input prices were key challenges affecting production. However, though there have been differences found between states and specific locations, there was no real shortage of goods (e.g., food) and services, even though supply chains were affected by the April 2023 crisis.

Because about 80% of respondents across the states indicated they purchase food from the market, the team considers access more important. Access was reduced due to reduced LH opportunities and decreased purchasing power resulting from inflation and price increases, while salaries were not increased accordingly. Both the private sector and government were impacted by the April 2023 crisis, with the government playing an important role as an employer in the three states. The prolonged government salary cuts, therefore, not only affected the concerned HHs but also had a broader economic impact in the states. In addition, the large number of IDPs, often hosted by family or friends, also put pressure on family budgets.

Most stakeholders acknowledged that the entire community is affected by the triple crisis, especially the food crisis. Both urban and rural households were impacted by the crisis, although some informants believed rural communities were more affected, as well as daily laborers and low-income households. However, due to the suspension of (governmental) salaries, formal employees were also affected. The most burdened have been the poor, rural, and peripheral-urban populations, as well as female-headed households.

According to the HH survey responses, multiple impacts of the ongoing April 2023 were identified across the states (see Table 33), although respondents in RSS mentioned fewer impacts than in the other two states. The most mentioned impacts were reduced governmental services and reduced food availability, followed by loss of HH income sources. Regarding the other impacts, there were some differences found between the states. In Kassala and Gedaref, inflation/reduced exchange rates, ongoing displacement (34%), and the increase in fuel-electricity and prices were mentioned, which appeared to be less of a concern in RSS. In the latter, as well as in Gedaref, significant percentages are mentioned instead "loss of property and/or productive assets."

Table 33: Main Impacts April 2023 Crisis per State			
Main Impact	**Kassala State**	**Red Sea State**	**Gedaref State**
1. Death of the head of household/main breadwinner	7.5%	7.4%	1.2%
2. Major loss of property (e.g., housing) and/or productive assets (e.g., equipment, shop)	25%	19%	50%
3. Ongoing displacement	34%	10%	42%
4. Loss of HH income source(s)	48%	22%	51%
5. Reduced food availability / increase in food prices	60%	48%	62%
6. Reduced or lack of government services (e.g., health education)	61%	40%	62%
7. Inflation/reduced USD/SGD exchange rate; increase in prices	45%	6.0%	44%
8. Lack of access to financial services / bank accounts	24%	2.4%	26%
9. Increase of fuel/electricity prices	31%	3.0%	45%
Other	1.0%	2.0%	1.2%
None of the above	1.8%	7.8%	7.2%

Regarding personal circumstances (see Table 34) that significantly affected respondents' HH economic situations over the last 1 to 2 years, the findings were similar across the states. The most mentioned were a loss of the main income source, recent displacement, and financial problems.

Table 34: Personal Circumstances (*Not* April 2023 Crisis) per State			
Main Impact	**Kassala State**	**Red Sea State**	**Gedaref State**
1. Death of the head of household or main breadwinner	1.6%	6.8%	3.5%
2. Major financial problems/debts or a fall of wealth (e.g., loss of complete harvest / large part of livestock)	16%	15%	29%
3. Recent displacement (Sudanese) or flight abroad (refugees)	17%	15%	13%

Table 34: Personal Circumstances (*Not* April 2023 Crisis) per State			
4. Loss of main income source (e.g., unemployed, stop c remittances)	35%	39%	23%
5. Adding of a main income source (e.g., government job remittances)	1.8%	7.2%	2.3%
6. Social (e.g., divorce) or health related (e.g., long-term illness or disability) events that depleted capital resources	11%	5.4%	8.8%
Other	1.4%	5.0%	2.3%
None of the above	38%	23%	48%

In addition, the respondents were asked to rate the importance of the impact of specific external circumstances on the household:

- Availability of / prices of food
- Availability of / prices of fuel and/or electricity (for HH and/or agricultural use)
- Changing exchange and/or interest rates
- Overall economic situation / availability of jobs
- Difficulties accessing finance (e.g., loans, remittances)
- Environmental/climatic conditions (e.g., rainfall, desertification)
- Gender-specific issues like discrimination in jobs or access to land; cultural constraints
- Changes in government structures and/or support systems
- Availability of /price of other basic services, like water, health, and education

Across the states, the impact of all the listed external circumstances was considered important by the respondents, except for the gender-specific issues. However, the availability and prices of food, electricity, and other essential services (e.g., water and health) were raised as having the most significant impact, as were the overall economic situation and changes in government (support) systems. In rural, more agriculture-based economies, significant percentages of respondents considered financial access and exchange rate development somewhat less important, as well as "changes in government structures and/or support systems." This is possible because these were not widely available before the April 2023 crisis.

5.2.2 Needs

According to the KII and survey feedback, the April 2023 crisis mainly reinforced the effects of the triple crisis, although climate change also plays a role. Therefore, the self-reported needs from before and after April 2023 are considered representative of the needs resulting from the triple crisis.[143]

The most considerable HH needs identified by the respondents were similar across the states (see Table 35). By far, the highest need is food, followed by health care, although this is considered somewhat less

[143] Note that the situation before April 2023, especially concerning the Ukraine conflict, could be considered as a proxy test scenario for the triple crisis, as this conflict simultaneously affected food prices, oil prices, and the USD exchange rate.

of a need in RSS. Water and sanitation were deemed more necessary in Gedaref, as well as in urban areas, compared to rural areas. Education was considered a high need in RSS, which might be explained by a higher degree of privatization of the education sector (as per KII feedback). Livelihoods/jobs were also mentioned as a critical need, especially in rural areas. **Although there were smaller percentages, almost all respondents mentioned shelter-related needs under "other."**

Table 35: Biggest HH Needs per State			
HH Needs	**Kassala State**	**Red Sea State**	**Gedaref State**
Food	100%	91%	92%
Water and sanitation	34%	30%	61%
Health care	75%	37%	67%
Education	19%	47%	25%
Agricultural inputs	1.4%	1.4%	2.5%
Livelihoods/jobs	15%	20%	15%
Protection	1.2%	7.8%	1.0%
Psychosocial support	1.2%	1.0%	2.7%
Electricity/energy needs	6.5%	8.8%	12%
Debt relief	4.0%	4.6%	2.3%
Access to finance (e.g., loans, remittances)	0.2%	15%	2.1%
Communication	1.0%	0.4%	0%
Transport	0.2%	1.2%	1.6%
Other	1.6%	1.4%	1.2%

Around 90% of respondents across states said there was a change in needs after April 2023 (see Table 36), meaning there mainly was an increase in already existing needs, such as food and health. Note that rural areas reported a higher percentage of no change in needs, indicating that they were slightly sheltered from the impact. The most likely explanation is that due to producing their own HH food, they were somewhat less affected by food price increases, as food was consistently mentioned as the highest need. Some proportionally larger changes were reported in areas like protection, health in rural areas (Sinkat), electricity (Gedaref), debt relief, and transport.

Table 36: Change in HH Needs per State			
HH Needs	**Kassala State**	**Red Sea State**	**Gedaref State**
Food	100%	95%	93%
Water and sanitation	26%	21%	54%
Health care	70%	32%	65%
Education	17%	34%	22%
Agricultural inputs	1.8%	1.4%	1.5%
Livelihoods/jobs	20%	19%	15%
Protection	5.6%	2.1%	3.5%
Psychosocial support	2.0%	1.4%	2.8%
Electricity/energy needs	7.4%	9.0%	12%
Debt relief	7.1%	6.0%	7.2%
Access to finance (e.g., loans, remittances)	0.7%	9.3%	2.0%
Communication	0.3%	0.2%	1.3%
Transport	0.7%	0.5%	1.3%
Other	2.0%	0.7%	2.4%

5.2.3 Mitigation of Impact

Local authorities identified the main issue as the lack of governmental capacity to mitigate the impact, which is due to the war and the resultant lack of revenues. Currently, there are no clear financial policies or other resource allocations to mitigate the effects of the triple crisis.

Instead, efforts led by the Ministry of Social Affairs focused on locating IDPs and providing them with food and shelter by working closely with the Zakat Bureau, as well as local and international organizations. The Zakat Bureau provides cash assistance and has small production-oriented projects for poor segments of the population. There is also a higher technical committee to mobilize humanitarian aid from the international community.

Only a few informants were familiar with federal-level policy efforts to mitigate the effects. They referred to climate change policies, as well as various initiatives and financial support from banks, microfinance organizations, and the Zakat Bureau, to support vulnerable households. However, the war has halted all these initiatives.

At the state level, given the rural character, local authorities stated the priorities are food security and agricultural production, which confirms what was said by some informants: the food crisis is likely the most pressing in terms of direct impact on local populations. Given the emergency character, the Zakat Bureau is currently the leading actor focusing on increasing food production by providing agricultural inputs to producers and distributing livestock to those interested in animal production. Similarly, MoPER responded to evolving developments with strategic stockpiles, guiding and educating farmers on planting strategies aligned with anticipated rainfall, and making efforts to reduce the food gap at the national level.

Lastly, informants mentioned several legal, practical, and sociocultural barriers faced by residents/ workers that, according to local authorities, hinder their capacity to mitigate the adverse effects of crises. First, there are legal limitations related to labor and social insurance laws, hampering an adequate response. Second, HHs often host extended families that are not covered by certain provisions. Third, the recent displacement puts further pressure on host families. One informant mentioned that current laws and procedures prohibit the effective movement of products and services across state borders, impacting the capacity to conduct business between states.

All local authorities stated that currently, there are no effective government policies to, for example, retain employment or prevent (excessive) business closures, with financial resources being the biggest obstacle. Due to the political instability over the last four years, legislative institutions have not supervised the implementation of policies, which would have enabled the assessment and monitoring of their effectiveness.

Possible role of UN agencies in mitigation
Local authorities across states stated that the UN could play an important role in the current crisis by coordinating both actors and efforts (e.g., awareness and fund-raising, establishing a database of humanitarian agencies, producing statistics), as well as by providing assistance (e.g., food, shelter, medicines). Similarly, provided there is political stability, the UN could also play a role in solving the food and energy crisis by supporting policy development and the provision of grants.

Possible role of the private sector
Local authorities across the state believed that the private sector had played a very important role in job opportunity creation, but it was severely affected by the war. Therefore, the private sector is unable to play a significant role at this time, as many businesses were closed.

5.3 Food Crisis

The literature review, HH survey findings, KIIs, and FGD results all identified the need for determining clear food and nutrition security objectives and policy measures for the state, especially those related to the availability, access (affordability), and stability dimensions of food security. However, there are obstacles to accomplishing this: budget allocations, institutional responsibilities for *food and nutrition security* (FNS) activities, and the need for coordination among key bodies at the state/federal level.

Of the three states, RSS and Kassala have always been less developed and faced more topographic and climatic challenges in terms of food security, being largely a semiarid environment.

RSS: This state has high levels of malnutrition compared to the national average and global indicators. According to the latest IPC (December 2023), less than one-third (29%) of the state population (1.6 million) is food secure, while the remaining 71% are at risk. Twenty-four percent of people in the state (almost 0.4 million) fell into high levels of acute food insecurity, which is classified as IPC Phase 3 or above (crisis or worse), in February 2024. Of those, 62,000 (4% of the analyzed population) are in IPC Phase 4 (emergency).

Kassala: This state experiences high levels of malnutrition compared to the national average and global indicators. Information from secondary data reviews show that less than one-fifth of the population is food secure.[144] Almost 1.13 million (38%) have been acutely food insecure (crisis or worse) as of June 2024.

Gedaref: Although this state is a major producer of cereals and oil seeds in Sudan, the food security has become increasingly volatile in some localities. This was confirmed by reviews of secondary data, as well as the recent HH field survey, FGDs, and KII findings. According to the latest IPC (2024), only 39% of the state's population (2.8 million) is food secure, while the remaining 61% is not. About one-fifth (0.543 million) are highly food insecure, classified as IPC Phase 3 or above (crisis or worse), as of February 2024.

The national-level Food Security and Nutrition Policy plus the state-level Food Security and Nutrition Strategies were developed and approved in the six states of Red Sea, Kassala, Gedaref, Sennar, White Nile, and Blue Nile. In addition, there exists a national High-Level Food Security Council (formerly chaired by the prime minister and previously by the vice president), while there are six state High Councils for Food Security, which the state governors lead in Red Sea, Kassala, Gedaref, Sennar, White Nile, and Blue Nile. Despite such systems and mechanisms being in place, FNS policies are not implemented in the state. There is a lack of long-term food security prioritization or actions, especially in enhancing the nutrition and resilience of HHs to pandemics; these trends are especially prevalent for women, children, disabled persons, refugees, and other vulnerable populations. This is clearly noted from the high GAM, MAM, and SAM acute malnutrition indicators.

Impact

Stakeholders across states acknowledged that food security throughout 2024 was worse than in previous years and that the triple crisis affected both the availability of and access to food (e.g., purchasing power), which are interrelated: Less availability increases the prices, further reducing access. However, most informants considered that (urban) food insecurity was mainly related to access rather than availability. Key reasons for the reduced access were the increased food prices as job opportunities and, therefore, HH income simultaneously decreased.

Not all stakeholders agree about the impact of global events like Ukraine. They pointed out that Sudan produces large quantities of wheat in the winter season and those other issues, like decreased donor attention and increased oil prices, played a major role.[145] The increased oil prices had a bigger impact, affecting everything, increasing the production and transportation costs. In addition, food security was also hurt by the stagnation of wages and the high number of IDPs.

[144] IPC (2024): SUDAN - IPC Alert: A conflict surge threatens millions to slide into worst levels of acute food insecurity and malnutrition (March-May 2024).

[145] Note that the opinions from the informants reflect the limited understanding of Ukraine as solely a wheat exporter, when, in reality, the crisis also had a direct impact on oil prices and likely the assistance allocated to Sudan.

All stakeholders across the states agreed that climate conditions and change play an essential role in food security. Stakeholders mentioned that the distribution of rainfall varies widely, which disturbs the production process. So even if the rains had been plentiful in 2023, large areas were not producing, as climate conditions were expected to worsen due to the uncontrolled cutting of forests. Local authorities stated that Sudan, like other countries, is affected by global crises like the war in Ukraine because it is not self-sufficient (in wheat production). However, they have not compared the effects of the large-scale crises to the impact of the April 2023 crisis, which has exacerbated earlier crises and global developments. Informants explained that the last four years of political instability have hampered effective policy making and implementation. This, in turn, affected fiscal and financial policies, impacting the SDG exchange rate and causing high inflation.

Needs

Food (> 93%) was reported as the most pressing need across the states, followed by health (32 and 70%). Around 90% of respondents across states said there was a change in their needs after April 2023, meaning there was mostly an increase in already existing needs.[146] Note that rural areas reported a higher percentage of experiencing "no change" in their needs, indicating that they were somewhat sheltered from the impact. The most likely explanation is that because of HH food production, they were slightly less affected by food price increases, especially as food is consistently mentioned as the highest need.

5.3.1 Food Production

In terms of food production and availability, stakeholders across the states mentioned that many challenges existed before the April 2023 crisis but then said the current crisis reinforced the impact, even halting agricultural production in some states. Food production in the three states has declined considerably due to high input costs and the migration of farmers to other areas. Increased oil prices and the liberalization of the energy sector caused an increase in the overall agricultural production costs. In addition to cost increases, the main factors hurting production are the availability of / access to inputs, including energy and finance; climate change / fluctuations in rainfall; and traditional, low-productivity methods.

As mentioned before, fuel is a crucial input that affects all parts of the value chain. As such, the fuel crisis has had a direct adverse impact on food production. The high prices of inputs caused farmers to cut back on using them (e.g., fertilizer) and/or buy lower-quality inputs, which has significantly impacted crop yields. In general, the high costs and accompanying financial risks associated with farming caused many farmers to stop. According to the women groups' feedback, this also includes the stoppage of higher value crops, like vegetables.

Climate conditions, such as previous droughts, have also played a role in negatively affecting production. Stakeholders mentioned that besides the current and prior crises, factors like rainfall, soil degradation, and decreased productivity of dairy animals were also key players in reducing agricultural (food) production. Water scarcity has caused vegetable production to disappear completely. In addition to the increased input prices, the changes in weather patterns—particularly the lack of rain—significantly impacted on production and created a fear of engaging in agriculture as a LH.

