



SUDAN



Livelihoods in Sudan Amid Armed Conflict

Evidence from a National Rural Household Survey

A joint socioeconomic impact assessment by:
the International Food Policy Research Institute (IFPRI) and
the United Nations Development Programme (UNDP)

EXECUTIVE SUMMARY

Analysis of a comprehensive survey of Sudanese rural households conducted from November 2023 to January 2024 by IFPRI and UNDP reveals significant socioeconomic impacts of the ongoing armed conflict on the Sudanese population, underscoring the need for immediate and targeted policy and programmatic interventions. The conflict has severely disrupted rural household incomes and exacerbated existing vulnerabilities related to their housing and access to infrastructure and services. Most households live in inadequate housing conditions, 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.

The conflict, primarily concentrated in urban areas, particularly Khartoum, has triggered mass migration, with significant numbers relocating to states like Aj Jazirah and Gedaref. These migrants, often from relatively better-off backgrounds, face substantial income losses, necessitating basic needs support and enhanced provision of public services, particularly for the large families that are more likely to migrate.

Agriculture, a critical sector for rural livelihoods, has been significantly affected across all states. Most households reported not cultivating land during the summer season of 2023 due to the conflict. The sharp reduction in the area of crops planted underscores the need for support for farming activities, particularly for smallholder households.

The survey highlights extensive exposure to shocks among rural households, with personal shocks, such as illnesses among household members, being the most common. Natural and climatic shocks, although less prevalent, alongside conflict-related shocks, like theft and violence, emphasize the complex challenges faced by these communities.

Market access and disruptions have further impacted rural households, with a considerable proportion of rural households unable to sell or buy goods, primarily due to high prices and sharp reductions in income for most households. These market challenges, coupled with the overall economic instability, necessitate interventions aimed at maintaining and improving market accessibility and functionality to promote recovery and resilience.

The findings from the analysis of the survey data lend support to designing and implementing comprehensive strategies that address the immediate needs of displaced populations and other rural households affected by income losses and market disruptions. Enhancing public services, supporting livelihoods, building resilience through shock-responsive social protection systems, agricultural and economic interventions, and ensuring equitable access to resources and markets for all households, particularly those headed by women and vulnerable groups, are the principal policy recommendations that emerged from this analysis.

This study of rural household livelihoods amid the armed conflict in Sudan provides a foundation for targeted interventions and policy reforms aimed at mitigating the conflict's impacts and fostering long-term resilience and economic stability.

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1) INTRODUCTION

On April 15, 2023, Sudan was thrust into turmoil as the Sudanese Armed Forces and the Rapid Support Forces engaged in armed conflict. This conflict started in Khartoum but rapidly extended to the Darfur and Kordofan regions before impacting every state in the nation to varying degrees. A year into the conflict, Sudan finds itself in one of the most significant crises on a global scale, with profound effects on its social and economic structures. This turmoil has disrupted the lives of countless individuals and communities, tearing apart the economic and social fabric that binds the nation.

By mid-March 2024, casualties were staggering, with almost 15,000 people dead and over 27,700 injured (ACLED 2024, OCHA 2024). Displacement has reached a crisis point, with more than 8.5 million people displaced, 6.5 million of whom are within Sudan's borders, marking the conflict in Sudan as the largest displacement crisis worldwide (UNHCR 2024). The majority of internally displaced persons (IDPs) come from Khartoum and Darfur, seeking refuge in numerous locations, but primarily within the Darfur Region and along the River Nile (OCHA 2024). Women, who comprise about 69 percent of IDPs, bear the brunt of the crisis, facing displacement, gender-based violence, and loss of livelihoods and lives (UN Women 2024). An estimated 24.8 million people are in dire need of humanitarian assistance in 2024, nearly half of whom are children (OCHA 2023).

The conflict has not only resulted in a loss of life and displacement but has also devastated infrastructure, including healthcare and water supply systems, and disrupted essential services, such as education, electricity, and communications. Healthcare access is alarmingly low, with 65 percent of the population reportedly unable to access medical services and between 70 and 80 percent of health facilities non-operational due to the conflict (OCHA 2024). Education has also been hit hard, with nine out of ten displaced households indicating that educational services are no longer available in their areas of displacement (OCHA 2023).

The conflict's impacts extend beyond immediate human suffering to also affect poverty and livelihoods in the longer term by destroying assets, limiting access to essential services, and reducing the workforce through death or injury. This disruption of economic activities leads to unemployment, inflation, and the collapse of social safety nets, exacerbating the vulnerability of the population to poverty.

The situation in Sudan may echo findings from other conflict-affected regions, where conflict aggravates the impact of economic shocks and undermines the capacity of households to cope with adversities, further entrenching poverty. For instance, in Afghanistan, D'Souza and Jolliffe (2013) observed that conflict exacerbates the impact of economic shocks, such as food price spikes, on vulnerable populations. Their findings underscored that higher levels of conflict are associated with larger declines in food security, as conflict limits households' ability to cope with economic adversities. Similarly, Goodhand (2001) noted that conflict has a more severe impact on poverty than other external shocks, primarily due to the deliberate destruction of livelihoods. Chronic insecurity fosters chronic poverty, with impacts varying significantly across different demographics, including sex, age, ethnicity, and region. This variability underscores the multifaceted nature of conflict's impact on poverty. The Rwandan genocide of the 1990s provides a stark example of how conflicts can reshape poverty dynamics across a country. Justino and Verwimp (2012) found that the violent events of the

1990s significantly impacted household poverty, particularly in provinces that were previously better off. The destruction of houses and loss of land were critical factors that increased the likelihood of falling into poverty, showcasing the direct ties between conflict-induced shocks and poverty.

Justino (2009) further explored the relationship between conflict and household economic status, revealing an endogenous relationship where the poorer a household is at the conflict's onset, the higher the probability of its participation in or support for armed groups. This finding emphasizes the vicious cycle between poverty and conflict, where vulnerability to poverty and violence increases the likelihood of households supporting armed groups, further destabilizing the region and perpetuating poverty.

Households in conflict zones resort to various coping and livelihood strategies to survive, ranging from altering dietary intake to selling assets, borrowing money, engaging in new income-generating activities, migrating, or relying on community support and humanitarian aid. However, these strategies often have detrimental long-term effects, trapping households in cycles of vulnerability and dependency. For instance, in Western Bahr el Ghazal state in the Republic of South Sudan, to cope with food insecurity, households employed strategies that included sending members to eat elsewhere; engaging in fishing, hunting, or gathering wild foods; selling animals or assets; borrowing money; and even migrating entirely (Sassi 2021). In Afghanistan, women and men adopted different problem-solving options in the face of conflict—women were more likely to seek income-generation opportunities, while men focused directly on meeting their food security and housing needs in-kind (Cardozo, et al. 2005). This sex differentiation in coping strategies underscores the importance of considering diverse household roles and preferences when assessing adaptive strategies.