[146] From the answers provided to other questions, the team was able to conclude that this clearly indicates an increase in needs.

Additional factors mentioned that may not apply to all states are transportation challenges from production areas to markets (places of consumption), low levels of income derived from agriculture, and the smuggling of food to Ethiopia, Eritrea, and South Sudan. Stakeholders also mentioned that government efforts to support agriculture were insufficient. Examples of the improvement areas mentioned were storage policies, product marketing and support policies, lack of export promotion, protection of farmers from livestock grazing by providing fencing, and other measures, including allocation of pastures.

When the respondents were asked why the increased food prices did not translate yet into an increased domestic production/import substitution, stakeholders mentioned that due to the political instability, no well-defined policies or responses were developed to increase local production, and the country still relies on expensive imports. Despite the high potential of Sudan as a regional breadbasket, no efforts were made to effectively use governmental resources to boost local production.

Engagement in agriculture

The above findings were confirmed by the HH survey findings, showing the limited importance of agriculture/livestock as an HH income source, with an average of around 80% of respondents across the states indicating they do not use any land for economic activities; this was higher in urban areas than in rural ones. Overall, around 40%–56% reported a decrease in the land cultivated, with similar percentages reporting it had stayed the same. In line with earlier findings, Port Sudan was the only locality that reported a big increase (+19%). Although April 2023 was quoted as a primary reason, especially in rural areas, the "lack of expected rains" was the most mentioned problem, indicating that general meteorological and/or climate change factors play a critical role. Lack of access to finance and high fuel prices were considered less important.

In Gedaref, where agriculture is more professional, the most quoted factor was the "high costs of agricultural inputs," while the "lack of expected rains" was considered less important. This is likely due to these farmers having access to sufficient water and/or irrigation systems (as confirmed by later questions).

5.3.2 Food Availability

Additionally, around 86% of the respondents considered there to be a (big) decrease in HH food availability over the last 12 months[147], although this was less in RSS (68%) and lower for rural localities (see Table 37). This is likely related, in line with the reported LHs, to local or domestic food production enhancing the availability and reducing the exposure to national or international developments. RSS was less developed, especially in Port Sudan, which is presumably related to a variety of factors, such as higher HH-level food production, better accessibility to Port Sudan, and its economic boom as a new hub. A total of 62%–97% believed that the decrease was mostly/fully related to the April 2023 crisis.

[147] The last 12 months refers to the period of April 2023 till the data collection -February/ March 2024. In other words, the roughly one-year period after the outbreak of the April 2023 crisis.

Table 37: Change of HH Food Availability Over the Last 12 Months					
State / Locality	Big Decrease	Decrease	Stayed the Same	Increase	Don't Know/ Not Sure
Kassala State	45%	41%	8.7%	4.0%	0.2%
Kassala	50%	40%	6.5%	3.3%	0.0%
Rural Kassala	38%	44%	13%	5.5%	0.6%
Red Sea State	29%	39%	16%	13%	1.6%
Port Sudan	24%	40%	19%	16%	0.3%
Sinkat	48%	34%	7.5%	2.8%	6.5%
Gedaref State	54%	35%	8.4%	3.0%	0.2%
Central Gedaref	55%	33%	8.2%	3.6%	0.3%
Eastern Qalabat	51%	38%	9.0%	1.4%	0.0%

Only a small percentage of respondents Across the states mostly relied on their own food production, with Kassala State reporting the highest percentage (14%). Instead, around 80% bought most food from the market, although this was lower in RSS. This means these populations are susceptible to food market price increases. As expected, HH food production was higher in rural areas, although Port Sudan is a noticeable exception, with 44% answering that they produce around half of their food themselves.

5.3.3 Food Consumption (See Also Coping Mechanisms)

In line with reported food security findings in the introduction of Section 4.1.3, the food consumption in the three states, especially RSS and Kassala, was already below national averages. This situation was exacerbated by the April 2023 crisis.

A HH's food consumption is determined by both food availability and access. Per the previous section, although production was also affected by the April 2023 crisis, it had already suffered from structural problems related to the triple crisis. While Sudan had become more dependent on imports, especially for wheat, over the years, the April 2023 crisis managed to increase both the need for imports and the prices of these imports by further reducing local production and increasing transportation difficulties, which disrupted the supply chains.

The physical availability of food items differed across the states and specific locations. While shortages were reported, local food items were generally available in the market, albeit at high prices. Besides the higher prices, transportation difficulties may have disproportionately affected the supply lines of perishable food items, including dairy, meat, fruits, and vegetables. The opposite situation was also reported. For example, in Gedaref municipality, there was an unparalleled availability of vegetables and some fruits because the local market was flooded with production that would normally be destined for

Khartoum, which is currently inaccessible and demand has plummeted due to the April 2023 crisis and the resulting displacements . The main challenge has been the high prices, especially when government salaries were not paid for months and salaries were not corrected for inflation, meaning a loss of these workers' purchasing power.

Consumption before April 2023 ("normal consumption")

When food consumption across the states is compared, it becomes evident that generally, the consumption of standard food items—that is, cereals, pulses, oil, sugar, and some vegetables—is relatively similar, although rural areas score significantly lower in the consumption of more expensive, qualitative food items, such as proteins and fruits, with significant percentages eating them only several times a year or even never at all. This may result in serious micronutrient deficiencies and related diseases. A likely explanation is the lower availability of these foods leads to higher prices, and rural areas are typically poorer. In RSS, Port Sudan scored significantly lower on meat and fish consumption but higher in fruit, which is likely due to the item prices.

Consumption after April 2023

A general pattern the team witnessed emerge across the states is that overall food consumption declined both in quantity and quality. Percentage-wise, the decrease has been bigger for urban localities than rural localities, which is presumably explained by rural domestic agricultural production and shorter supply lines.[148] Thus, the urban poor are especially vulnerable, as the reduced consumption rates likely reflect reduced availability and/or access. The substantial decreases in the consumption of fresh (more expensive) products like dairy, proteins, and fruits are especially striking. Although this is impossible to verify in the absence of a baseline, it is likely that beneficiaries cut their expenses on food, resulting in respondents consuming items maybe several times a week that they had once consumed daily. This is especially damaging for groups that already have lower FCSs.

The self-reported findings about increases and decreases in the consumption of specific food groups support the earlier FCS findings. The April 2023 crisis likely affected the supply of fresh produce in particular, with urban residents facing more significant harm than rural ones, who can partially rely on HH food production. The significant reported increases in the consumption of cereals and pulses are likely related, indicating a shift from consuming fresh produce to greater consumption of dry rations.[149] Regarding RSS, Sinkat was much more affected than Port Sudan, where a significant percentage reported (large) increases across the different food groups, which is likely related to the earlier-mentioned developments.

Qualitative data collection in the three states confirmed the above findings. According to the stakeholders interviewed, their food security condition deteriorated in both quantitative and qualitative food intake, as most households rely on a single food and on negative food-consumption coping strategies.

Women groups confirmed that most villagers buy food from the market throughout the year. Although food was widely available, access was challenging due to high prices—even more so after April 2023, which deepened the already existing food crisis. There was an adverse impact both on the availability of

[148] More details about differences between the localities can be found in the state-level findings.
[149] Note that some populations—for example, those in refugee camps—may receive (dry ration) food assistance.

certain food items in the market (especially perishable ones) and access because of the rise in prices. This led families to reduce their consumption frequency. For example, milk used to be consumed daily by both children and adults, but now it is only available in HHs once or twice a week, and lentils and beans have replaced meat.

5.3.4 Malnutrition

In line with the food insecurity findings in the introduction of Section 4.1.3, the three states, especially RSS and Kassala, have a precarious food security situation, which translates to higher levels of malnutrition.

RSS: Levels of malnutrition in RSS were extremely high compared to the national average and global indicators. The level of the GAM is 27.2% for children, and 22.3% for carers—more than 15% of the emergency threshold determined by WHO.

Kassala: Levels of malnutrition in Kassala state were extremely high compared to the national average and global indicators. According to UNICEF,[150] the rate of GAM is 10.2% for children, compared to 14.65% for caregivers, which is close to the 15% emergency threshold determined by WHO.

Gedaref: Levels of malnutrition in Gedaref are moderately high—close to the national average but exceeding global indicators. The SAM rates in Gedaref were 1.31 for children, compared to a national average of 1.6.

5.3.5 Coping Mechanisms

Across the states, respondents mainly applied several stress strategies during the last 12 months: "Relying on less preferred food to reduce food expenses," "[Purchasing] food on credit," and "[spending] savings." Two crisis strategies commonly used by significant percentages (20%–60%) were to reduce the number of meals and nonfood health expenses. These percentages were exceptionally high in Kassala state. The respondents sometimes used emergency coping strategies, especially skipping an entire day of eating, sending children < 16 years to work, and taking on high-risk / socially degrading jobs. Some in rural areas sold their last female animal. Although it is positive that, for the moment, fewer coping strategies affecting LHs were applied, the percentages of food- and health-related coping strategies are concerning. Also, it seems that savings are taken from education when school-aged children are sent to work, not school.

The findings were confirmed by interviewed stakeholders from all across the states, who said that the suspension of (government) salaries and the pressure of IDPs residing with host communities negatively affected HH's capacity to meet their needs. The nonpayment of government salaries was also said to severely impact female staff, for whom it is more challenging to find alternative employment.

Coping strategies were commonly used to cover the hunger gap months,[151] when farmers normally turn to their savings to bridge the gap, and families cut down on household food consumption. The most reported coping strategies were to rely on cheaper food, such as relatively inexpensive, ready-made

[150] UNICEF (n.d.), *Malnutrition in Sudan*, https://www.unicef.org/sudan/malnutrition#:~:text=In%20Sudan%2C%20approximately%202.5%20million,nutrition%20to%20advance%20children's%20wellbeing

[151] In Kassala, the months of May through August were mentioned; in Gedaref, July through Sept; and in RSS, the summer (Dim al-Nur) and autumn (Sinkat).

meals (e.g., ta'amiya, fattah) or other foods of low nutritional value; cut back on the number of meals; and go an entire day without eating. Other noted strategies included borrowing money, buying items on credit, selling belongings/electrical appliances, renting out (part[s] of) their homes, moving in with relatives to reduce HH expenses, selling (productive) animals and humanitarian aid, and reducing health care expenditures.

Stakeholders explained that large segments of the population were affected, as confirmed by the huge crowds in front of the Zakat Bureau and Social Welfare. It was even mentioned that a significant number of families, unable to meet their needs, have moved (fully or partially) to shelters to receive free meals.

5.4 Energy

Energy is an important factor in the socioeconomic development of a country, region, and even households. Energy is an essential part of life as well as the sustainability of livelihoods. Sudan is an agriculture-dominant country, where energy is required to sustain the agriculture value chain. Fuel subsidies were completely lifted, and the flour subsidies were partially. Households intend to shift from gas/LPG and diesel to wood and charcoal, which will create environmental issues leading to deforestation. The high fuel prices have also affected vegetable production in the respective states.

During the Khartoum KIIs, the Ministry of Energy (MoEn) categorized Sudan's energy sources as fossil oil (petroleum, LPG, Liquefied Natural Gas), renewable energy (wind and solar), hydraulic energy from waterfalls and turbines (electricity), and biomass (fuel wood, biodiesel, or biogas). The desk review shows that half of the country's electricity was generated by hydroelectricity, followed by fossil fuels (44%) and other renewable energies (6%). Around 40% of LPG is imported.[152] People who are not connected to a grid use biomass or diesel generators to meet their electricity needs. According to a World Bank study, Sudan has significant wind power potential along the Red Sea coast and in the Northern state. Solar power potential is even more promising in a country with a substantial number of daylight hours. However, renewable power is currently very small-scale and mostly used for off-grid solutions. SDG 7 emphasizes the importance of using reliable and clean energy at a reasonable cost. Sudan is rich in natural resources: There are not only fossil fuels and minerals but also vast potential for a variety of renewable energies.

Stakeholders across the states agreed that the energy crisis predates the April 2023 crisis but that it did, however, reinforce it. The key underlying causes were the secession of South Sudan (turning Sudan from a net exporter of oil and gas into a net importer), weak local production, further reductions in production after the war, and smuggling to neighboring countries. The weak local production made Sudan dependent on energy imports, which became more problematic because of the high oil prices and the weak local currency. Although the stakeholders agreed that fuel subsidies distort the functioning of the energy market, they disagreed about the extent to which the lifting of the same in recent years solved the energy crisis.

The lifting of subsidies led to high fuel and food prices in the short term, which increased the costs of inputs. This, in turn, reduced agricultural production, including that of higher-value crops, like

[152] Ministry of Energy and Petroleum (2021), http://www.mop.gov.sd/

vegetables. Moreover, the increased transportation costs trickled down to all food and nonfood items, causing sharp price increases.

HH survey findings confirmed the importance of electricity. When asked about the importance of the impact of external circumstances on the HH, respondents said the following answers had the greatest impact: the availability and prices of food, electricity and other basic services (e.g., water and health), and the overall economic situation and changes in government (support) systems.

5.4.1 Fuel

Across the states, the most mentioned (around 80% average) change in fuel type was an increased use of charcoal and wood, while less LPG, fuel, and diesel were used. This resulted both from increased global oil prices over the last 12 months (see Table 38), as well as from structural causes, such as the liberalization of the energy market and the elimination of governmental subsidies. The reduced consumption of oil and gas was only partially offset by greener alternatives (e.g., solar power). The only exception is Port Sudan, which reported a 39% increase in solar power, but this is likely related to the earlier mentioned economic boost after many governmental agencies and international organizations arrived. Overall, this the high fuel prices had a negative environmental impact in terms of increased emissions from less clean energy sources (e.g. coal) and possible deforestation due to the increased use of firewood. One respondent in Gedaref shared, *"The region relies mainly on firewood to meet their fuel needs, but in the current period, desertification increased due to* ***excessive logging and deforestation.****"*

Table 38: Impact That High Fuel Prices Caused on Types of Fuel Used in HHs or Villages

State / Locality	No Changes	Less LPG, Fuel, Diesel	More Solar	More Wood	More Charcoal	Other
Kassala State	2.0%	13%	2.4%	25%	57%	0.6%
Red Sea State	7.4%	30%	31%	9.4%	19%	3.4%
Port Sudan	5.1%	37%	39%	4.1%	12%	3.8%
Sinkat	16%	4.7%	0.9%	29%	48%	1.9%
Gedaref State	1.2%	9.9%	0.8%	11%	75%	1.9%

Although environmental and conservation efforts are known to have positive, longer-term impacts, they are usually the first to be sacrificed in times of crisis, as people favor short-term gains. To cope with the effects of the triple crisis and the lack of income-generating opportunities, people are looking for alternative wage sources. Logging and charcoal production may be appealing, especially when the area faces fuel shortages and/or high energy prices. However, across the states, only a few respondents (< 3.8%) considered wood/charcoal as a primary or secondary HH income source. Note that logging might still occur to cover HH needs.

5.4.2 Electricity/Connectivity

An average of 60%–70% of respondents across the states considered the availability of / access to electricity "good" or "acceptable," with Sinkat being rated much higher (98% stating it was [very] good). Except for Sinkat, the availability in rural areas was much less, with 31% of rural Gedaref not having any electricity. The network coverage findings resemble those for electricity. About 20% considered the coverage (very) good, and another 30%–40%, "acceptable"; Sinkat rated much higher, with 88% stating (very) good. Except for Sinkat, the availability in rural areas and urban Gedaref was reported to be low, with around 40% considering it (very) bad and rural Gedaref (14%) having no coverage. These findings are also relevant to determine the possibilities for fintech, for which electricity and network coverage are basic requirements.

The importance of fuel/electricity was also reflected when respondents of the HH survey were asked to identify the main impacts of the ongoing April 2023 crisis. Although the most mentioned impacts were reduced governmental services, reduced food availability, and loss of HH income sources, they also noted "increased fuel-electricity prices" as important impacts in Kassala (31%) and Gedaref (45%).