The effectiveness of these coping strategies varies significantly across contexts. While some strategies may temporarily alleviate the impact of conflict on household welfare, they often have long-term negative consequences. For instance, selling productive assets or livestock can provide immediate relief but diminishes future income-generating potential, trapping households in a cycle of vulnerability and dependency (Ndip and Touray 2019, Sassi 2021). Moreover, strategies like reducing food intake, withdrawing children from school, or engaging in risky occupations can have detrimental effects on the health and the future educational progress of household members, further exacerbating poverty and vulnerability (Shemyakina 2022, Olanrewaju and Balana 2023).

The conflict in Sudan poses a significant threat to food security, particularly in areas of the country economically reliant on agriculture (Ndip and Touray 2019). In Nigeria, households facing conflict-induced shocks resorted to negative coping strategies, such as consuming less nutritious food, which exacerbated the severity of food insecurity and deteriorated dietary diversity (Olanrewaju and Balana 2023).

The studies highlight a critical insight—while coping strategies are essential to households for their immediate survival in conflict zones, they often compromise long-term well-being and resilience. The effectiveness of these strategies is contingent upon the severity and duration of the conflict, the initial socioeconomic status of the household, and the availability of external support, such as humanitarian aid. In contexts where conflict is protracted, as in South Sudan, the continuous reliance on coping mechanisms erodes households' resilience, leading to a vicious cycle of food insecurity and conflict (Sassi 2021). This scenario contrasts with situations where conflicts are relatively short-lived or where significant external support

is available, as seen in some regions of Afghanistan and Gaza (before the current war), where households may better maintain their livelihoods and food security through adaptive strategies (Cardozo, et al. 2005, Brück, D'Errico and Pietrelli 2019).

The interplay between conflict and food security is also a critical concern in Sudan, particularly in regions where agricultural output and supply chains form the backbone of local economies and sustenance. Violence and displacement are disrupting agricultural activities, reducing domestic food supply, and raising prices, while increasing vulnerability to further shocks, including those induced by climate change. Between October 2023 and February 2024, about 37 percent of the Sudanese population, or 17.7 million people, were driven into high levels of food insecurity classified as Integrated Food Security Phase Classification (IPC) Phase 3 or above (crisis or worse) (OCHA 2024).

The supply of food has been driving up prices across Sudan and is likely to worsen in the next few months. A study done by IFPRI in 2023 showed that about one-third of the over 3,000 farmers surveyed were displaced from their locations. Most of the 40 percent who were unable to prepare for the planting season because of the conflict were not intending to plant later in the season. This was mainly due to the lack of finance for buying agriculture inputs or hiring labor, compounded by bad weather conditions and the poor quality of local seed varieties, among other factors (O. Kirui, et al. 2023a). Prices of cereals significantly increased between April and November 2023, especially in areas heavily affected by the conflict. Sorghum prices increased by 122 percent in the El Fula market in West Kordofan, and similar patterns were observed in several states, including those not directly affected by conflict (WFP 2023). Harvests in 2024 are projected to be significantly below average in the Darfur and Kordofan regions—these areas account for about 40 percent and over 80 percent of the national production of sorghum and millet, respectively. The anticipated lower harvests are likely to further increase grain prices compared to prices in 2023, possibly by double (OCHA 2024).

This report, based on the Sudan Rural Household Survey 2023, which was conducted by IFPRI and UNDP, assesses the socioeconomic impact of the conflict on rural Sudanese households. Multiple dimensions of their livelihoods and welfare are examined, including their income and employment, food security, access to markets, household assets, and vulnerability to shocks. The findings underscore the comprehensive adverse effects of the conflict across various facets of Sudanese lives and livelihoods. The detailed analysis can inform targeted policy and programmatic interventions to support affected communities.

The outline of this report is as follows. Chapter 2 describes the survey design, sampling strategy, and its implementation. Chapter 3 provides a demographic profile of rural households in Sudan based on the survey data. Chapter 4 examines household income and economic resilience; Chapter 5, food security; Chapter 6, household assets; Chapter 7, market performance and challenges; and Chapter 8, the incidence of various shocks on rural households. Finally, Chapter 9 presents a synthesis of the analyses and provides recommendations for policy and programmatic interventions.

2) METHODOLOGY

This chapter describes critical elements of the design and implementation of the Sudan Rural Household Survey 2023. It elaborates on the sample design, sample determination, sampling strategy, enumerator training, data collection, and the adaptation strategies employed to address implementation challenges.

2.1 Survey design and sample size determination

The Sudan Rural Household Survey 2023, conducted in the midst of a significant national conflict, employed a computer-assisted telephone interview (CATI) methodology to overcome data collection challenges in conflict settings. This approach ensures the continuation of research activities under crisis conditions through permitting a wider set of innovations to respond to and overcome barriers to research in conflict-affected regions. The CATI methodology is pivotal for its adaptability and potential for generating timely insights crucial for planning and response in dynamic contexts. CATI was appropriate for generating information from the survey households on their food security, coping strategies, employment and income, livelihoods, and exposure to shocks.

The sample size for the survey was determined at 4,504 households to allow for the drawing of state-level and national inferences from the analyses. The sample was distributed across states based on their share of Sudan's total population, ensuring a representative cross-section of the Sudanese populace (Table 2.1). This sample size allows for the detection of a 2 percentage point change in poverty incidence as being statistically significant.

Table 2.1 Share of Sudan's population and number of sample households by state

State	Sudan's population living in state in 2014, percent	Sample households in state	
		number	percent of total
Khartoum	13.8	621	13.8
Central Darfur	1.8	81	1.8
East Darfur	3.0	135	3.0
North Darfur	7.4	333	7.4
South Darfur	7.6	342	7.6
West Darfur	3.3	149	3.3
North Kordofan	6.7	302	6.7
South Kordofan	2.8	126	2.8
West Kordofan	6.0	270	6.0
Sennar	3.9	176	3.9
Aj Jazirah	15.6	702	15.6
Blue Nile	3.9	176	3.9
White Nile	5.2	234	5.2
Northern	2.5	113	2.5
River Nile	4.0	180	4.0
Gedaref	5.1	230	5.1
Kassala	4.3	194	4.3
Red Sea	3.1	140	3.1
Total	100.0	4,504	100.0

Source: Authors' compilation.

Note: Sample households are those for which telephone numbers were obtained. The full sample was achieved after an extension of the survey period and repeated calls.

Being more heavily populated than other states, Aj Jazirah, Khartoum, South Darfur, North Darfur, and North Kordofan have the largest sub-samples by state. Over half of the survey respondents (51.1 percent) reside in these five states.