According to a report by the Sudanese Ministry of Energy and Mining,[153] recent initiatives have focused on increasing electricity generation through building new power plants and expanding transmission and distribution networks. Additionally, renewable energy projects, such as solar power installations, have gained traction in Sudan, offering a sustainable alternative to conventional sources. Renewable energy contributes nearly 1% to the total consumption of the country, but no recent data is available at the state level. These ongoing efforts aim to reduce dependency on traditional fuel sources, improve energy reliability, and stimulate regional economic growth. Despite these advancements, challenges persist, including limited financial resources, technical constraints, and the need for further infrastructure development.[154] However, most of these plans and initiatives are understood to be on hold due to the April 2023 crisis.

5.4.3 Impact of Energy on Other Sectors

The interviewed stakeholders explained that the main impact of the energy crisis is the way energy price increases affect all aspects of life and every sector, increasing production and transportation costs. Agriculture was identified as one of the most affected sectors. The increased transportation costs increase the overall price levels and hamper domestic trade, particularly between agricultural production/abundance areas and consumption areas. Respondents mentioned that the impact is therefore higher for peripheral areas and areas far from the production centers.

In terms of environmental impact, stakeholders mentioned both positive and negative effects. A positive impact is that it encourages the use and adoption of alternative energy, like solar and wind power. This also applies to households in terms of agriculture and nonagriculture production. While especially interesting to rural areas, where there is often no electricity grid, rural populations considered the high initial investments a key barrier. For example, no solar power was reported in the Qalabat locality, even though 31% of the HH survey respondents lacked access to electricity. These alternatives typically need

[153] HCENR, UNIDO, UNITAR, GEF, & NSC (2021), *Minimata Convention Initial Assessment in Sudan*.
[154] US Energy Information Administration (2024, March 20), *Sudan Overview*.

governmental support and longer-term planning, all of which were on hold due to the April 2023 crisis, as priorities shifted to war and humanitarian assistance.

The adverse effects were more prominent, such as increased consumption of coal and firewood for cooking as well as brick making, than the resulting deforestation. Related to this is increased unemployment, which exacerbates forest encroachments and overcutting, causing environmental damage in the medium and long term.

5.4.4 Current Interventions

Stakeholders across the states acknowledged that in general, the triple and even the energy crises could have a favorable environmental impact by encouraging the use of renewable energy sources. However, due to the recent political instability, which is now even worse because of the April 2023 crisis, there are currently no incentives to encourage energy saving or reduce the burden for economic actors/businesses or (vulnerable) households. The main reason quoted was the reduced capacity of the government to collect public funds via taxes and customs revenues. In general, this is currently not a priority, and the state budget is geared toward fighting the war and stabilizing security.

In Kassala state, respondents mentioned that there are some energy initiatives, especially for solar power in rural areas, supported by organizations under government supervision. For example, solar energy is being used to operate drinking water stations.[155] Recently some private sector initiatives have emerged, but these are on hold due to the April 2023 crisis.

5.5 Financial Crisis

Stakeholders across the states agreed on the main underlying causes. An important event was the secession of South Sudan, which had the double effect of reducing the influx of hard currency from oil revenues and increasing the oil imports, which in turn worsened inflation. Additionally, Sudan became more dependent on imports for its food needs, especially wheat. In combination with poor economic policies and high external debts, this put pressure on the SDG, which decreased strongly against the USD and further increased inflation. This situation encouraged citizens to withdraw deposits to convert them into a stable foreign currency, which in turn increased the pressure on the SDG and enhanced the banking crisis. All stakeholders agreed that the situation predates recent crises, including Ukraine and the April 2023 crisis, although these have reinforced its negative effects as reflected in recent price hikes due to hyperinflation and the worsened SDG-USD exchange rate.

In addition, multiple technical causes were mentioned, such as political instability, weak economic development policies, weak financial regulatory institutions, and persistent high inflation, which instigated fear and exacerbated the crisis. Stakeholders shared opinions regarding the extent to which policies were effective in mitigating the crisis.

Impact

As mentioned earlier, the April 2023 crisis severely impacted Sudan's economy. The key impacts were reduced governmental services, reduced food availability, and a loss of HH income sources. Also mentioned were inflation/reduced exchange rate, increases in fuel/electricity prices, and loss of property and/or productive assets. In other words, the April 2023 crisis turned into a major economic and financial

[155] No specific organizations were mentioned, but, for example, the Netherlands Red Cross have been active for many years in Kassala Atate and has been implementing this type of activities in recent years.

crisis that affected the entire country and its population. This is also reflected in the most mentioned personal impacts: "loss of main income source," recent displacement, and major financial problems. Although comprehensive recent data is not available, this doubtlessly impoverished large parts of the population, pushing borderline groups into poverty and/or food insecurity. Moreover, government social services and humanitarian assistance to IDPs were strongly reduced or stopped due to the ongoing hostilities.

A good indicator of the economic impact is the availability of employment/income-generating opportunities. Across the states, and in line with findings from earlier questions, over 90% of respondents stated that the availability of jobs/income-generating opportunities decreased substantially over the last 12 months, which almost all respondents considered to be fully or mostly the result of the April 2023 conflict, thus confirming its massive economic impact. In line with earlier findings, RSS scored lower because of Port Sudan, which is also presumably a spin-off of the crisis, as Port Sudan became a key coordination and transport hub, likely having a positive economic impact locally.

5.5.1 HH Income/Livelihoods

Most respondents across the states relied on a single HH income source, although this was much lower (50%) in RSS than in Kassala and Gedaref, with 70%–80%. (See Table 39.) Across the states, "daily labor—nonagricultural" was the most reported primary income source, along with a "permanent job as an employee," although this was lower in Kassala (see Table 40). Both were also important secondary income sources. Farming/livestock was another significant HH income source in Gedaref but less so in Kassala and RSS. Similarly, "daily labor in agriculture/livestock" was primarily important in rural areas. "Shops and handicrafts" were reported in similar percentages as HH income sources. In general, high percentages of respondents across the states indicated that they were unemployed or had no secondary HH income source. Overall, these findings show that most respondents depend on one source of HH income from nonagricultural LHs. Since most newly arrived IDPs are from urban areas, they will likely look for similar employment opportunities.

Table 39: Number of HH Income Sources

State	1	2	3
Kassala	80%	16%	3.4%
Red Sea State	50%	13%	37%
Gedaref	72%	23%	5.1%

Table 40: Main HH Income Sources

Livelihood Activity	Kassala		Red Sea State		Gedaref	
	1st Source	2nd Source	1st Source	2nd Source	1st Source	2nd Source
1. Farming/livestock	6.6%	3.6%	1.0%	1.4%	15%	12%

Table 40: Main HH Income Sources						
Livelihood Activity	Kassala		Red Sea State		Gedaref	
	1st Source	2nd Source	1st Source	2nd Source	1st Source	2nd Source
2. Charcoal, wood, and gold (self-employed)	3.0%	3.8%	0.2%	0.6%	0.4%	1.4%
3. Permanent job as employee	18%	10%	38%	28%	25%	9.5%
4. Daily labor in agriculture/livestock	7.5%	7.8%	1.0%	3.2%	2.1%	4.1%
5. Daily labor skilled-unskilled non agricultural	29%	13%	34%	28%	31%	17%
6. Self-employed professional (e.g., IT, doctor, lawyer)	2.0%	1.8%	7.2%	7.4%	2.5%	0.6%
7. Shop, trade, and/or handicrafts	8.9%	6.4%	4.8%	5.4%	14%	7.6%
8. Social welfare / humanitarian assistance	1.8%	3.8%	0.2%	1.0%	1.6%	4.1%
9. Pension/retirement money	5.8%	3.8%	3.6%	2.6%	4.1%	4.3%
10. Remittances from family members (abroad)	0.2%	0.6%	1.0%	3.6%	1.4%	2.7%
11. None/unemployed	8.5%	36%	2.8%	23%	2.3%	26%
12. Other	8.1%	17%	6.0%	6.2%	1.6%	17%

Per the above findings, around 80% of the population relies primarily on the market for food purchases, meaning HH income is essential to food access. As shown in the above table, most of this HH income is derived from nonagricultural livelihoods, including government jobs, and livestock/crop farming was not a major primary or secondary source of income.

Stakeholders across the states confirmed that the main nonagricultural sectors for employment were the (government) service sector (e.g., health care, education), commerce, construction, transport, food and drinks catering), and the informal sector. These sectors especially employ the urban populations, comprising refugees and laborers from South Sudan and Ethiopia.

The triple crisis—and even more so the April 2023 crisis—had several effects. In general, the higher costs resulted in less production, staff and working hour reductions, the sale of assets, and business closures. Agricultural production and, hence, the need for seasonal agricultural laborers declined. The crises also cut both government and private sector spending and investments. For example, construction was severely affected, which in turn affected transportation. This gave rise to fewer job opportunities.

The crisis affected both the formal (e.g., government employees) and informal (e.g., construction workers) workforce, and there were no social safety nets on which to rely. Stakeholders reported significant reductions in employment in the private sector, as well as the lack of payment of government salaries for months. The reported higher wages in the informal sector and nonpayment of government

salaries will doubtlessly result in an increasing number of people seeking informal employment. This will further reduce tax revenues and governmental revenues, worsening the financial situation.

Size and development of HH income

In general, interviewed stakeholders believed that workers in the informal sector have higher incomes than those in the formal sector, as the purchasing power of government salaries was eroded by inflation, for which workers were only marginally compensated.

Around 50% of respondents across the states reported a HH income higher than 50,000 SDG, although the average in RSS was much lower. Upon disaggregation, it becomes evident that this is mainly caused by the significant differences between Port Sudan and Sinkat, indicating a high level of urban poverty in Port Sudan, although significant percentages of HH food production were reported. Similarly, a rural locality like Eastern Qalabat in Gedaref also reported lower income (with 23% below 10,000 SDG), but this is likely offset by agricultural production used for HH consumption, which the respondents may not have considered as HH income when answering. See Table 41 for a summary of these percentages.

Table 41: Average HH Income

State / Locality	< 10,000 SDG	20,000–30,000 SDG	30,000–40,000 SDG	40,000–50,000 SDG	> 50,000 SDG
Kassala State	5.0%	7.5%	12%	24%	51%
Red Sea State	15%	24%	15%	15%	31%
Port Sudan	*17%*	*28%*	*17%*	*15%*	*22%*
Sinkat	*4.7%*	*13%*	*4.7%*	*15%*	*63%*
Gedaref State	16%	11%	6.6%	18%	49%

Of all respondents across the three states, around 80% reported a (big) decrease in their HH income sources over the last 12 months, although this is much less than in RSS (53%). When reviewing the responses about **HH income** (in SDG), the team found the results are much the same, with an average of 90% across the states reporting a (big) decrease (although much less for RSS at 70%).

The negative impact was less felt in rural areas, likely because (HH-level) agricultural livelihoods were somewhat less affected. Regarding RSS, there is a significant difference between the localities, with Port Sudan experiencing much fewer adverse effects and even reporting significant increases. These differences might be spin-off effects of the April 2023 crisis, in which Port Sudan became an important economic and transport hub due to the inaccessibility of Khartoum. Although this was less the case in RSS, most respondents said these changes were fully or mostly related to the April 2023 crisis. See Tables 42 for a summary of these responses pertaining to both sources and amounts (in SDG).

Table 42: Change of HH Income *Sources* Over the Last 12 Months					
State / Locality	Big Decrease	Decrease	Stayed the Same	Increase	Don't Know / Not Sure
Kassala State	38%	39%	17%	5.4%	0.5%
Kassala locality	41%	38%	15%	5.7%	0.7%
Rural Kassala	33%	42%	20%	4.9%	0%
Red Sea State	22%	31%	28%	15%	2.8%
Port Sudan	15%	34%	32%	18%	1.3%
Sinkat	48%	20%	13%	3.8%	15%
Gedaref State	51%	30%	13%	6.1%	0.6%
Central Gedaref	51%	31%	11%	5.7%	0.9%
Eastern Qalabat	50%	26%	17%	6.9%	0%

Table 43: Change of HH Income (in SDG) Over the Last 12 Months					
State / Locality	Big Decrease	Decrease	Stayed the Same	Increase	Don't Know / Not Sure
Kassala State	56%	32%	5.7%	5.3%	1.3%
Kassala locality	63%	29%	3.0%	4.0%	1.7%
Rural Kassala	42%	39%	11%	7.7%	0.6%
Red Sea State	26%	44%	14%	9.4%	4.7%
Port Sudan	18%	53%	15%	12%	1.8%
Sinkat	53%	13%	6.9%	0%	27%
Gedaref State	63%	28%	6.3%	2.6%	0.2%
Central Gedaref	61%	30%	6.2%	2.8%	0.0%
Eastern Qalabat	65%	25%	6.5%	2.2%	0.7%

5.5.2 Exchange Rates—Inflation

Stakeholders across the states agreed that the deteriorated exchange rate changes are problematic, as Sudan is partially dependent on imports for its energy and key food items, such as wheat.[156] The deteriorated SDG-USD exchange rate has significantly increased the prices of imported items, such as fuel, food, and medicines. While this was already an issue before the April 2023 crisis, the dependence on imports further increased due to the war and after the collapse of industrial infrastructure in Khartoum.

As prices increased, people started applying coping strategies, such as reducing their consumption, switching to lower-quality items, and/or (partially) refraining from buying essential goods. Key examples respondents mentioned include imported medicines and agricultural inputs. However, the team noticed that the prices of certain commodities (e.g., bread) did not rise significantly. A main challenge is that even if wages were to increase, these raises are quickly undone by inflation or even encourage further inflation.

The inflation/price increases affected all goods and, therefore, the productivity of all economic sectors. Also, SMEs, where present in the states, were affected by the rising costs of inputs but had limited opportunity to pass these costs on to their customers. While not increasing their prices would reduce their margins and make their businesses economically unsustainable, raising the prices would negatively affect sales. The current situation is impoverishing small traders, who are an important segment of the community and may, in the long term, affect the availability of certain items in the community. This may, in turn, increase the prices. The sale of luxury products, such as decorations, cars, and some electronics, strongly decreased because people were reluctant to buy them, focusing instead on necessities.

5.5.3 Access to Finance/Financial Services

Banks were more available in urban areas (47%–68%) and in Gedaref state, where the availability in rural areas is similar to that of urban areas in the other states. The availability of "other financial services" was very low, with only small percentages (< 4.1%) of the following services: "Other external lending institutions (e.g., microfinance, private)"; governmental lending or, for example, crop/livestock insurance services, governmental safety net / employment protection, external insurance services (e.g., for crop/livestock), and "community-based lending or insurance services (e.g., farmer associations, VSLA)." Of these, other external lending institutions were more available in urban areas, and governmental services were somewhat more available in Kassala, while insurance was more present in Gedaref. The differences align with the local context. The usage of financial services also exclusively concerned banks and was overall low, ranging from 22%–48%. Utilization of services was higher in urban areas, with usage in RSS coming in at a significantly higher percentage. (See Table 44.)

[156] It should be noted that this is likely also a key cause of inflation.

Table 44: Availability of Financial Services						
Description	Kassala		Red Sea State		Gedaref	
	Kassala	Rural	Port S.	Sinkat	Gedaref	Qalabat
Bank (savings and lending)	49%	25%	47%	26%	68%	49%
Other external lending institutions (e.g. microfinance, private)	3.9%	1.8%	4.1%	0%	0.6%	2.7%
Governmental lending or insurance services (e.g., for crop/livestock)	1.5%	0.6%	0.8%	0%	0%	0.7%
Governmental safety net / employment protection	2.7%	1.8%	1.0%	0%	0.9%	0%
External insurance services (e.g., for crop/livestock)	0.6%	0.6%	0.3%	0.9%	0.3%	2.1%
Community-based lending or insurance services (e.g., farmer associations, VSLA)	0.6%	1.8%	0.5%	0%	0.3%	2.1%
Other	41%	68%	47%	73%	30%	43%

When asked to what extent they think such services are helpful for HHs in avoiding or resolving financial difficulties (e.g., failed harvest, loss of production equipment), 83%–91% of respondents across the states answered that they find them "very" or "somewhat" helpful. Only a small percentage (< 6.4%) considered them "not very" or "not at all" helpful. This indicates a lack of availability and/or access to appropriate services. Savings and savings modalities are elaborated upon in Section 4.1.6.4.2.