2.2 Sampling strategy

The survey adopted a strategic approach to sample selection, leveraging a database of telephone numbers linked to previous Food Security Assessment Surveys of the World Food Programme (WFP). The WFP database included 29,724 telephone contacts located mainly across rural Sudan. A random stratified sampling method was employed, utilizing the states for stratification. Within each state, respondents were selected with equal probability, ensuring the representativeness of our sample at the state level. The survey's sampling strategy involved selecting sample members from a list of households or individuals with telephone numbers. The distribution across states was based on their share of Sudan's total population. The sampling frame was complemented by the data collection company's telephone number database, particularly in states where the WFP database was insufficient. The survey company provided an additional 24,800 telephone contacts. This sampling approach was favored because it would allow for the utilization of WFP pre-conflict data for comparisons to the situation before the conflict broke out, where possible.

Although WFP's database is representative across localities and states, a caveat is needed here as we acknowledge the potential for sample bias that may result in exclusion from the sample of poorer households or households without telephone numbers. Hence, the results of some socioeconomic outcome variables might be underestimated or overestimated depending on the type of variables. For example, the survey may underestimate negative outcomes (from a development perspective), such as poverty and food insecurity, while overestimating positive outcomes, such as asset ownership or employment.

2.3 Enumerator training and data collection

A team of 34 enumerators, along with two supervisors, underwent comprehensive training to prepare for the survey. Training focused on the principles of interviewing, professional and ethical standards, and an in-depth review of the survey instrument. The training was conducted virtually, emphasizing the use of Sudanese Arabic to align with respondent demographics. Data collection commenced on November 9, 2023, with enumerators employing the CATI application to facilitate efficient and accurate data entry. The application facilitated a seamless flow to the survey process, real-time data monitoring, and quality checks, ensuring the integrity and validity of the collected data. The process included mechanisms for respondent opt-in and scheduling, ensuring respectful and effective engagement. The survey was concluded in the first week of January 2024.

2.4 Implementation challenges

The survey faced several challenges, including translation and cultural adaptation, data collection in remote areas, respondent displacement, incentivizing participation, and network instability. Each challenge was met with adaptive strategies, such as extending data collection periods, enriching the contact pool, and providing incentives to the respondents.

These efforts underscored the complex realities of conducting survey research in conflict-affected areas and the importance of flexibility and innovation in overcoming these obstacles.

3) DEMOGRAPHIC PROFILE AND MIGRATION DYNAMICS

Conflict significantly influences household demographics and migration patterns, leading to changes in family structures, displacing populations, and causing demographic shifts through both internal and external migration. Buvinić et al. (2012) observe that these demographic transformations, prompted by sex-specific mortality and morbidity, affect marriage and fertility patterns. This shift can create new avenues for political participation among groups previously marginalized. Households respond to these changes by adjusting marriage and fertility rates, engaging in migration, and redistributing labor across their members. Stress and separation can lead to a decline in fertility, altering the social fabric of communities. Conte and Migali (2019) associate the intensity and geographical reach of conflict-induced lethal violence with an increase in asylum applications, indicating how the severity of conflict alters perceptions of threat and influences forced migration patterns. Beyond direct violence exposure, economic and political instability also drives forced international migration.

Seven (2022) contests the view that migration during civil conflicts is purely a reaction to violence, proposing that individuals exert agency in their decision-making. Even amid violence, the aspiration for a better future may motivate some to remain, suggesting that migration responses to conflict are shaped by personal choices and perceptions rather than being strictly deterministic. Ekoh et al. (2021) examine the effects of displacement on family structures and roles in Nigeria, showing that displacement can drastically undermine the family's ability to care for its older members. The erosion of family support networks due to displacement and loss underscores the deep impact of conflict-induced displacement on familial and social bonds.

Raleigh (2011) discusses how conflict, poverty, and indirect factors like livelihood vulnerability and ecological instability influence migration in developing countries. Conflicts frequently arise in areas where communities are dependent on natural resources, making them susceptible to both conflict and environmental shifts. This situation points to a complex relationship between conflict, economic uncertainty, and migration, with civilians facing multiplied risks.

Birch, Carter, and Satti (2024) delve into the socioeconomic consequences of conflict in Sudan, highlighting the sustained marginalization of peripheral areas and exploitation by politically influential elites. This scenario fuels ongoing political instability and conflict, perpetuating interregional disparities and shaping migration tendencies. The degradation of socioeconomic and educational infrastructure aggravates the difficulties faced by families and communities, prompting shifts in household demographics and migration behaviors.

These insights shed light on the intricate effects of conflict on household demographics and migration patterns. The dynamics of displacement, alterations in family structure, and demographic shifts underscore the intricate connections between conflict, economic circumstances, and individual decision-making. Recognizing these patterns is vital for addressing the needs of populations impacted by conflict and for crafting focused interventions to aid displaced and at-risk groups.

3.1 Demographic characteristics of the respondents

This section considers the demographic composition of rural households in Sudan, focusing on age, sex, the relationship of individuals to the household head, and education levels.

Men make up 87 percent of household heads (Table 3.1). Within the hierarchy of household members, 46 percent of those surveyed identify as heads of households, followed by spouses (25 percent), children (sons or daughters) at 16 percent, and smaller percentages comprising of parents or parents-in-law and siblings. Most household heads are married.

Table 3.1 Main demographic characteristics of rural households

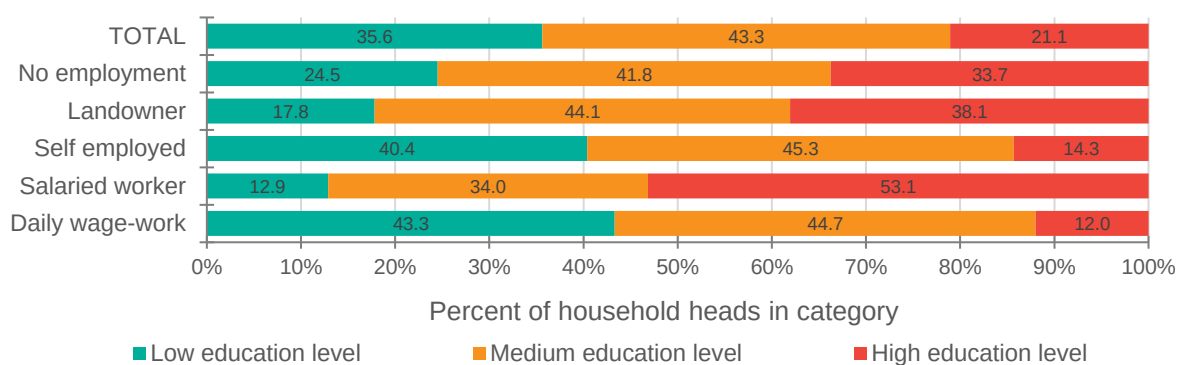
Variables	Total	Men	Women
Sex of household head, percent	100.0	87.0	13.0
Educational level of household head, percent			
Low education level	35.6	36.8	34.3
Medium education level	43.4	43.0	43.7
High education level	21.1	20.1	22.0
Marital status of household head, percent			
Single [never married]	9.0	10.5	7.4
Married	85.7	87.9	83.4
Widowed	3.9	1.0	6.8
Divorced/separated	1.4	0.5	2.3
Age of household head, years			
Mean	35.7	38.7	32.6
Q1, 25th percentile	25	28	24
Median/Q2	34	37	30
Q3, 75th percentile	44	48	40
Relationship to household head, percent of individuals			
Head	45.9	78.5	12.4
Spouse	25.1	3.8	46.9
Son or daughter	16.3	11.8	21.0
Son-in-law or daughter-in-law	0.2	0.0	0.4
Grandchild or great-grandchild	0.1	0.0	0.1
Parent or parent-in-law	5.1	2.6	7.6
Brother or sister	6.0	2.8	9.4
Grandparent	0.0	0.0	0.0
Adopted or fostered or stepchild	0.2	0.0	0.4
Other relative	1.0	0.4	1.7

Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

The average age across the sample is 36 years, with a median of 34 years (Table 3.1). Notably, one-quarter of heads of households are under 25 years of age, and three-quarters are under 44 years. Other analysis of the survey data shows that households with younger heads are slightly more inclined to live in areas of high conflict intensity—the average age of the household head in high-conflict zones was 35 years, compared to 37 years in lower-conflict zones.

The education variable for household heads, classified into three categories based on years of schooling completed, reveals that just over one-third possess a low level of education (Table 3.1). In contrast, 43 percent have obtained a medium level, and 21 percent have a high level of educational attainment. When disaggregated by sex of the household head, female heads of household are found to have achieved a marginally higher level of education than men.

Figure 3.1 Education level of household heads, by employment status

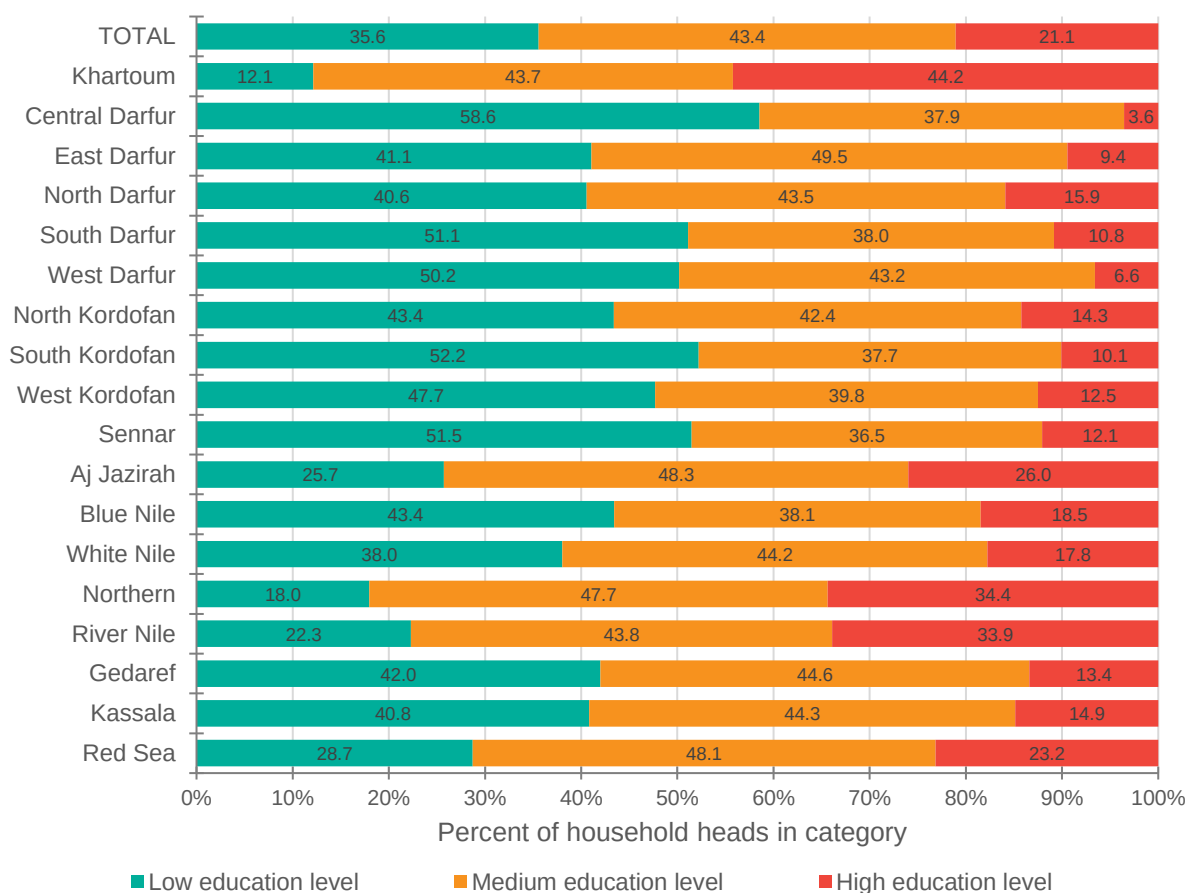


Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Figure 3.1 illustrates the relationship between employment status and educational attainment among household heads. Daily wage earners tend to have low levels of education—only 12 percent hold a high level of education. In contrast, salaried employees predominantly have higher education, with only 13 percent of household heads with salaried employment having only a low education level. Self-employed individuals show a fairly balanced distribution across low and medium educational attainment levels, while few have a high level of education. Landowners tend to have medium or high levels of education. Surprisingly, those without employment or income were found to be least likely to have a low level of education—most household heads who reported being unemployed had achieved a medium or high level of education.

Geographically, educational levels vary significantly across states (Figure 3.2). Khartoum boasts the highest proportion of highly educated household heads, while Central Darfur has the lowest. Conversely, Central Darfur records the highest share of household heads who only achieved a low level of education, while Khartoum has the lowest share. This distribution underscores the significant disparities in educational attainment and employment status within the population, influenced by both geographical location and the nature of employment.

Figure 3.2 Education level of household heads, by state



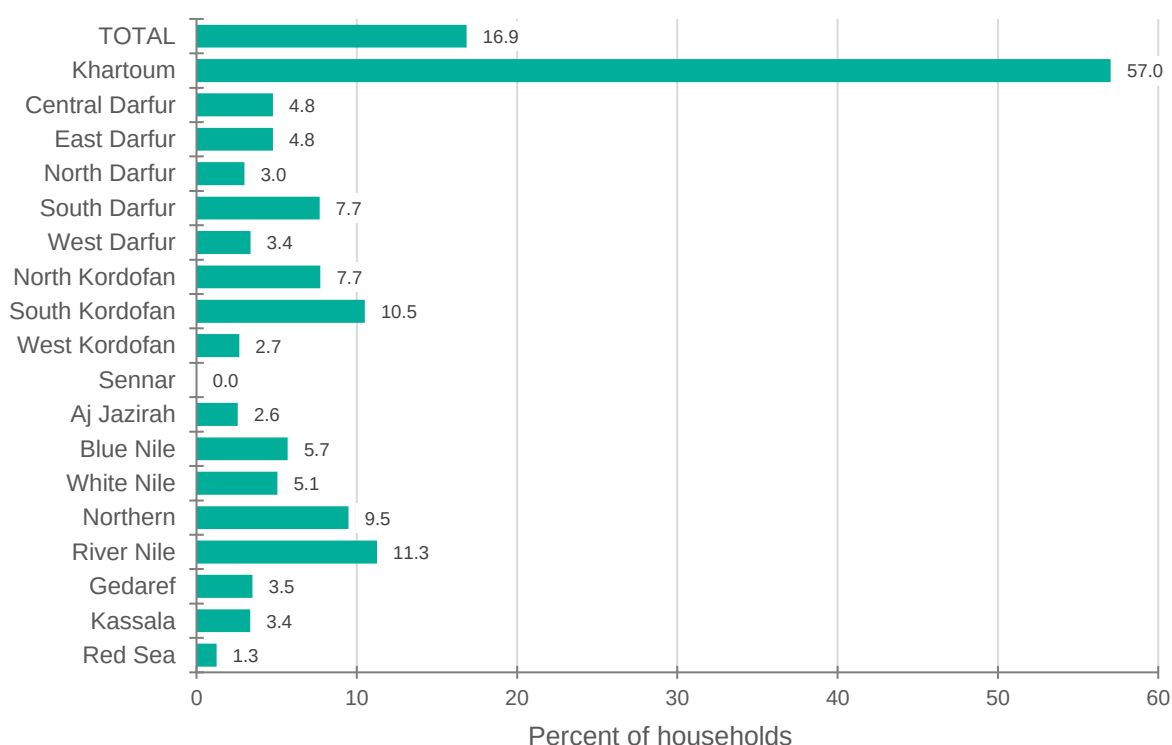
Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

3.2 Residential changes and migration

In this section, we delve into the migration dynamics triggered by the conflict, scrutinizing both pre-conflict location of residence and migration patterns during the conflict along with the characteristics of migrating households.

Figure 3.3 presents the proportion of households that relocated to a different state, categorized by their pre-conflict domicile. Notably, Khartoum experienced the highest rate of outmigration, with a striking 57 percent of its households relocating during the current conflict, marking it as the state with the most significant displacement. River Nile, South Kordofan, and Northern states also saw considerable movement, albeit at a much lower scale compared to Khartoum. North Kordofan and South Darfur also accounted for a notable share of the migrating households, illustrating the diverse geographic spread of migration patterns across the country.

Figure 3.3 Households that migrated to another state since April 15, 2023



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Among households that migrated, 79 percent were originally from Khartoum, making it the principal source of migration. Aj Jazirah was the top destination, attracting 31 percent of all migrants. This was followed by White Nile and River Nile, each hosting about 8 percent of the migrant households, with Sennar and Gedaref each welcoming 6 percent.

Table 3.2 delineates the destination choices of migrating households from the ten states with the highest reported levels of household migrating. Specifically, 37 percent of households that left Khartoum found their new homes in Aj Jazirah, i.e., 21.1 percent of the 57.0 percent of households that left Khartoum. River Nile and White Nile states both received just under 9 percent of households that left Khartoum. Sennar and Northern states received a smaller share of households that migrated from Khartoum, with the rest of the migrant households from Khartoum dispersing to most other states in small numbers. Migration from other states than Khartoum was less pronounced, at 10 percent of households or lower, without a predominant destination emerging for these migrants.

Table 3.2 Destination state for households that migrated from the ten states with highest levels of migration reported, percent of all households