Besides the limited availability of financial services, access and inclusiveness for women and youth remain a challenge. During a women's FGD, it was mentioned that even if a young person has an idea or a project, there are severe difficulties in obtaining financing, and any financing comes with stringent funding conditions. Therefore, youth feel that migration is the only solution. Gender issues are elaborated on in Section 4.1.7.1.2.

5.5.4 Mitigation of Impact

Stakeholders at the state level were divided in their opinions about the capacity of the banking/financial sector to mitigate the negative effects of the financial crisis due to the banking sector's centralized setup in Sudan. This limits the ability of local bank branches to make investment decisions independently, and they always have to refer back to central authorities for approval, which weakens their mitigating role.

However, the stakeholders acknowledged that enhanced availability of financial services would be beneficial for promoting investment and the development of local businesses, for example, by stimulating the adoption of modern technologies to increase productivity. The broader adoption of agricultural insurance would positively influence all sectors and crops, helping mitigate the effects of the crisis, particularly for SMEs. Unfortunately, the financing conditions are often unfavorable, and insurance rates are unreasonable, so few businesses or farmers use them. Digital banking, fintech, and microfinance could make significant positive contributions, especially in enhancing access to financial services for women and rural populations. However, a key challenge is the availability of electricity and phone/internet services as basic preconditions.

Before the recent political instability and the April 2023 crisis, the impact of the financial crisis (especially inflation) was mitigated to some extent by the regulated energy and food market; this again shows the close interrelatedness of the three crises. The lifting of subsidies was mentioned as a key reason why the agricultural sector was particularly affected. The Sudanese government attempted to mitigate this by promoting alternative energies, including solar power, but their impact has been limited so far. In addition, before the April 2023 crisis, microfinance and agricultural financing played a significantly positive role in alleviating the negative effects by providing easy access to loans for farmers and small businesses. UN organizations also put a hold on their monetary support, although WFP might provide cash assistance to IDPs, which could have a positive effect.

5.6 Livelihood Assets

5.6.1 Human Assets

Household characteristics

In line with sociocultural traditions, around 80% of the HHs across the states were male-headed, with higher percentages of women-headed HHs in urban localities. As is common in many countries, the average age of the head of HH was lower in rural areas. For both men and women, this might also be related to the shorter educational careers that typically occur in rural areas, as per the education findings. The heads of women-headed HHs were younger overall than their male counterparts, which may also reflect the traditional marriage practice of men marrying younger women.

The average HH size ranged from 5.69 (RSS) to 7.12 (Gedaref). PWDs were reported somewhat more in rural areas, with the exception of Port Sudan, which reported a very high number.[157] Higher numbers of chronically ill were reported in urban areas, which might be the result of more elderly people residing there. The differences in PLW numbers were small and had no clear pattern.

5.6.1.1 Education and HH Capacity

The level of respondents without formal education or who were illiterate was lower for Gedaref (5.6%), with small differences found between urban and rural areas; this is in line with the overall higher level of development in the state and the better availability of education services. Kassala and RSS had twice as high percentages (11% and 14%), with notable differences identified between rural and urban areas, as well as higher levels of Qur'anic education. There were no significant gender differences in the education level of the head of HH other than the differences between urban and rural localities. However, there, education differences between urban and rural are also reflected in the education level of the highest-educated women in the HH (see Table 45), showing a gender gap between urban and rural. As per earlier findings about gender differences in using coping mechanisms, this is likely the result of the more conservative opinions about women's education in rural areas.

[157] No clear explanation was found, although this percentage could include elderly people within that high number of chronically ill.

Table 45: Education Level of Highest-Educated Woman in the HH							
State / Locality	No Formal Education or Illiterate	Primary School or Literate	Qur'anic School	Secondary School / Technical Schooling	College/ University	Other	Head of HH Is Female
Kassala State	9.7%	27%	6.0%	27%	30%	0.8%	9.7%
Kassala locality	3.9%	23%	1.8%	31%	39%	0.9%	3.9%
Rural Kassala	21%	34%	14%	19%	11%	0.6%	21%
Red Sea State	6.4%	14%	7.4%	35%	35%	1.4%	0.8%
Port Sudan	2.6%	11%	9.2%	40%	35%	1.3%	1.0%
Sinkat	21%	24%	0.9%	17%	36%	1.9%	0%
Gedaref State	4.7%	25%	2.9%	33%	34%	0.4%	0%
Central Gedaref	5.9%	24%	2.4%	31%	36%	0.6%	0%
Eastern Qalabat	2.1%	28%	4.1%	39%	27%	0%	0%

The number of HH members available to engage in income or food production activities was significantly higher in Gedaref (2.52) than in the other two states (around 1.80), which might be explained by the larger reported HH size and/or a higher (expected) participation of women in economic activities. An urban-rural comparison does not reveal a coherent pattern, although rural Kassala scored particularly low in available but not engaged HH members due to conservative viewpoints about women's participation in economic activities (see Table 46).

The main reasons quoted for available HH members not participating are "no jobs" and "family care" (even in Gedaref, which scored more progressively on other questions), and "cultural restrictions" (especially in more conservative rural areas). (See Table 47.) In addition, significant, though smaller, percentages also mentioned a lack of the needed education/skills.

Table 46: Average Number of HH Members Engaged in Income or Food Production Activities		
State	Already Engaged	Could Be (But Not) Engaged
Kassala	1.15	0.72
Red Sea State	1.13	0.66
Gedaref	1.51	1.01

Table 47: Reasons for HH Members Not Engaging in Income or Food Production Activities						
Description	Kassala		Red Sea State		Gedaref	
	Kassala	Rural	Port S.	Sinkat	Gedaref	Qalabat
There are no jobs/opportunities	50%	37%	53%	44%	39%	40%
Do not have the needed education/skills	13%	7.7%	1.7%	18%	5.2%	10%
Too old/young	5.7%	4.1%	12%	5.1%	7.4%	2.0%
Family/care-taking tasks (at home) (e.g., elderly, small children)	11%	15%	5.7%	11%	39%	44%
Health/medical conditions	4.2%	4.7%	9.7%	2.5%	2.6%	2.0%
Social and cultural restrictions for working outside the house	3.9%	15%	17%	16%	3.5%	1.0%
Prefer not to say	13%	16%	1.1%	2.5%	3.5%	1.0%

5.6.1.2 HH health status

Large percentages of respondents (54%–82%) across the states reported that the health conditions for some HH members had deteriorated (see Table 48). There is no coherent pattern identifiable between the urban and rural populations, with those in urban Port Sudan particularly affected, but in Gedaref, both those in the urban and rural areas were affected. While limited coverage and transport might be challenges in rural areas, specific groups in urban areas (the urban poor) might also be severely affected. Key reasons given for the deterioration include food quantity and quality, although with differences found between rural and urban areas (likely explained by HH production and/or food rations in the refugee camp), as well as the "availability/high prices of medicines." This aligns with other findings about reduced food consumption and medical expenses being used as coping mechanisms.

Other cited reasons differed in importance across the states, with an increase in diseases mentioned as a pivotal reason in Port Sudan, while in other locations, "reduced HH spending on medicines" and "reduced government health services" were mentioned. Sanitation facilities and diseases were considered less of an issue for most respondents. A variety of answers were provided under "other" that are mainly related to specific medical conditions, such as chronic illnesses or diabetes. One answer is quoted here, as it provides quite a worrying example: "Using plastic as fuel caused the mother to have a severe chest infection." Possibly related to reported gender-based violence, a significant number of respondents in Gedaref also referred to mental health or the psychological well-being of HH members resulting from the war. The overall availability and access to health services will be elaborated upon in Section 4.3.6.3. For a summary of the various contributors to health issues, see Table 49.

Table 48: Overall Health/Medical Condition of HH Members Over the Last 12 Months				
State	***All or Most* HH Members Deteriorated**	***Some* HH Members Deteriorated**	**Remained the Same**	**Health Improved**
Kassala	14%	40%	39%	6.5%
Red Sea State	11%	54%	33%	1.6%
Gedaref	21%	61%	18%	0%

Table 49: Main Reasons for the Health Deterioration						
Description	**Kassala**		**Red Sea State**		**Gedaref**	
	Kassala	**Rural**	**Port S.**	**Sinkat**	**Gedaref**	**Qalabat**
Increase in diseases in the area (e.g., diarrhea, malaria, COVID-19)	3.1%	3.7%	53%	21%	18%	2.5%
Sanitation facilities quantity/quality	1.5%	3.7%	5.7%	3.8%	2.9%	4.1%
Drinking water quantity/quality	1.5%	2.4%	8.6%	1.9%	18%	16%
Food quantity/quality	57%	35%	4.8%	15%	34%	41%
Availability/high prices of medicines	17%	13%	16%	13%	4.3%	16%
Reduced HH spending on medical/health items	7.7%	16%	4.8%	5.7%	1.4%	4.1%
Reduced quality of (governmental) health services	9.8%	16%	2.9%	30%	5.8%	9.0%
Other	2.6%	9.8%	4.8%	9.4%	15%	7.4%

5.6.2 Natural Assets

5.6.2.1 Land use

Although three states are considered agricultural states, especially Gedaref, an average of around 80% of respondents across the states indicated they do not use any land for economic activities, though this is higher in urban areas. Overall, around 40%–56% reported a (large) decreases in the land cultivated, with similar percentages reporting it had stayed the same. More details are provided in Section 4.3.3.1. This is in line with other findings related to the limited importance of agriculture/livestock as a HH income source (6.6%–15%); see also Section 4.3.5.1.

5.6.2.2 Common natural resources

The survey included questions about changes in the condition of a number of natural resources over the last 12 months:

- Number of (natural) water sources
- Water levels in natural water sources (e.g., rivers, lakes, haffirs)[158]
- Water levels in wells
- Quantity of grazing grounds
- Quality of grazing grounds
- Quantity of forest or forest products
- Quality of forest or forest products

Across the three states, the respondents stated that the quantity and quality of common lands and water sources decreased by 50%–70% over the last 12 months, with Kassala being the most affected. In both Kassala and Gedaref, rural areas were less affected, and much higher decreases in water resources were reported in urban areas than in rural areas. Especially in the case of Gedaref, this could be the result of increased population pressure due to a large influx of IDPs.

In addition to the April 2023 crisis, climate change played a marked role, with 68%–92% across the states stating that their village/area was affected "a lot" or "somewhat" by climate change, while only small percentages (1.9%–6.8%) stated it was not affected. See also Section 4.1.7.3.1.

5.6.3 Physical Assets

The survey included questions about the availability of / access to several basic services:

- Water for HH purposes (drinking, cleaning, cooking)
- Water for irrigation, livestock, or business purposes
- Electricity
- Public transport/connectivity to nearby markets or urban centers
- Telephone and internet services (coverage)
- Health services/facilities

When asked whether the availability of / access to the above services had changed in the last 12 months, respondents answered consistently, with > 90% stating that all or some services had decreased. The main reason quoted (at around 80%) was the April 2023 crisis, followed by the quality of services decreasing and/or becoming less reliable. Financial reasons, such as price increases, exchange rates, and fuel prices, were considered less important.

5.6.3.1 Water

The availability of / access to water for HH purposes was overall better in urban areas, although not in Gedaref state. A likely explanation is that in urban areas, there might be water networks or bigger wells that are maintained by governmental agencies (like WES), which also monitor the quality. In rural areas the communal services are likely to provide less, although better-off households may have private wells. The poor quality in urban Gedaref, a relatively more prosperous state, might be partially a result of the

[158] These are underground water reservoirs.

increased population pressure on existing networks due to the high IDP influx, while in rural Gedaref, more HHs might have private wells.

The situation regarding irrigation water was the same, with urban areas reporting better access. The exception is Gedaref, where irrigation water was more available in rural areas because of the available irrigation schemes. The high percentages of low availability/access to irrigation water in rural areas seriously limit the LH options of the local population in these areas.

5.6.3.2 Electricity/connectivity

An average of 60%–70% across the states considered the availability of / access to electricity "good" or "acceptable," with Sinkat rated much higher (a 98% [very] good rating). Except for Sinkat, the availability in rural areas was much less, with 31% of rural Gedaref without electricity.

The network coverage findings are similar to those identified for electricity. Around 20% of the respondents considered the coverage (very) good, and another 30%–40%, "acceptable," with Sinkat rated much higher (88% saying it is [very] good). Except for Sinkat, the availability in rural areas and urban Gedaref was much less, with around 40% considering it (very) bad; in rural Gedaref, 14% had no coverage.

Overall, around 40%–60% of stakeholders assessed the availability of (public) transport/connectivity to be (very) good, with small differences found between urban and rural areas in RSS and Gedaref. In Kassala the urban areas were better connected, while 20% in the rural areas assessed the situation as (very) bad. This affects local trade and the population's ability to engage in economic activities.

5.6.3.3 Health

The overall availability and access to health services were assessed as (very) good by around 20%–30% of respondents across the states. However, these average hides sizable differences between the better access in urban areas and the lower access in rural ones. While Sinkat scored well on other facilities, 20% of its respondents had no access to health, and 32% considered the access "(very) bad." In Gedaref there are no significant differences between the availability in urban and rural areas.

5.6.4 Financial Assets

5.6.4.1 HH income and expenses

HH and LHs were discussed in Section 4.1.5.2. The main finding was that across the states, more than 93% of respondents stated that due to April 2023, their HH income had decreased, with most saying it had decreased significantly. When asked to assess the percentage of decrease, 50%–74% stated that it was more than 50%.

Across the states, 62%–88% considered remittances to be (very) important, although this was significantly higher in urban areas than in rural areas (but less in Gedaref). The main reason quoted for changes in the remittances is the April 2023 crisis. In rural areas in Kassala and RSS, respondents also mentioned the options "family members returned to the village" and "lost jobs/income," while in Gedaref, smaller percentages noted "difficulties [in] sending money to Sudan/village." These findings show that rural populations receive remittances from HH members who previously worked in urban

centers or Khartoum. The responses from Gedaref reveal HH concerns around being supported by relatives abroad, either structurally or as a result of recent displacement.

5.6.4.2 Coverage of need and saving capacity

Across the states, > 96% said "food" was the category consuming the majority of their HH expenses, followed by smaller percentages for the other categories, mainly including "water," "medical costs," and "nonfood items [e.g., clothes]." Asked which categories increased the most, the respondents across the states unanimously answered, stating either "food" or "all categories," although a small percentage in Sinkat specifically mentioned medical costs, which might be related to earlier findings about the low availability of / access to health services there.

When asked about their financial situation over the last 12 months and the extent to which they were able to meet the HH needs / pay HH expenses, 35%–61% of the respondents across the states indicated they were "largely unable" to meet their HH needs. Although the lowest percentages were in RSS, as before, this result obscures the big difference between Port Sudan and Sinkat, with the latter reporting a similar 60% as Kassala State. Meanwhile, Gedaref scored lower, at around 40%. Only in Port Sudan was a sizable percentage (29%) mostly able to meet their needs. Almost all respondents considered this related to the April 2023 crisis, with only 1%–2% stating that this was unrelated.

The respondents' inability to meet their HH needs affected their capacity to save, with an average of 70%–90% stating they could not save, and this was much higher in Gedaref. No major differences were found between states or urban-rural areas in terms of HHs being able to save structurally (for most or all months). The only exception is Port Sudan, with 10%, which aligns with earlier findings. All respondents across the states confirmed that the April 2023 crisis significantly reduced their saving capacity.

Continuing with the theme of respondents' limited capacity to save, most answered that they were not using any saving modality, as they had "no savings." Bank accounts were used more in RSS and less in Kassala, and they were also used more in urban areas than rural areas, where "livestock" and "investment in agricultural production or business" were also used. An exception occurred in rural Gedaref, possibly because of the higher availability of banks and/or the focus on crop production. Overall, people made limited use of financial service providers or community-level saving groups.

5.6.4.3 Financial services

Financial services were elaborated upon in Section 5.5.3. The team primarily found that both the availability and use of financial services are low, as well as that banks are the only financial service that is somewhat widely available.