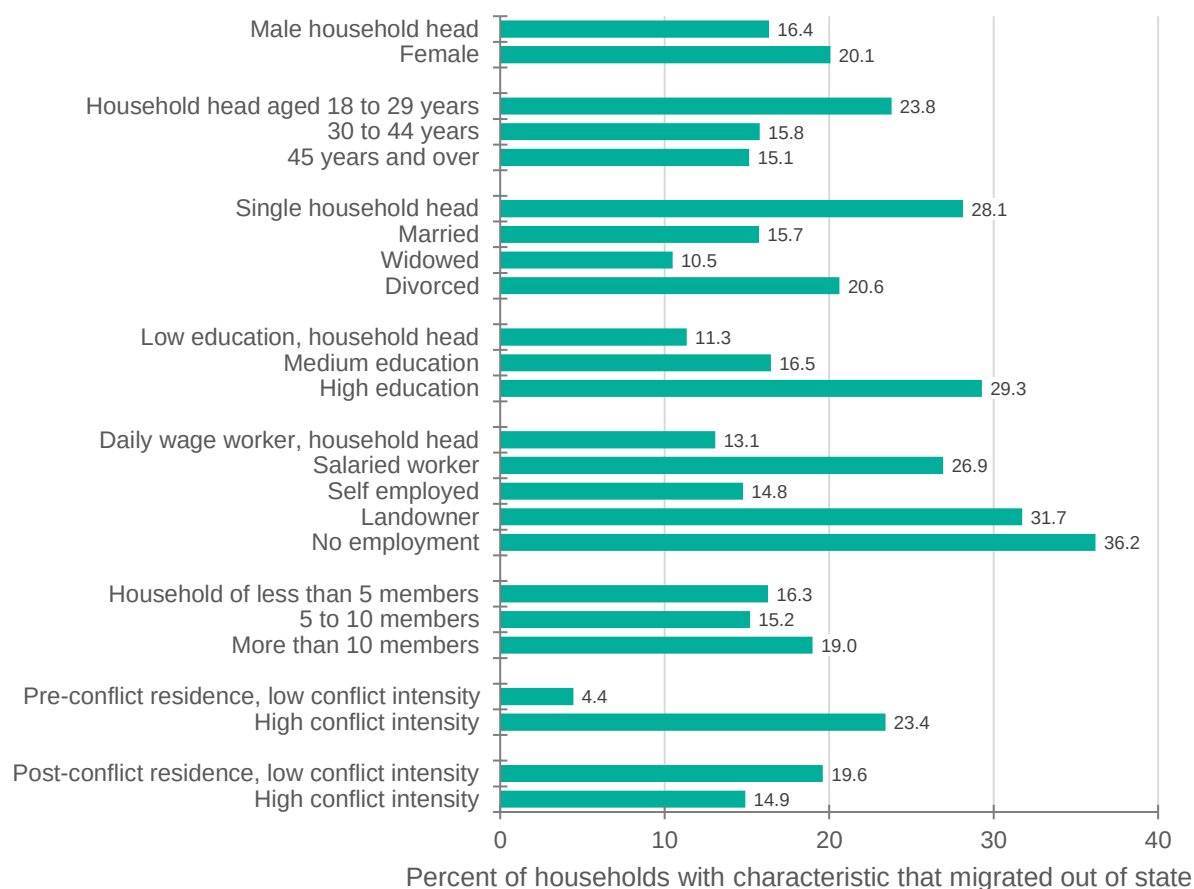
Destination state	State of origin									
	Khartoum	Central Darfur	East Darfur	South Darfur	North Kordofan	South Kordofan	Blue Nile	White Nile	Northern	River Nile
Khartoum	NA	--	--	1.0	1.5	--	--	--	--	1.6
Central Darfur	--	NA	--	--	--	--	--	--	--	--
East Darfur	1.0	--	NA	0.7	--	--	1.1	1.0	--	--
North Darfur	1.9	--	1.4	2.2	--	--	--	--	--	--
South Darfur	1.8	4.8	--	NA	0.8	--	--	1.0	--	--
West Darfur	0.5	--	--	--	--	--	--	--	--	--
North Kordofan	1.7	--	--	0.7	NA	4.8	--	--	4.7	--
South Kordofan	0.6	--	--	--	1.6	NA	--	--	--	--
West Kordofan	1.2	--	1.9	0.8	2.3	2.8	--	--	--	--
Sennar	4.0	--	--	0.8	--	--	2.3	1.1	--	1.7
Aj Jazirah	21.1	--	1.5	0.8	0.8	--	--	2.0	--	1.6
Blue Nile	1.6	--	--	--	--	--	NA	--	--	--
White Nile	5.1	--	--	--	--	2.8	--	NA	4.8	--
Northern	3.8	--	--	--	0.8	--	--	--	NA	1.5
River Nile	4.9	--	--	0.7	--	--	--	--	--	NA
Gedaref	3.3	--	--	--	--	--	1.1	--	--	3.3
Kassala	2.6	--	--	--	--	--	1.1	--	--	1.6
Red Sea	2.0	--	--	--	--	--	--	--	--	--
Households that migrated	57.0	4.8	4.8	7.7	7.7	10.5	5.7	5.1	9.5	11.3

Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Note: NA = "not applicable". -- = "No household recorded as moving from origin to destination state".

Distinct household characteristics shed light on migration patterns following the outbreak of the conflict. Figure 3.4 highlights that households led by females, those with younger heads, and those with heads that are single (never married) or divorced, as well as households with higher education levels and larger sizes, exhibited a higher propensity to migrate. In contrast, daily wage earners and self-employed individuals demonstrated a lower likelihood of migration. A key factor influencing migration was the initial state of residence, especially distinguishing between states with low or high conflict intensity. These data reveal that living in a state of high conflict intensity serves as a significant push factor for migration, with many migrants relocating to states with lower conflict intensity during the current period of conflict.

Figure 3.4 Propensity to migrate out of state after the conflict began, by household characteristics



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

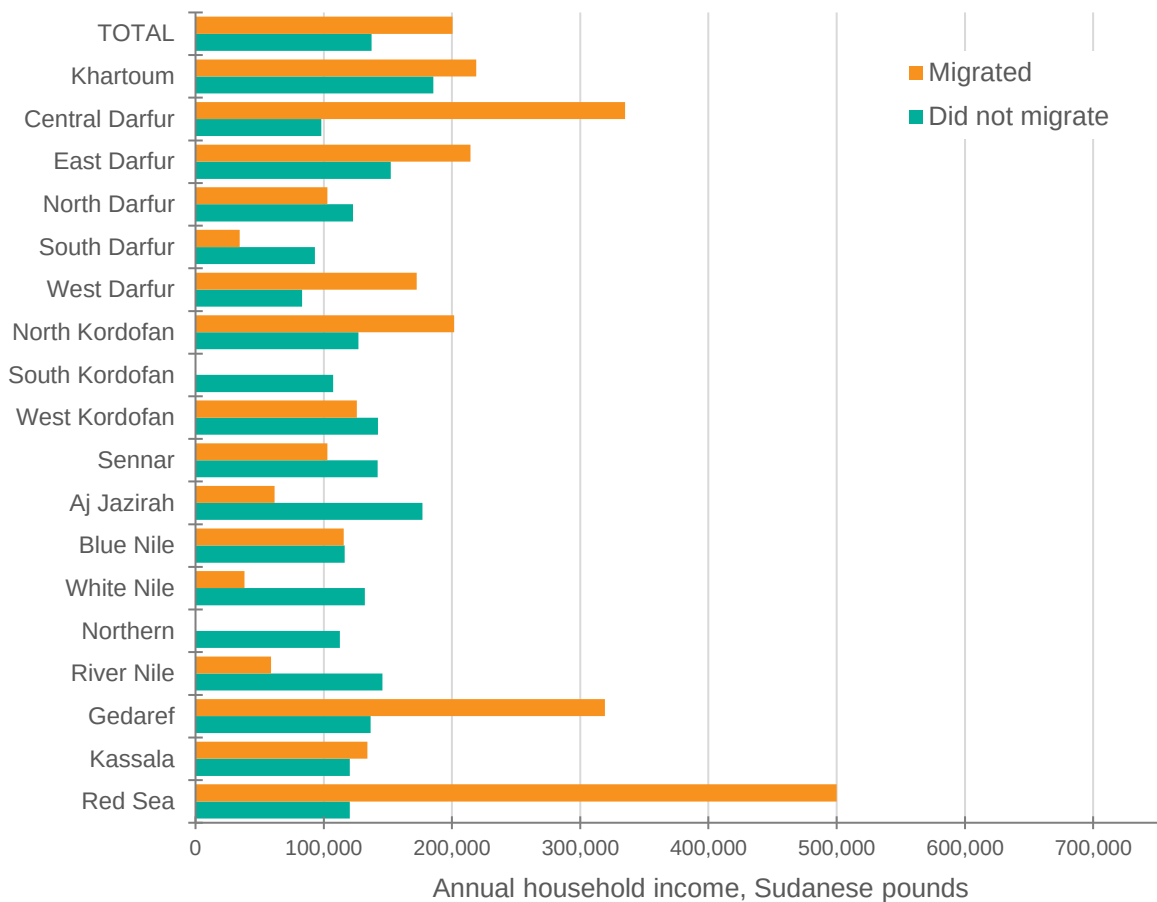
Note: Share of each group that migrated. For example, 16.4 percent of male-headed and 20.1 percent of female-headed households migrated.

Further analysis reveals differences in income levels before and during the conflict and how these interacted with the propensity to migrate by state. Figure 3.5 and Figure 3.6 compare the average pre-conflict and during the conflict incomes for migrants and non-migrants based on their pre-conflict state of residence. Migrants had an average pre-conflict income of 200,446 SDG, notably higher than the 137,196 SDG for non-migrants. This trend of higher incomes among migrating households is particularly pronounced in Khartoum, aligning with its significant outmigration rate, as detailed in Table 3.2.

These findings underscore the multifaceted nature of migration decisions during the current period of conflict, highlighting the role of household demographics, socioeconomic status, and the intensity of conflict in shaping migration patterns. The tendency of migrants to seek refuge in low-conflict-intensity states during the current period of conflict, coupled with the observed income disparities, paints a complex picture of the socioeconomic underpinnings of migration in the aftermath of conflict.¹

¹ Red Sea state had a very small share of migrating households (1.3 percent). Therefore, the very high incomes of migrating households in the state seen in Figure 3.5 and Figure 3.6 likely are outliers.

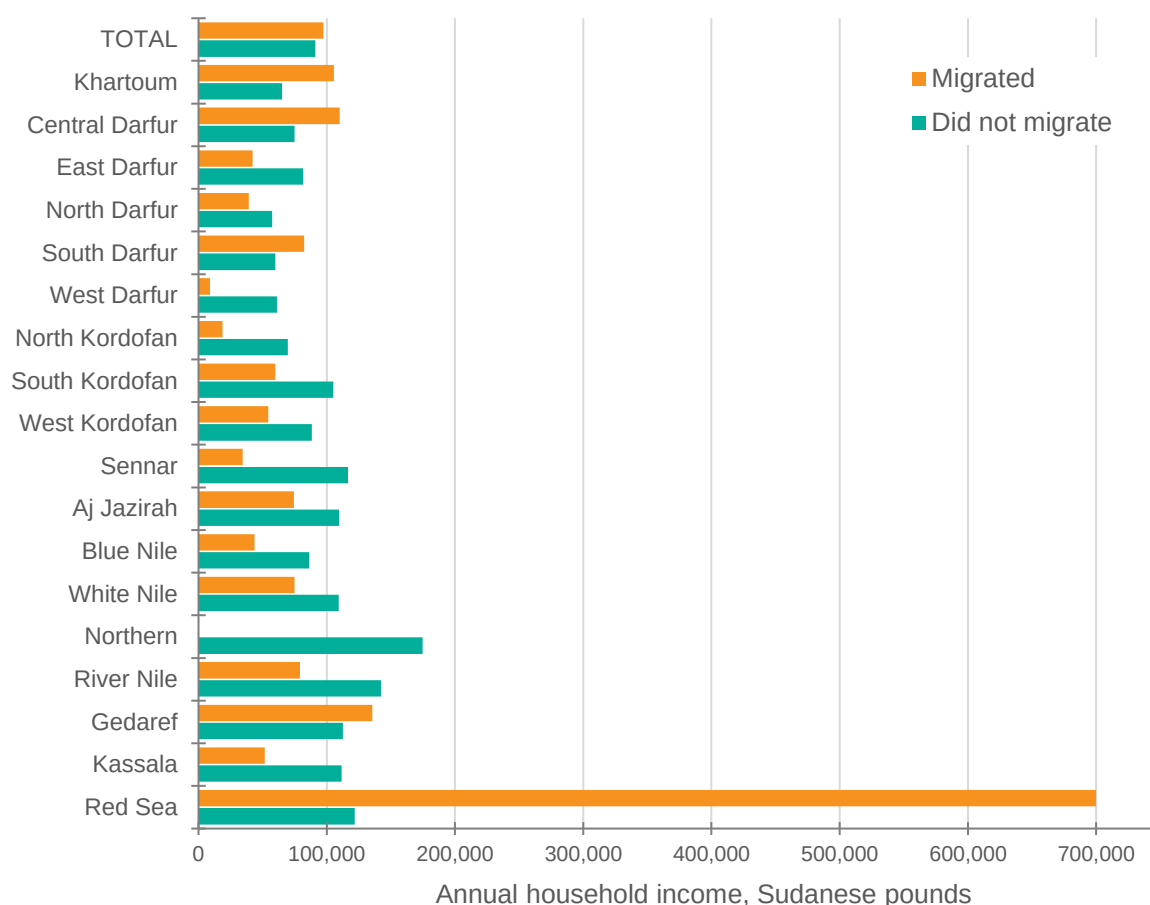
Figure 3.5 Pre-conflict income by migration status and pre-conflict state of residence



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Figure 3.6 illustrates that the average income for both migrants and non-migrant households are lower after the onset of the conflict, in general, than in the pre-conflict period. However, while income levels declined dramatically on average during the current period of conflict, the income of migrating households tends to be still somewhat higher than that of those who did not migrate. This was also true for Khartoum, which was the pre-conflict residence of the majority of migrating households.

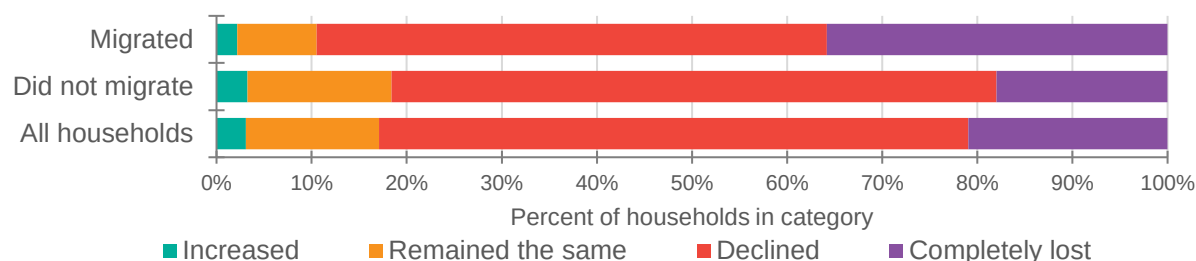
Figure 3.6 During the conflict income by migration status and pre-conflict state of residence



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

However, when this pattern of changes in income is examined categorically in Figure 3.7, we see that most households witnessed declines in income post the eruption of the conflict on April 15. In contrast to the pattern seen in Figure 3.6 based on average incomes, households that migrated are seen to have been twice as likely to have witnessed a complete loss of income relative to those who did not migrate.