5.6.5 Social Assets

The most common community-based organizations (CBOs) across the states were village development committees (VDCs) with a reported presence ranging from 35% to 66% in Kassala and Gedaref. They were much less present in RSS (around 8%) with respondents there reporting that CBOs are largely absent. The VDCs were more present in rural areas, although the difference was smaller in Gedaref. In Kassala sizeable percentages referred to the presence of so-called neighborhood committees. Zakat charity structures were common (30%) in Gedaref and, to some extent, in RSS. Women groups were present in Port Sudan and somewhat around Kassala, but they were almost not reported in Gedaref.

Governmental service providers and "village saving and loan associations (VSLAs)" were barely reported. Twelve percent of respondents mentioned smallholder farmers in rural Gedaref, but their presence was nonexistent in the other states.

Similar to the beliefs held about financial service providers, 60%–81% of respondents across the states thought that CBOs would be able to at least somewhat mitigate the negative effects of food and general price increases. Note that respondents in RSS and Kassala were more optimistic about this, with around 46% stating CBOs could fully or largely mitigate these effects, while in rural Gedaref, this was only 10%. Gedaref was less positive in general, with 32% stating CBOs could "not at all" help.

5.6.5.1 Social cohesion

When asked whether they thought the recent economic situation had caused any change in social relations or any tensions in the village in the last 12 months, 56%–72% stated there was a big—or at least some—increase, with Gedaref reporting the highest percentages, which is possibly related to the large IDP influx. Overall, rural areas reported lower increases, and especially in Kassala, there is a big difference between urban and rural numbers, which might be related to the lower reported numbers of IDPs in rural Kassala. Interestingly, in both urban and rural Kassala, a significant portion of the respondents (around 18%) reported a decrease.

5.6.5.2 Migration (refugees and IDPs)

Overall, high percentages (66%–96%) of respondents reported an increase in both domestic and international (economic) migration, although there were more in urban areas than rural areas. Lower percentages (56%–70% average) were reported for returnees. The main reason quoted was the April 2023 crisis, followed by "increased prices." See also Section 4.1.7.2.

5.7 Crosscutting Issues

5.7.1 Gender

5.7.1.1 Gender-specific impact of crises and use of coping mechanisms

The targeted 50% response rate from women was largely achieved due to joint efforts of i-APS, HAC, and Central Bureau of Statistics (CBS), which leveraged CBS's knowledge of the area. The use of female enumerator teams also contributed to this achievement. The findings should therefore adequately reflect women's perspectives. The differences between states reflect sociocultural differences, with Gedaref being less conservative and the female response rate being especially lower in Rural Kassala. In line with Sudan's sociocultural context, most heads of HHs were male.

Although Sudan has taken several measures to empower women and girls,[159] these groups are facing continued challenges, including lower education attainment than men,[160] gaps in policies and legislative arrangements that promote gender equality and the empowerment of women,[161] and several types of

[159] UNICEF Sudan (2020), *Gender 2020*, https://www.unicef.org/sudan/media/6131/file/Gender%20.pdf
[160] World Bank Group (2019, May), *The Labor Market and Poverty in Sudan*, https://documents1.worldbank.org/curated/en/439111628490790397/pdf/The-Labor-Market-and-Poverty-in-Sudan.pdf
[161] CBS, UN Women, & Women Count (2021), *Sudan National Statistics Assessment*, https://africa.unwomen.org/sites/default/files/Field%20Office%20Africa/Attachments/Publications/2021/12/Assessment%20of%20Sudan%20National%20Gender%20Statistics%20System%2007102021.pdf; CARE (2023, April), *Gender Analysis in Sudan*, https://careevaluations.org/wp-content/uploads/Gender-Analysis-in-Sudan-April-2023.pdf

GBV, such as domestic and sexual violence (19%), as well as psychological violence and forced marriage (16%).[162]

In their survey responses, as well as during FGDs with women groups, stakeholders across the states indicated that they think women, especially PLWs, the elderly, and PWDs, are particularly vulnerable to the impacts of the triple crisis. This is even truer for women in rural areas in East Sudan, where many communities have conservative views about gender roles and women are considered the primary caregivers. This places additional burdens on them, making them more susceptible to various challenges and hardships. Any assistance targeted at women often reaches them via men due to the male-dominated nature of society, thus weakening its effectiveness.

Although no recent data is currently available on the nutritional and health conditions as well as educational enrollment status of girls, based on the feedback from KIIs and FGDs, they are likely more affected than boys by the April 2023 crisis. Key causes are a structural lesser access to LH opportunities and the fact that the crisis especially affected common women LHs, such as office jobs and governmental jobs). A significant percentage of women in Gedaref mentioned gender-based violence as a specific impact of the crisis (see the survey findings below).

According to women groups in both Kassala and Gedaref, a specific impact of the April 2023 crisis is the increase of HH tensions due to one or more of the following reasons:

- Increased stress in the marriage because of the ensuing hardships
- Children being at home more due to school closures resulting from nonpayment of teacher salaries and/or use of the schools as IDP shelters
- Hosting of IDPs, often relatives from affected areas, who crowd the house and put pressure on the HH budget

The deteriorated situation from the crisis raised tensions within the HHs, leading to more divorces[163], which in turn increased the number of women-headed HHs—one of the most vulnerable groups. A general challenge, even before the April 2023 crisis, has been that women do not have many employment opportunities and/or do not have the required skills that would enable them to make a living.

During the HH survey, respondents were asked whether women/girls and men/boys were affected in the same way by the crises: 85% stated that they were affected in the same way, although this was significantly lower in rural localities and for Gedaref (67%). Of those who thought the impact was unequal, most considered women/girls to be more affected. (See Table 50.) No significant differences were found when the team disaggregated the group by the respondents' gender. The generic explanations they offered mainly referred to the reduced opportunities for women, women having special needs, their dependence on men, and their shouldering of additional, family-related tasks. A specific point was also made that LH or employment opportunities, such as government office jobs, were relatively more affected by the crisis. However, in Gedaref, a shocking 8.3% (n = 28) of the total female respondents specifically mentioned violence and/or rapes.

[162] UNFPA (2020), *Voices From Sudan 2020: A Qualitative Assessment of Gender Based Violence in Sudan*, https://sudan.unfpa.org/sites/default/files/pub-pdf/unfpa_16th.pdf.

[163] According to feedback received during KIIs and FGDs with women

Table 50: Gender Impact of Crises			
State	**Women/Girls More Affected**	**Same**	**Men/Boys More Affected**
Kassala	10%	85%	5.0%
Red Sea State	10%	87%	3.0%
Gedaref	26%	67%	7.2%

The survey also asked the same question about the use of coping strategies, with around 80% of respondents across the states answering that these were used equally for men and women. However, those who thought there was unequally use (mostly in Kassala and urban areas) felt that women/girls used coping strategies more. (See Table 51 for this breakdown.) In contrast, respondents from rural areas shared that coping strategies were used more for men, as cultural customs prioritize men/boys, while women/girls are restricted from leaving the house. Their explanations for these differences typically involved (cultural) norms about men's ability to perform various jobs, women's responsibility for multiple tasks, and gender stereotypes suggesting are more adaptable or resilient. Small gender differences were observed when the findings were disaggregated for the gender of respondents.

Table 51: Gender-Specific Use of Coping Strategies			
State	**Used More for Women/Girls**	**Same**	**Used More for Men/Boys**
Kassala State	12%	86%	3.0%
Red Sea State	5.4%	82%	13%
Port Sudan	5.1%	91%	3.8%
Sinkat	6.5%	47%	47%
Gedaref State	16%	75%	8.8%

5.7.1.2 Livelihoods/economic opportunities

One reason why women are more affected by crises than men is their reduced access to economic opportunities and financial services, and is not due to their education level (see Section 4.1.6.1.1). Sociocultural restrictions, particularly in rural areas, are a key reason woman are not engaged in LH or food production activities, although a lack of skills and suitable opportunities was also mentioned.

When asked directly whether it is more difficult for women to engage in income or food production activities, around 80% of respondents across the states answered affirmatively, with higher percentages reported in urban areas. Although they tend toward conservatism, Kassala and rural areas reported much lower percentages; this, however, may be due to their engagement in HH-level food production. Disaggregated by gender, the results appear to show that a significantly higher percentage of men considered it more difficult for women, while the women themselves do not share this belief (see Table

52). As they did in earlier questions, sociocultural restrictions play an important role here, although "few opportunities for women," a "lack of the needed education/professional experience," and a "lack of access to finance" were also mentioned. In Port Sudan, a significant percentage stated that employers prefer men over women, which might relate to specific types of work, such as harbor-related employment.

Table 52: Difficulties Women Encounter with Engaging In Income Generation or Food Production Activities

Description	Kassala		Red Sea State		Gedaref	
	Kassala	Rural	Port S.	Sinkat	Gedaref	Qalabat
Lack of access to land/land rights	1.9%	3.7%	6.5%	0.0%	1.0%	0.0%
Lack of access to livestock or other agricultural resources (not land)	0%	6.1%	0.9%	0%	1.0%	2.8%
Lacking the technical agricultural knowledge/skills	2.9%	8.5%	2.8%	7.0%	4.5%	11%
Lacking the needed education or professional experience	17%	7.3%	13%	11%	13%	8.3%
Few opportunities for women. (e.g., available work is often heavy/unsuited)	13%	11%	15%	18%	46%	40%
Culturally less-accepted or not accepted at all that women work (outside the house)	32%	50%	24%	51%	13%	9.2%
Employers prefer men over women	1.9%	2.4%	22%	7.0%	4.1%	3.7%
Lack of access to finance for agriculture, education, or starting an own business	25%	1.2%	1.6%	0%	0.3%	2.8%
Caretaking tasks at home (e.g., children, elderly)	5.7%	6.1%	9.3%	5.3%	14%	15%
Other	0%	3.7%	4.7%	1.8%	2.4%	7.3%

Regarding access to financial services, 67%–87% of the respondents across the states believed there were no gender differences in accessing financial services, although this was significantly lower in Gedaref and rural areas, especially Sinkat. Only in RSS were differences according to the gender of the respondent found, with a greater number of women answering that it was more difficult for women, while more men considered it to be the same. (See Table 53.)

The mentioned reasons for the differences were

- Lack of documents or collateral
- Lack of work/income sources
- Religious or sociocultural constraints
- Lack of education/knowledge

Table 53: Gender Differences in Accessing Financial Services				
State / Locality	More Difficult for Women	The Same	More Difficult for Men	Don't Know / Not sure
Kassala State	5.0%	82%	0.4%	13%
Kassala locality	2.1%	87%	0.0%	11%
Rural Kassala	11%	72%	1.2%	17%
Red Sea State	16%	73%	0.4%	10%
Port Sudan	8.4%	86%	0.5%	5.4%
Sinkat	45%	28%	0%	27%
Gedaref State	20%	67%	3.1%	10%
Central Gedaref	19%	70%	2.1%	8.8%
Eastern Qalabat	23%	59%	5.5%	13%

5.7.2 Migration

The April 2023 crisis caused a massive displacement (IDPs) in Sudan, estimated at 10.54 million people.[164] With the fighting ongoing, the number of displaced people has continued to grow across Sudan from 2.82 million (prior to April 2023) to an additional 7.72 million (post–April 2023). Although exact figures are absent, it can be expected that this displacement will result in the following: an increase in (temporary) returnees within Sudan to areas of origin that are safer (e.g., Eastern Sudan); an increase in (temporary) returns of refugees,[165] provided it is possible and the country of origin is considered safer; and a decrease in the influx of new transit refugees.

Other than offering a relatively secure place to those fleeing from abroad, Kassala and RSS are traditionally not deemed very attractive as settlement areas for either refugees or IDPs, except for their physical proximity to Eritrea. Gedaref might seem more appealing because of its more commercial agricultural sector. As such, Kassala and RSS were net exporters of refugees and IDPs before the April 2023 crisis. Migration of refugees works two ways in Sudan, as it is/was both a net receiver of foreign migrants (refugees) and a net exporter of Sudanese migrants (refugees).

The situation in the three states before the April 2023 crisis can be summarized as follows:

- **Refugees:** These are mainly Eritreans and Ethiopians due to the physical proximity of these states to the border.

[164] IOM (2024): DMT report June 2024
[165] Refugees from South Sudan, Uganda, Chad, and Ethiopia are also reported about in the DTM in Sudan and require special attention in program interventions.

- **Internal displacement (IDPs)**: They are mainly from within the state due to a spillover of fighting from localized conflicts. Residents may seek safety in urban centers or garrison towns with a stronger police/army presence.
- **Rural-urban migration:** This is mainly the result of rural populations/youth leaving the countryside in search of better livelihoods in urban areas or places like gold-mining areas. The states are also net exporters, with residents moving to, for example, Khartoum in search of better opportunities.
- **International migration:** They are a net exporter for the same reason that rural-urban migration occurs.

5.7.2.1 Refugees and IDP situation

Changes in the refugee situation and the number of IDPs in Kassala mainly depend on security developments in the refugees' countries of origin, as well as in other states within Sudan, although climate change (see Section d 4.3) may increase localized conflicts over scarce resources (e.g., water). In general, the triple crisis has further reinforced the above (economic) migration patterns.

The April 2023 crisis reversed internal displacement dynamics. The ongoing conflict, related insecurity, and collapse of Khartoum as the economic center reversed migration patterns and converted all three states into net receivers of refugees and IDPs, as they are relatively safe and farther away from conflict zones. The survey findings confirm this.

The numbers are as follows: [166]

Kassala: 2,500 before April 2023 to 236,574 in June 2024; an increase of +9,462%

Gedaref: 23,471 before April 2023 to 633,154 in June 2024; an increase of +2,697%

RSS: 15,545 before April 2023 to 245,827 in June 2024; an increase of +1,481%

There were big differences between the three states regarding the IDP and refugee situation (see Table 54). Traditionally, the eastern states of Kassala and Port Sudan are not very appealing for IDPs because of the limited economic opportunities provided there as compared to a place like Khartoum. This is reflected in low percentages of IDPs before April 2023. Gedaref boasted a significantly higher percentage, as it is more developed and has a larger scale of agriculture that offers employment opportunities. Rural Kassala has a sizeable refugee population, who are mainly from Eritrea.

The impact of April 2023 is visible across the states, following the pattern shown above, with most IDPs opting for Gedaref, followed by RSS, and Kassala as the least preferred. However, for all the states, the percentage "displaced after 2023" is almost double that from before April 2023, which confirms the scale of the current crisis. The presence of IDPs is especially widespread across the states, with only 28% in Kassala and RSS classifying as "resident populations," meaning they self-reported that there are few or no IDPs in the area of residence. In Gedaref this is only 11%, meaning significant numbers of IDPs are present across the state (see Table 55).

[166] IOM Un Migration (2024, June), *DTM Sudan Mobility Update (03)*, https://dtm.iom.int/reports/dtm-sudan-mobility-update-03.

IDPs are more present in urban areas, especially in RSS, with 65% of the respondents in Sinkat fitting the classification of "resident population" (see the annexes of the state findings). Increases were reported across all localities, although they were higher in urban localities (see Tables 54–57).

Table 54: Displacement Status of HHs					
State	**Resident/Not Displaced/ Returned > 1 Year Ago**	**Returnees (< 1 Year Ago)**	**Displaced *Before* April 2023**	**Displaced *After* April 2023**	**Refugee**
Kassala State	71%	0%	8.5%	16%	4.6%
Kassala locality	70%	0%	11%	19%	0.3%
Rural Kassala	74%	0%	4.1%	8.9%	13%
Red Sea State	88%	1.0%	1.8%	8.0%	1.0%
Port Sudan	94%	1.3%	0.3%	3.3%	1.3%
Sinkat	67%	0%	7.5%	25%	0%
Gedaref State	54%	0%	15%	31%	0%
Central Gedaref	51%	0%	16%	34%	0%
Eastern Qalabat	61%	0%	14%	25%	0%

Table 55: Classification of Place of Residence for Residents (Not Displaced)				
State / Locality	**Mostly IDPs/Refugees**	**Mix of Residents and Idps/Refugees**	***Residence Population***	
			Few IDPS/Refugees	**No IDPS/Refugees**
Kassala State	16%	56%	23%	4.8%
Kassala locality	13%	60%	25%	2.1%
Rural Kassala	23%	47%	20%	10%
Red Sea State	31%	41%	22%	6.2%
Port Sudan	35%	47%	14%	3.8%
Sinkat	13%	21%	50%	15%
Gedaref State	15%	74%	11%	0.2%
Central Gedaref	18%	74%	7.6%	0.3%

Table 55: Classification of Place of Residence for Residents (Not Displaced)				
State / Locality	Mostly IDPs/Refugees	Mix of Residents and Idps/Refugees	*Residence Population*	
			Few IDPS/Refugees	No IDPS/Refugees
Eastern Qalabat	8.9%	73%	18%	0%

Table 56: Reported Change in IDP/Refugee Numbers After April 2023					
State	Big Increase	Increase	Stayed the Same	Decrease	Don't Know
Kassala	75%	25%	0%	0%	0%
Red Sea State	3.8%	81%	3.8%	0%	11%
Gedaref	59%	38%	1.9%	0.4%	0.6%

Refugees

A greater number of refugees was reported in Kassala due to the presence of a refugee camp that mainly hosts Eritreans in rural Kassala. The small numbers reported in RSS came primarily from South Sudan and then Chad. In Gedaref most respondents did not clarify their origin,[167] and those who did came from Eritrea and South Sudan.

Newly arrived IDPs

As expected, most newly displaced people across the states came from the Khartoum-Omdurman area or other urban areas in Sudan, meaning they were mainly city dwellers. In Kassala state a relatively high percentage (42%) said they were residents in the area, meaning they are economic migrants who lived elsewhere but then decided to return home because of the April 2023 crisis.

When asked about their plans in the near future, most of the respondents planned to return home (to the Khartoum area) in the future, depending on the situation. This is probably also the plan of those currently staying in an IDP site. In Kassala state around half of the respondents planned to migrate abroad.

There were some differences found between the accommodation arrangements across the states. In all the states, a significant percentage of newly displaced people stayed in temporary shelters, especially in Gedaref and RSS. These findings seem to corroborate statements made by respondents about the state of their residency in the area, which translated into a higher percentage of respondents saying they are staying with family or friends (36% in Kassala, compared to 6.9% in Gedaref). IDPs in rural areas reported

[167] It seems that the terms IDP, refugee, and residents were not fully understood by the respondents, and some respondents (mainly South Sudanese) may have been IDPs or Sudanese citizens instead.

higher percentages of staying with family/friends than those in urban areas. RSS saw a higher percentage of respondents renting accommodation.

5.7.2.2 "Voluntary" and/or economic migration (domestic and international)

Migration is a complicated topic, and there are many different definitions in use. In line with the study design and HH survey setup, this type of migration is mainly understood as one that happens, to some extent, by choice, usually for economic reasons. The limitations of this definition are understood but considered as acceptable as the report mainly intends to capture generic trends.

Across the states, 69%–91% of the respondents reported some or a large increase in domestic migration, which was higher in urban areas than rural areas, especially in Kassala. The main reasons quoted are the April 2023 crisis and "unemployment," although "loss of assets" and "better access to work opportunities" were also mentioned. There was no clear difference between the urban and rural populations.

Related to this is the fact that 66%–96% of the respondents reported some or a big increase in migration to foreign countries, with higher percentages coming out of urban areas, except for Gedaref. The main reason cited is the April 2023 crisis, although increased prices were mentioned by 41% in Port Sudan, as well as in rural areas. The above findings might be linked to findings about new IDP arrivals in Gedaref and the economic developments in Port Sudan, which became a hub for government agencies and international organizations, possibly affecting local price levels.

Around 56%–70% of the respondents reported some or a sizable increase in returnees or remigration, although this was much higher in urban areas than rural ones. This upholds earlier findings about a portion of the IDPs being (former) residents of the area—likely, they were economic migrants who left for Khartoum but decided to flee/return to their home region due to the April 2023 crisis (the most quoted reason). In rural areas as well as Port Sudan, significant percentages also mentioned "increased prices."

5.7.3 Environment

The interviewed stakeholders identified the following environmental needs: increased awareness raising, increased adequate disposal, an enhanced solid-waste recycling culture, a halting of irrational tree cutting and the destruction of natural habitats, the legalization of informal/nondemarcated agriculture land, the legalization of informal mining through the Sudanese Standards and Metrology Organization (SSMO), and the afforestation programs. Regarding the latter, UNHCR has joined the plantation project with the Forests National Corporation (FNC). Nevertheless, the environmental degradation in the country has become more severe after the triple crisis and especially the April 2023 crisis.

See Section 5.4.1 for the impact of changes in fuel type.

5.7.3.1 Climate change

Most respondents (68%–92%) across the states stated that their village/area was affected "a lot" or "somewhat" by climate change, while only small percentages (1.9%–6.8%) stated it was not affected (see Table 57). The most mentioned change was reduced rainfall and/or "changed timings/reliability of the rainfall." However, in Gedaref, respondents were primarily concerned about "increased temperatures," likely because of better access to irrigation water. In Sinkat, invasive species like mesquite and

desertification/encroachment were identified as key causes, while in Port Sudan, no degradation was reported (9.6%).

Table 57: Main Changes Due to Climate Change						
Description	Kassala		Red Sea State		Gedaref	
	Kassala	Rural	Port S.	Sinkat	Gedaref	Qalabat
No degradation	2.3%	0.6%	9.6%	5.3%	0.9%	3.2%
Mesquite or invasive plant species	6.5%	0.6%	5.4%	33%	0.3%	0%
More plant or animal diseases	0%	0.6%	0%	0%	1.3%	1.6%
Increased temperatures	7.2%	1.3%	1.4%	3.5%	59%	43%
Increased rainfall	0%	0%	8.2%	0.0%	4.1%	11%
Reduced rainfall	72%	80%	61%	30%	24%	12%
Erosion (soil/wind); reduced fertility of the soil	1.0%	1.9%	0.7%	3.5%	0.9%	6.3%
Changed timings/reliability of the rainfall	9.2%	13%	9.3%	1.8%	7.5%	18%
Desertification/sand encroachment	0.7%	1.9%	1.1%	23%	0.9%	0.8%
Other	1.3%	0%	2.9%	0.0%	1.9%	4.0%

Around 30%–36% of respondents stated they were fully or at least largely able to adapt to these changes, although this was higher, at 49%, in RSS. Overall, respondents in urban areas were more optimistic about their capacity to adapt, although they simultaneously had higher percentages answer with "not at all," which indicates the presence of vulnerable groups, including the urban poor. The most common reasons mentioned for inadaptability (see Table 58) were "lack of financial means to adapt to the changes," "lack of general knowledge about the changes," and "lack of government or higher-level support." However, in rural areas, a significant percentage of respondents also mentioned a "lack of alternative livelihoods/employment opportunities."

Table 58: Main Reason(s) for Not Being Able to Adapt						
Description	Kassala		Red Sea State		Gedaref	
	Kassala	Rural	Port S.	Sinkat	Gedaref	Qalabat
Lack of alternative livelihoods/ employment opportunities	15%	19%	4.3%	23%	8.2%	12%

Table 58: Main Reason(s) for Not Being Able to Adapt						
Description	Kassala		Red Sea State		Gedaref	
	Kassala	Rural	Port S.	Sinkat	Gedaref	Qalabat
Lack of financial means to adapt to the changes	34%	34%	20%	16%	45%	51%
Lack of general knowledge about the changes	19%	15%	27%	32%	16%	18%
Lack of government or higher-level support	19%	19%	8.6%	25%	19%	11%
Lack of technical knowledge to adapt to the changes	9.4%	13%	37%	2.3%	6.6%	3.2%
Other	4.0%	0.8%	3.2%	2.3%	4.9%	5.3%

Across the states, the main reported impacts were smaller harvests / less income from agriculture or livestock activities (even though few had mentioned agriculture as their primary HH income source), community members reducing or stopping their agriculture/livestock activities and looking for other jobs, young people not being interested in agriculture/livestock and looking for other jobs, and increased migration to urban centers or abroad. Note that these answers are often linked to reduced income from agricultural labor—a key reason for migration to urban centers and seeking alternative employment. (See Table 59.)

Table 59: Main Impact of Climatic Changes						
Description	Kassala		Red Sea State		Gedaref	
	Kassala	Rural	Port S.	Sinkat	Gedaref	Qalabat
Community members reducing or stopping their agriculture/livestock activities and/or looking for other jobs	19%	21%	14%	16%	10%	12%
Less harvest/income from agriculture or livestock activities	38%	44%	5.0%	30%	26%	40%
Young people not interested in agriculture/livestock and looking for other jobs	11%	12%	31%	19%	15%	16%
Increased migration to urban centers/abroad	23%	14%	35%	33%	29%	22%
Increased community tensions (e.g., between agriculture and livestock)	3.6%	4.1%	3.9%	0%	2.8%	6.3%
Other	5.7%	5.3%	11%	1.8%	16%	3.2%

6. Conclusions

6. Conclusions

6.1 Triple Crisis General

1. **The three crises constituting the triple crisis were considered among the most important crises facing Sudan, and its causes and effects are closely interrelated. However, security and political stability were mentioned as key preconditions for effectively addressing the triple crisis**.

2. **The Ukraine war and the April 2023 crisis highlighted—even reinforced—the more structural problems caused by the triple crisis regarding the growing dependence on food and energy imports as well as the need for political stability and strong policy development**. A lack of strong policy development to counter the decreasing local food and energy production resulted in growing imports of wheat and oil. This led to an increased need for foreign currency, which put pressure on the SDG. The April 2023 crisis further reduced local production, including items like medicines and agricultural inputs, which had previously been produced locally, in Khartoum.

3. Although the food crisis is the most urgent of the three issues in the triple crisis, the energy crisis is also significant, as higher oil and energy prices impact all economic sectors, including food production, availability, and access.

4. The triple crisis, and even more the April 2023 crisis, coupled with political instability, has severely affected Sudan's economy, reducing tax revenues and hindering the government's ability to create and implement effective policies.

6.2 Needs

5. Both the triple crisis and sudden crises like the Ukraine and April 2023 events negatively affect the food security of many people in Sudan by worsening their food consumption. The April 2023 crisis, while sudden and accompanied by additional impacts like ongoing hostilities and the "disappearance" of Khartoum, confirmed general changes in food consumption that also occur due to more long-term crises like the triple crisis.

6. As a coping mechanism, people are reducing their intake of more expensive, nutritious foods like dairy, meat, fish, fruits, and vegetables. Initially, this reduction is replaced by an increased intake of dry foods like cereals and, ideally, pulses for protein. However, when the intake of fresh produce was already low or nonexistent, the reduction means an increased reliance on cheap foods or a reduction in the quantity of food consumed.

7. **Although the extent of the peoples' needs increased due to the April 2023 crisis, the type of needs did not change significantly from the structural needs initially created by the triple crisis**. Although the extent of needs has increased due to the reduced LH opportunities and displacement, the type has corresponded with more general development needs related to the triple crisis. The main needs identified are in the food, health, WASH, and education sectors. Additional needs that arose from the April 2023 crisis include shelter and protection/psychosocial support.

6.3 Food Crisis

8. **Sudan's growing dependence on food, especially wheat imports, makes it vulnerable to global food price increases, which could be partially offset by import substitution.** Over the years, Sudan has become increasingly dependent on wheat imports, which, in combination with its weak national currency, makes it vulnerable to global price increases. Local cereals, such as

the more drought-resistant sorghum, are increasingly consumed and can replace a portion of wheat consumption.

9. **The structural increase in food insecurity in Sudan due to the triple and April 2023 crises has reduced access and availability**. The April 2023 crisis caused a severe, acute impact on food security by obstructing food access with higher prices as well as a decline in food production. However, the triple crisis, coupled with climate change, created more structural problems for Sudan's food security, such as reduced local production and growing dependence on food imports, which made large parts of the population vulnerable to shocks.

10. **The short-term food insecurity resulting from the April 2023 crisis (and triple crisis) is primarily due to a lack of access to food, including less availability, and would favor cash-based interventions.** Most community members purchase their food from the market, and in most areas, food items were said to be available, albeit at high prices. At the same time, in some places like Gedaref, an abundance of food items was reported due to the disappearance of demand from Khartoum. Targeted cash interventions might stimulate local production or encourage a shift in trade from high-production areas to consumer areas.

11. **HH food production in rural areas mitigated some of the negative impacts of the triple crisis since it made the household less sensitive to food price increases**. The triple crisis made large parts of the population vulnerable to shocks, especially in terms of food security, with food being the most quoted need. However, at the same time, few HHs have been engaged in agriculture, with around 80% indicating they do not use any land for economic activities.

12. **Farming in Sudan entails high financial risks, which encourages growing numbers of community members in rural areas to abandon agricultural LHs**. The high prices of agricultural inputs in combination with the added political uncertainty—and now the war—make farming a risky investment. In addition, climate change adds a more structural risk factor, due to the changing rain patterns and increased temperatures. This further reduces the local food production.

6.4 Energy Crisis

13. **The triple or energy crisis could encourage a societal switch to cleaner energies. However, since the April 2023 crisis, government stimulation programs have been on hold, and the environmental impact has been mainly negative, with communities increasingly using wood and charcoal**. The triple and April 2023 crises led to high fuel prices, which could have made investments in environmentally friendly alternatives, such as solar power, more attractive. However, the high initial purchase costs act as a main barrier for communities, and without external support, communities instead switch to environmentally unfriendly alternatives, such as wood and charcoal.

14. **The "disappearance" of Khartoum created a gap in markets and the processing capacity of agricultural produce, which resulted in excesses and then possible food losses at the state level**. Respondents, especially those in Gedaref, reported an abundance of perishable fresh produce, which would have normally been sold in the Khartoum area or at least processed there. While the IDP presence will result in some additional demands, these surpluses will reduce the prices but might also result in food losses.

15. **Fuel price increases, as well as the volatility of those price levels, hamper agricultural LH planning and investments**. The triple crisis and now the April 2023 crisis not only contribute to significant price increases and inflation, but the fluctuations are substantial and unpredictable. Although removing fuel and other subsidies is likely beneficial in the longer term, the markets are volatile, and the short-term consequences harm vulnerable groups and small businesses.

6.5 Financial Crisis

16. **The financial crisis is closely linked to Sudan's growing dependence on food and energy imports, which put pressure on the SDG, especially because hard currency revenues from (oil) exports have declined over the years**. Wheat and energy imports have steadily increased over the years, discouraging any stimulation of local production or alternative energy sources.

17. **The increased dependence on imports combined with a weak exchange rate make Sudan vulnerable to sudden price increases and inflation, which was reinforced (at the community level) by the lifting of oil and wheat subsidies**. The government liberalized the energy and (partially) the food markets, which strongly affected vulnerable populations and the agricultural sector, discouraging agricultural production.

18. **The continued high inflation resulting from the financial crisis erodes the purchasing power of community members because salaries are not correspondingly increasing due to budget constraints (government) and low productivity (businesses). As a result, businesses are unable to pass on the inflation costs to their customers without endangering their longer-term economic viability**.

19. **The availability and, hence, the use of financial services is low and limited to banks, while financial services that could encourage business development or reduce the financial risks of farming—for example, insurance, microfinance, and government support mechanisms—are not available or are unaffordable**.

6.6 Impact

20. **Food access for the urban population was severely impacted by the nonpayment of government salaries and reduced activity in the private sector**. Only a small percentage of respondents across the states were engaged in agricultural activities, and in urban areas, food security relies on nonagricultural HH income sources for purchasing food in the market. Moreover, urban localities have higher percentages of vulnerable groups, including PWDs and the chronically ill (e.g., elderly people), who are limited in their abilities to mitigate adverse effects via HH food production.

21. **The April 2023 crisis significantly reduced qualitative food intake, especially in urban areas, due to the collapse of market supply chains**. This drastically reduced the consumption of fresh produce, especially dairy, meat, fruits, and vegetables. The decrease was sharper in urban areas, likely because they are fully dependent on market supply, while domestic production and local availability somewhat mitigate the impact in rural areas.

22. **Although rural areas performed weaker in most areas, such as food consumption and availability of services, the urban averages hide significant differences between various urban populations and reveal the existence of a very vulnerable group of urban poor who were severely**

affected by the April 2023 crisis. The urban population likely contains a broader variety of groups with relatively better-off HHs with governmental jobs or business or independent professions. At the same time, there might be very poor groups on the urban periphery that are not engaged in agriculture and primarily depend on daily work in strongly affected sectors, like construction and transport, for their HH income.

23. **Food availability was negatively affected by underdeveloped interstate supply lines and market trade modalities, which became more apparent because of the April 2023 crisis and the related "disappearance" of Khartoum as a centralized hub**. Sudan has been traditionally organized very centrally, with Khartoum as a political, economic, and logistical hub, along with limited capacities at the state level. While production or abundance has existed in some places even after April 2023, interstate trade, market systems, and supply lines are, without Khartoum, not functioning adequately in matching supply and demand. Note that the increased transport costs might also play a role.

24. **The April 2023 crisis had a massive psychological impact on displaced populations, such as the war that occurred during that time, the stress of displacement, the longer-term stays with relatives. In addition, respondents in Gedaref reported high numbers of GBV**. Although Sudan has been plagued by conflicts throughout its history, these were mostly contained within specific regions, while Khartoum always remained a stable and safe location. The April 2023 crisis is of an unprecedented scale, not only in terms of the number of displaced people but also regarding the concept of Sudan as a country being destroyed.

6.7 Crosscutting

6.7.1 IDPs

25. **The high influx of IDPs was mentioned as the biggest impact of April 2023 and is already creating—or likely will create—social tensions due to competition for LH opportunities and the increased prices of accommodation and food items.** The high influx of IDPs created significant challenges for the host communities in their daily life, such as increased pressure on communal resources as well as increased market demand and possible higher prices as a result. Similarly, the IDPs bring an influx of labor while LH opportunities are reduced, which may invite tension.

26. **The high inflow of IDPs puts pressure on communal services and creates significant challenges for both the host communities and the IDPs**. Due to the lack of official camps or shelters, communities use schools and public spaces as temporary shelters. The reduced water availability in urban areas might result from the increased population pressure caused by the high numbers of IDPs. Additionally, the IDPs may encounter high accommodation costs while simultaneously having lost their source of HH income.

27. **Many IDPs stay in shelters unsuited for longer-term stays, which creates significant challenges for both the host communities and the IDPs, exposing them to health and protection risks.** The unexpectedly high inundation of IDPs in areas not used to receiving large numbers has resulted in the creation of numerous temporary shelters in public spaces or schools. The government's capacity is limited due to the war, and international assistance is insufficient. This creates problems and possibly resentment within

host communities, as IDPs are now residing in schools and public spaces. And for their part, the IDPs often lack access to basic services and privacy.

28. **Most IDPs in the states are from urban areas and have no or, at the most, a limited affinity with agriculture, meaning nonagricultural LH opportunities are needed for them to (temporarily) sustain themselves in the area of their displacement**.

6.7.2 Migration

29. **Migration resulting from the triple crisis mainly occurred for economic reasons, such as unemployment, and follows generic patterns: rural to urban areas, periphery areas to the capital (Khartoum), and, on an international level, from poorer to richer countries (in the Gulf)**.

30. **The April 2023 crisis reversed domestic migration patterns, with prior economic migrants returning to their areas of origin (from capital to periphery or urban to rural) because of security concerns and/or the loss of HH income sources**.

31. **The April 2023 crisis exacerbated existing (as a result of the triple crisis) international migration patterns, particularly the brain drains of skilled workers leaving Sudan.** Historically, due to the political and economic situation in Sudan, skilled workers have migrated to richer countries. However, at least in the capital, the situation was relatively stable, enabling skilled workers to make a decent living through government or private sector employment. This stability collapsed after the April 2023 crisis, with many displaced people coming from Khartoum-Omdurman and other urban areas. With no political solution in sight and a lack of LH possibilities in the current areas of displacement, this is likely to encourage international migration of skilled workers, including those in crucial professions, such as medical staff and teachers.

32. **The April 2023 crisis suddenly turned the three surveyed states from net exporters of domestic migrants into net receivers of domestic migrants. This created massive challenges in terms of accommodating these IDPs in regions that have traditionally been less developed (except Gedaref) and with limited governmental capacity at the state level.** Kassala and RSS are some of the less developed states in Sudan, as they have limited state-level capacity and have already been struggling to meet the needs of their own population. However, since significant numbers in these states are returnees who were originally from the area, a significant portion were hosted by family and friends. This contrasts with the situation in Gedaref, where, though it is more developed, most IDPs have no links with the state and largely depend on external assistance.

6.7.3 Gender

33. **School closures not only affect children's education, but they also put additional pressure on the HH situation, for which women bear the majority of the impact**. Schools have been closed since April 2023, and they continue to be for various reasons, such as IDPs residing on the premises, a lack of teachers due to nonpayment of their salaries, and a lack of or damage to school equipment and materials. School closures mean that children are at home and typically under the responsibility of the women. Besides extra workload and stress, this limits women's ability to engage in LH or food production activities.

34. **The continued hosting of IDPs (relatives) puts pressure on the HH situation, with women bearing the brunt of the burden they are mostly at home and are expected to accommodate the hosts.** The high influx of

IDPs has created significant challenges for the hosting HHs, which may lack the space or means to adequate host families or friends for a prolonged period. This strains the HH budget, and overcrowding often creates tensions.

35. **Although respondents self-reported that the triple crisis and April 2023 crisis have affected men and women largely in the same way, data demonstrates that women are more vulnerable due to their reduced access to LHs as well as sociocultural constraints. Further, women and girls are at heightened risk of gender-based violence, domestic tensions and other gender-specific impacts, including forced and early marriage.** Overall, boys/men and girls/women used coping mechanisms equally, although, in some rural locations, coping mechanisms were used more by men/boys. However, this was primarily the result because women have not had access to services such as education. It is generally harder for women to engage in LH or economic activities and to access financial services due to cultural constraints. Given the barriers faced, women's LH options were comparatively more impacted by the reduction in government and office jobs as a result of the triple and April 2023 crises. This situation puts woman-headed HHs at risk.

6.8 Coping Mechanisms and Resilience

36. **Most HHs depend on a single, nonagricultural HH income, which, in the absence of social safety nets, makes them very vulnerable to those economic downturns related to various crises**. Large sections of the population are dependent on governmental jobs and nonagricultural daily labor, which were strongly affected by the insecurity and economic downturn of the triple and April 2023 crises. Vulnerable populations, such as unskilled laborers and refugees, often work in the informal sector, with limited job security and without social benefits.

37. **Medicines are increasingly imported and, therefore, expensive, making "saving on health expenses (medicines)" a common coping mechanism for community members, which negatively affects their health condition(s).** The collapse of Khartoum and governmental systems has affected access to health and reduced the availability of locally produced medicines. Respondents quoted reduced food consumption and savings on health expenses as the main reasons for the deterioration of HH members' overall health. Relatedly, health needs are higher in rural areas than in urban areas, although the health impact in terms of food consumption was mitigated by HH food production in rural areas.

38. Despite the challenges of the triple crisis and the April 2023 crisis, most respondents have avoided using the most damaging coping strategies. However, concerns remain about the sustainability of this situation due to high needs and the prevalent use of food- and health-related coping strategies.

7. Recommendations

7. Recommendations

The recommendations below are drafted based upon the findings and conclusions of this report and stakeholder feedback. Many of the recommendations are contingent upon improved security and political stability, which are necessary preconditions for addressing the effects of the triple crisis, as well as those of the ongoing April 2023 conflict.

#	Focus Area	Recommendation	Main Partner	Priority
1	Food	**Increase in-country food production** by stimulating both HH food production and commercial agricultural production, to increase the local food supply, which in turn should reduce local food prices. A specific focus should be the modernization of the agricultural sector by introducing new technologies and high-yielding varieties.	FAO; UNDP; IOM; federal and state Ministries of Agriculture; the Ministry of Irrigation and Water Resources; and the Ministry of Livestock, Fish, and Animal Wealth	High
2	Food	**Increase HH food production to reduce HH food** expenses by encouraging (ex-) farmers as well as HHs with access to land to start or increase food production. Examples: provide inputs for backyard gardening or vegetable cultivation or increase productivity of existing farms. IDPs and refugees should also be included to enhance their self-reliance and reduce the burden on the host communities.	FAO, UNDP, IOM, federal and state Ministries of Agriculture, and the Agricultural Bank of Sudan	High
3	Food	**Encourage agricultural LHs and local production:** a) Facilitate access to agricultural inputs, as a main problem are the high prices. b) Enable capacity strengthening for farmers, helping them increase productivity. Examples: improve cultivation methods and enhance access to irrigation. c) Reduce financial risks related to farming by enhancing access to crop insurance for commercial farmers. d) (Re) establish microfinance and/or village savings and loans systems to enhance access to finance for farmers, women, and youth.	FAO, UNDP, IOM, federal and state Ministries of Agriculture, and the Agricultural Bank of Sudan	High

#	Focus Area	Recommendation	Main Partner	Priority
		e) Leverage humanitarian interventions by exploring buy-back arrangements to stimulate local production.		
4	Food	**Encourage food import substitution:** a) Encourage farmers to restart local wheat cultivation by providing insurance and incentives that favor local production and guarantee sales. b) Support the local cultivation of alternatives to wheat, such as sorghum or more drought-resistant crops. c) Support initiatives to encourage dietary changes in support of these alternatives, such as sorghum or other drought-resistant varieties.	FAO, UNDP, and the Agricultural Bank of Sudan	Medium
5	Food	**(Re) encourage trade/supply between production or abundance areas and consumption areas** a) Review and develop interstate trade modalities as interstate trade is currently limited and was severely affected by the "disappearance" of Khartoum as a logistics hub. b) Reduce transportation costs, which were mentioned as a key challenge that hampers the trade for surplus to consumer areas. Consider providing subsidies or incentives. c) Leverage humanitarian interventions by encouraging WFP and INGOs to explore local purchase options for food assistance, which can enhance the functioning of local markets in the longer term.	FAO, UNDP, IOM, and the Ministries of Trade and Agriculture	High
6	Food	**(Re) establish supply lines / value chains, especially for fresh produce:** a) Conduct a market access barrier assessment to enhance the functioning of local markets in matching supply and demand across the states. b) Conduct an analysis of the fresh produce supply chain / cold chain. c) Support temporary measures to reduce transportation costs, such as subsidized or facilitated collective transport, which were mentioned as a key challenge hampering the trade for surplus to consumer areas. Bulking and access to market initiatives via farmer groups may offer more permanent solutions.	FAO, UNDP, IOM, and the Ministry of Agriculture	Medium

#	Focus Area	Recommendation	Main Partner	Priority
		d) Leverage humanitarian interventions; fresh food vouchers or cash interventions can enhance the functioning of fresh produce markets in the longer term.		
7	Energy	**Mitigate fuel and food price increases and fluctuation,** especially for vulnerable groups and farmers: a) Stabilize fuel and energy prices via governmental buffer stocks or a voucher system to reduce the impact on HHs and to make agricultural production costs more predictable. b) Stabilize prices of food and essential commodities via temporary governmental interventions. c) Leverage humanitarian interventions by providing fuel and food vouchers and promoting alternative energy, which will reduce the costs for HHs and farmers.	FAO, UNDP, IOM, and the Ministry of Energy and Oil	Medium
8	Energy	**Stimulate the use of alternative energy (e.g. hydro; wind; biomass; biogas) to diversify the energy mix:** a) Stimulate solar or wind power use for agricultural purposes, like irrigation, to reduce the burden of high and unpredictable fuel costs. b) Explore larger-scale energy projects at the community level to support local economies and reduce fuel and production costs for HHs and SMEs. c) Establish supply chains and a maintenance structure for alternative energy to enhance sustainability, lower the running costs, and create local employment. d) Explore new technologies such as biomass and biogas, using residues of existing crops like banana leaves, and vegetable residues.	FAO, UNDP, and IOM	Medium
9	Energy	**Encourage energy-saving** a) Stimulate initiatives to reduce energy use in the agricultural or other sectors, e.g. by replacing older equipment b) Encourage fuel-efficient and clean cooking using stoves that provide innovative solutions to minimize losses and reduce environmental impact in rural areas.	FAO, UNDP, and IOM	Medium

#	Focus Area	Recommendation	Main Partner	Priority
10	Finance	**Explore the possibility of cash-based interventions to boost the local economy and local production and support the local currency (SDG).** This applies to areas where (food) availability is high, and support will not disturb the market. Specific consideration should also be given to challenges in cash liquidation via local banking systems, internet interruption, and inclusion issues of vulnerable and often less literate populations like IDPs, who may lack documentation.	FAO, UNDP, IOM, Ministry of Finance and Economic Planning; the Central Bank of Sudan, and the Agricultural Bank of Sudan	High
11	Finance	**Support the generation of government revenues and budget management to reduce the pressure on the SDG exchange rate and inflation:** a) Consider (in)direct budget support to reduce the burden of the April 2023 crisis—for example, the temporary payment of education or health staff salaries or social safety net structures. b) Support private sector recovery to enhance the generation of tax revenue. c) Support efforts to improve the monitoring and taxation of cross-border trade. d) Stimulate exports of surplus production that was previously sold to Khartoum, as well as cash crops or high-value agricultural produce.	FAO, UNDP, and IOM	Medium
12	Finance	**Increase financial inclusion and access to financial services for those in rural areas, as well as for women and youth:** a) Advocate for a decentralization of the Sudanese banking system. b) Encourage financial services providers, including microfinance agencies, to extend their rural coverage. c) Increase financial support for all farmers and producers by reconsidering the financial procedures currently used in terms of the collateral needed or grantees (which farmers often lack). d) Encourage back financing of private sector investments by a donor or WB. e) Leverage humanitarian interventions; cash assistance provided by UN agencies can be used as an occasion to provide excluded community members with financial access.	FAO, UNDP, and IOM	Medium

#	Focus Area	Recommendation	Main Partner	Priority
13	Basic needs	**Conduct detailed assessments of urban populations to identify their vulnerable sections.**	UNDP and IOM	High
14	Basic needs	**Enhance access to health and medicines:** a) Encourage free medical services and medicines via governmental health centres or international agencies. b) Temporarily pay governmental health staff salaries to enhance the service provision and avoid international migration of health staff. c) Reestablish local production capacity of essential medicines; producers who were previously based in Khartoum might be encouraged to establish production capacity in East Sudan.	UNDP, IOM, and the federal and state Ministries of Health	High
15	Basic needs	**(Re) establish social safety nets, such as conditional cash assistance or school feeding:** a) (Re) establish school-feeding programs to encourage HHs to send children to school, releasing the burden on the HH and enhancing their nutritional status. b) (Re) establish safety nets for vulnerable groups; allowance could be provided for the elderly, widow(er)s, PWDs, and PLWs. c) (Re) establish seasonal safety nets, such as conditional assistance, to bridge the lean season	UNDP, IOM, FAO, and the Ministry of Social Development	High
16	Basic needs	**Ensure a comprehensive and tailored assistance package:** a) Address needs like food, energy, health, WASH, and education simultaneously, as the crises and needs are closely interrelated. b) Align short-term and general development needs; the April 2023 crisis created massive humanitarian needs, which should be addressed with the structural needs of the triple crisis in mind and follow a build-back-better logic. For example, decentralisation of agricultural processing, finances, and government policies may better match the needs and enhance resilience at the state/ locality level. c) Tailor assistance to each state while considering their overall development and needs differences. However, irrigation systems might be largely absent in Kassala and Gedaref; it could simply be a matter of rehabilitating or improving systems.	UNDP, IOM, and HAC	High

#	Focus Area	Recommendation	Main Partner	Priority
		d) Tailor assistance to each state's differences for climate change impact; while water, desertification, and mesquite were issues in Kassala and RSS, they were less so in Gedaref		
17	Basic needs	**Encourage the reopening of schools:** a) Relocate IDPs by finding accommodations other than schools, which are often used as temporary shelters. b) Clean and rehabilitate schools; this could be done via conditional assistance (cash for assets), which creates employment and pumps money into the local economy c) Temporarily pay school staff salaries, supporting the provision of educational services, creating employment, and pumping money into the local economy	UNDP, IOM, UNICEF, and federal and state Ministries of Education	High
18	LH needs	**Protect existing LHs:** a) Restore affected LHs—for example, compensate the losses of productive assets. b) Ensure basic needs, such as food and health, are met in the short term. c) Implement measures to avoid the use of damaging LH coping strategies, like providing preventive food assistance in the lean season to avoid consumption of seeds or animals.	UNDP, IOM, and FAO	High
19	LH needs	**Diversify HH income sources:** a) Restart or strengthen governmental services provision, such as education and health, to create or restore HH income sources for teacher, health staff, and other affected LHs b) Find (temporary) alternative HH income sources for those who have lost their daily labor or private sector job (e.g., cash reconstruction projects with cash for work or cash for training elements). c) Facilitate remittances from abroad by enhancing access to finance	UNDP, IOM, and FAO	Medium

#	Focus Area	Recommendation	Main Partner	Priority
20	LH needs	**Stimulate development and creation of both on- and off-farm agricultural and nonagricultural LHs:** a) Enhance local food processing capacity to replace Khartoum's capacity, enhance value creation, and improve food availability throughout the year. b) Legalize or regulate commonly adopted LH activities that are conducted informally or uncontrolled, such as gold mining and logging, so they can be linked to social services as well. This could be formalized, for example, by means of a permit system. c) Enhance urban employment for host communities and IDPs	UNDP, IOM, FAO, and the Ministry of Agriculture	Medium
21	IDPs and migration	**Establish semipermanent accommodations for IDPs in support of an expected longer stay:** a) Increase the quantity of adequate temporary or semipermanent accommodations to reduce both the social impact at the HH level (freeing the hosting families from the IDP burden) and the community level (e.g., freeing occupied schools or public buildings). b) Improve the quality of temporary shelters so they can become semipermanent accommodations, especially regarding access to basic services and hygiene requirements	IOM and UNDP	High
22	IDPs and migration	**Assess and mitigate the negative impact of IDPs on the host communities to avoid social tensions:** a) Assess and mitigate the impact on water supply for both HH consumption and irrigation. b) Assess and mitigate the impact on the electricity supply. c) Assess and mitigate the environmental impact on natural resources, such as agricultural lands and forests, and the surroundings of temporary IDP sites, such as deforestation, garbage disposal, and open defecation. d) Assess and mitigate the sociocultural impact in terms of HH and intracommunity tensions. e) Establish joint projects targeting both host communities and IDPs to reduce the IDP burden on the communities and to enhance social cohesion.	IOM, UNDP, and FAO	High

#	Focus Area	Recommendation	Main Partner	Priority
23	IDPs and migration	**Mitigate further foreign migration/brain drain by providing basic services and creating LH opportunities.**	IOM and UNDP	Medium
24	Gender	**Conduct gender-specific impact studies or needs assessments:** a) Conduct an in-depth analysis of gender at the community level, especially the gender roles and livelihoods (farm and off-farm) that women are or can engage in, to determine the most appropriate strategies to contribute to their welfare and empowerment. b) Assess the needs of women-headed households, as they were more affected by the crisis and are more vulnerable. c) Assess the impact of hosting IDPs on the intra-HH situation. d) Assess the impact of school closures on the intra-HH situation. e) Assess the impact of school closures on the HH situation and on women's capacity to engage in LH or food production activities. f) Conduct a barrier analysis for women to engage in LH or food production activities. g) Map and address GBV and protection issues.	IOM, UNDP, and FAO	High
25	Gender	**Establish protection and psychosocial support programs:** a) Establish and expand general psychosocial support and referral structures. b) Establish GBV–specific support structures, including case management, protection and safe spaces.	External and protection cluster	High
26	General	**Improve/ increase the availability of up-to-date data:** a) Improve information and statistical databases and stimulate the use of more advanced statistical tools. Data collection needs to be diversified and linked, e.g. using MIS systems. b) Collect up-to-date information on the energy sector, including new technologies and innovations. c) Collect up-to-date information on the financial sector, including new technologies and innovations.	UNDP, IOM, UNICEF, and federal and state Ministries of Education	Medium

#	Focus Area	Recommendation	Main Partner	Priority
		d) Create a comprehensive IDP database with numbers and locations to better support and coordinate interventions that meet their needs. e) Collect data about the food security situation in hard-to-reach areas, which are expected to be some of the worst-affected and acutely food-insecure areas. f) Consider a second phase of the triple crisis study, using the broad range of lessons learnt from the current study.		

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Annex 1. Survey Numbers per Location

Table A1: Respondents in Kassala State by Locality and Village/Block/Cluster					
State	**Locality**	**Block Name**	**Number of HHs Interviewed**	**KIIs**	**FGDs**
Kassala	Kassala	Elhalanga Norh	68	6	2
		Elturaa	45		
		Old Katmea	53		
		Sawagi South	53		
		Seweriba	51		
		Hey Elarab	65		
	Rural Kassala	Fato	43	1	2
		Radef	33		
		Tagug	29		
		We Sharefy (city)	38		
		We Sarefy (Ref camp)	26		
Total	**2**	**11**	**504**	**7**	**4**

Table A2: Respondents in Gedaref State by Locality and Village/Block/Cluster					
State	**Locality**	**Block Name**	**Number of HHs Interviewed**	**KIIs**	**FGDs**
Gedaref	Gedaref Center	Wad Damak	5	5	2
		Al-Firdous	5		
		Al-Thawra Al-Zaraib	7		
		Almousasat 36	6		
		Almousasat 35	7		
		Hai Al Rabiea	10		
		Almidan	5		
		Salama Albi Sharq	6		
		Rowena	3		
		Al-Tadamoun	5		
		El Geneina	1		

Table A2: Respondents in Gedaref State by Locality and Village/Block/Cluster					
State	Locality	Block Name	Number of HHs Interviewed	KIIs	FGDs
		Al-Brno	4		
		Abakr Gabriel	5		
		Al-Khalig	6		
		Riyadh	5		
		Yathrib	5		
		Hai Zayed	4		
		Shikan	5		
		Salama Albi West	8		
		Hai Alshabia	5		
		Taiba	4		
		Al-Aqib	4		
		Maamoura	4		
		Al-Aqib West	3		
		Al-Malik West	5		
		Al-Malik East	4		
		Al-Jabbar East	4		
		Karari	5		
		Al-Thawra Al-Oum	4		
		Al-Seyoul	5		
		Al-Maasir	4		
		Baghdad	4		
		Suakin	7		
		ArKawit	4		
		Al-Rabaa	2		
		Al-Amal South	4		
		Al-Amal North	5		
		Al-Janien	4		

Table A2: Respondents in Gedaref State by Locality and Village/Block/Cluster					
State	Locality	Block Name	Number of HHs Interviewed	KIIs	FGDs
		Al-Moforgaat	5		
		Deem Saad	2		
		Dem Al-Nour South	6		
		Abayo North East	5		
		Apayoa southwest	5		
		Abayoa Wasat	3		
		Al-Nazir	4		
		Karfs	4		
		Ishlaq Alsejoon	6		
		Al-Soufi Al-Azraq	6		
		October northwest	6		
		October East	5		
		Al-Sika Hadid	4		
		Al-Sadqa West	5		
		Hai Shuhada	4		
		Al-Jamarik	10		
		Badr	4		
		Abbasiya	8		
		Al-Jamhoria South	9		
		Altatir	7		
		Al-Sadaqa East	7		
		Al-Matar East	8		
		Al-Jamhoria North	7		
		Al-Nasr	2		
		Al-Manara	16		
		Al-Rashideen	5		
		Al-Boqaa	1		

Table A2: Respondents in Gedaref State by Locality and Village/Block/Cluster					
State	**Locality**	**Block Name**	**Number of HHs Interviewed**	**KIIs**	**FGDs**
		Al-Danakla	3		
	Eastern Qalabat	Duka City	84	1	2
		Wad El-Shagarah	18		
		Rashid	32		
		Tawarit w Om Rakuba Al-Hila	12		
Total	**2**	**70**	**486**	**6**	**4**

Table A3: Respondents in Red Sea State by Locality and Village/Block/Cluster					
State	**Locality**	**Block Name**	**Number of HHs Interviewed**	**KIIs**	**FGDs**
Red Sea	Port Sudan	Alexandria	14	5	2
		Al-Safa neighborhoods	3		
		Dar Al-Neaeem neighborhood	9		
		Dar El-Salaam neighborhoods	13		
		Deem Al-Nour neighborhood	38		
		Dem Arab	13		
		Dem Suakin neighborhoods	11		
		El-Ingaz neighborhood	10		
		El-Mataar neighborhoods	40		
		El-Sadaqa neighborhood	9		
		El-Shahinat	5		
		Habila	16		
		Salalab	139		
		Walali	71		
	Sinkat	Al-Anqab neighborhoods	43	1	2
		Delb neighborhood	33		
		El-Salam District	29		

Table A3: Respondents in Red Sea State by Locality and Village/Block/Cluster					
State	**Locality**	**Block Name**	**Number of HHs Interviewed**	**KIIs**	**FGDs**
		Tikrit neighborhoods	38		
Total	**2**	**18**	**498**	**6**	**4**

Annex 2: Suggestions and recommendations of the workshop participants, held on 8 January 2025 in Port Sudan

Sector	Recommendations
Food	Nutrition should be included in the education curriculum and also in health education in terms of nutritional value.
	The cultural habits of the people should be gradually changed to optimize the consumption of local food.
	The agricultural sector should be modernized with high-yielding varieties to make the country self-sufficient and enable export.
	Information systems and statistical databases should be improved in the country. MIS/advanced tools should be used for information gathering on time and with accuracy.
	Markets should be integrated to increase the efficiency of operations. Values chains should be strengthened and expanded.
	Smuggling of food to neighbouring countries should be stopped or at least regularized to determine the food availability with in the country.
	Crops taxes in addition to 10% zakat, especially for rain fed crops will affect the farmers' benefit as many farmers abandoned the farming activity and moved to other jobs and business.
	Encourage the private sector to invest in value-chain projects in agriculture and animal resources.
	Support women community and backyard gardens.
	The government can contribute to providing land to IDPs to practice farming activities and to lift them from being recipients of humanitarian support to self-reliance and can contribute to food and nutrition security.
	Empower small-scale farmers and developing climate-resilient crops and value chains to ensure food security.
	There should be water resource management for increase in crop production and reducing water wastage.
Energy	Diversify energy strategy using energy mix like hydropower, solar, wind and biogas/biomass energy.

Sector	Recommendations
	Promote joint ventures with the private sector including NGOs to improve the availability of energy, like the private-public partnerships (PPP).
	Use renewable/green energy should be encouraged at the household level.
	The agricultural wastes like banana leaves, fruits and other vegetable residuals should be used as biogas energy.
	The domestic cooking stoves should be more energy efficient to minimize losses and improve the environment.
	Conduct a study to determine the magnitude of damage from the increased use of wood and charcoal and construction materials to the green cover by giving adequate weight and quantification and also suggestions for mitigation measures.
	In food sector the use of alternative energy sources of clean energy instead of expensive source of fuel or electricity should be encouraged, especially in crops production.
Finance	The latest financial information system should be developed to provide timely and accurate information on the financial sector.
	Provision and increase of financial support to all farmers and producers should be ensured by simplifying or waiving off the collateral and/or guarantees.
	Awareness raising program about the use of digital financial tools.
	Independent financial institutions should be established to facilitate the people.
	Removal of restrictions on financial services and minimizing constraints to provide easy access to small-scale farmers and SMEs.
	More focus should be on attracting external financial institutions to provide financial services to all agriculture and non-agriculture sectors and special focus should be given to our funding institutions to finance the telecommunications infrastructure and upgrade the SMEs through technology.
	Formation of groups/committees and registration of farmers in agribusiness to facilitate their benefits from bank loans and grants.
Migration/IDPs	Higher education institutions should be directed to enroll IDP students in the respective states.
	Healthcare activities for IDPs and refugees living in camps should be adequately arranged, especially for children and women.

Sector	Recommendations
	The capacity of IDPs should be developed in livelihood activities like agriculture and knowledge in health and WASH sectors.
	Special projects should be designed for IDPs in the hosting states to create income sources for them.
	IDP statistics by location should be updated and improved. Establish database for IDPs/refugees to count the numbers their presence in order to provide support and assistance to them
	Humanitarian assistance should be coordinated between the government and donors for better results.
	All stakeholders should enable the safe return of the IDPs and refugees to their homeland.
Gender	An in-depth study on the gender situation in the community and the role played by each of them should be undertaken. The role of gender in livelihoods including SMEs and animal raising and non-farm interventions leading to women empowerment needs to be analyzed.
	Women headed families faced many problems, especially in crisis, thus, there should be targeted interventions for the women socio economic empowerment,

Suggestions

1. Similar to agriculture production, livestock, fisheries, forestry and aquaculture should also be included in food sector assessment.
2. Water from different sources needs to be integrated into the livelihoods sector.
3. Water availability across the 3 states and rainwater harvesting should also be part of the study.
4. A study on the variability of climatic conditions affecting crop production should also be carried out.
5. The biological diversity in terms of crop production in the three states and cultural and dietary diversities across the three states need to be studied. The cultural diversity including norms and traditions and food eating habits need to be considered in the diet of all people in the 3 states.
6. Consider/recommend a second phase of this very important and highly relevant study, using the broad range of lessons learnt throughout the exercise that took rather a long time. Suggest having a sub-section on the food security situation of the hard-to-reach and worst affected acutely food insecure areas.

Annex 3: List of Workshop participants

Name	Employer	Position
Dr. Siddig Abdallah Talha	Ministry of Energy & petroleum	Policies & Planning manager
Mohamed Awad Eljack	Ministry of Energy & petroleum	General director of energy affairs
Abbas Ahmed Elzubair	Ministry of Energy & petroleum	General director of technology
Mohamed Elhafiz	Ministry of Finance	UN agency department
Moheyeldeen Taha	Red Sea University	Deputy dean
Khalid ismael	Ministry of Finance	Manager assistant
Motaz Osman Adam	Ministry of Finance	Manager
Abdelrahman Ali Isshac	FAO	Technical Advisor
Mohamed Idres	ECFTR+RSU	CEO
Mohamed Arabi	Central Bank of Sudan	Economist
Fathi Mohamed	Red Sea University	Associate professor
Ibrahim Omda Khatir	Ministry of Finance	Director
Elamin Ahmed Abulgasim	MOFEP	Director
Elfadil Ahmed	MOAF/NFRC	Research professor
Samah Ismael Mohamed	Red Sea University	Lecturer of economics
Fatima Mustafa	Red Sea University	Associate prof- department of finance
Risa seed Tamor	Ministry of agriculture	N/A
Amal Babikir	Ministry of agriculture	International department
Wafa Mohamed Ahmed	Ministry of agriculture	Researcher
Abdelmoniem Awad	Ministry of Social Development	General Director

Name	Employer	Position
Monzir Adil	249 startups	Sr. Marketing Advisor
Tawheed Eltahir	Ministry of industry	Industrial Inspector
Imad Khatmi Mohamed	Ministry of Industry	Director
Khidir salih osman	Red Sea University	Dean Faculty of Finance
Salah Eldien Mohamed	Red Sea University	Teaching staff
Musa Abdalla saeed	Red Sea University	Staff member
Tariq Moheyeldien	Q.C	Director
Hashim Mustafa	Q.C	
Omer Ibrahim	i-APS	Data Analyst
Mohamed Elamin Yousuf		Coordinator
Mohamed Salih	i-APS	Deputy Country manager
Fatima Saad	i-APS	Operations & Log officer

Participants join

Name	Employer	Position
Almutaz Angabo	UNRCO-Sudan	Associate Development Coordination Officer
Ena Osman	IOM-Sudan	Engineer
Wolde Abbute Selassie Deboch	FAO-Sudan	Technical Specialist
Gamal Osman	UNDP-Sudan	
Nouralla Ahmed	UNDP-Sudan	
Khalid Latif	CTC group	
Awatif Tagir	UNWOMEN-Sudan	
Nadia Hamid	UNDP-Sudan	
Banaga Elfaki	FAO-Sudan	
John Anodam	UNDP-Sudan	
Amira Elrawi	Ministry of Agriculture Sudan	Director of Food Security Technical Unit
Mohamed Kharif	FAO	
Amal Mahjoub	UNICEF	
Noor Ahmed	FAO-Sudan	