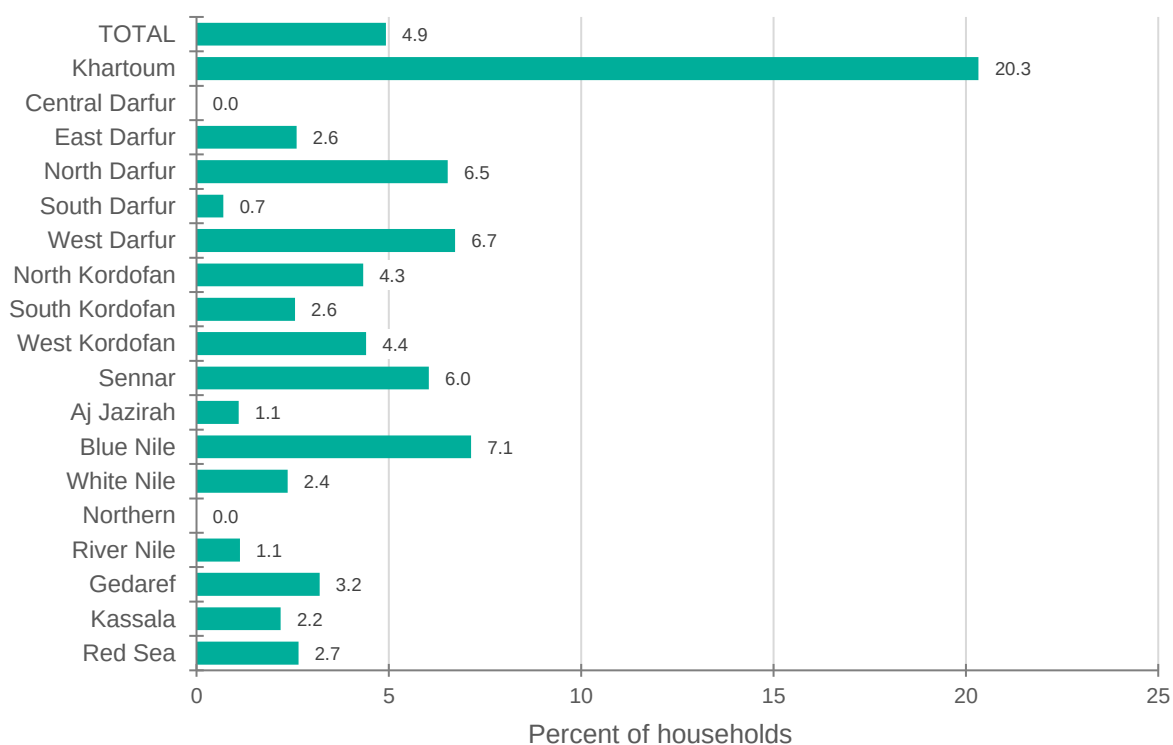
Figure 3.7 Patterns in changes in income from before to during the conflict, by migration status



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

As depicted in Figure 3.8, approximately 5 percent of households relocated within their state. Khartoum reporting the highest rate of internal displacement, over 20 percent, followed by Blue Nile, West Darfur, North Darfur, and Sennar.

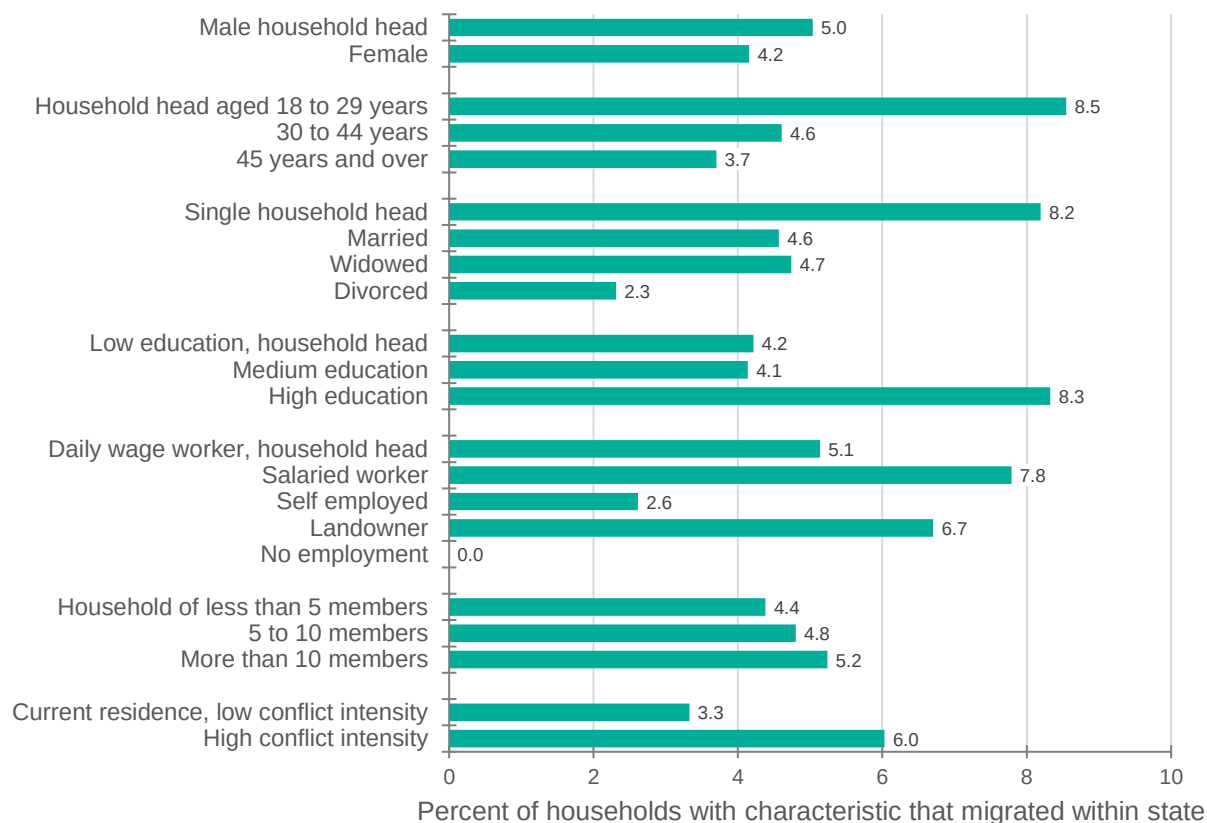
Figure 3.8 Within state migration, by current state of residence



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Figure 3.9 details the propensity of households to migrate internally within a state based on their characteristics. Notably, male-headed households exhibited a marginally higher intra-state migration rate compared to female-headed ones. Households with younger heads, heads that are single, heads with higher education levels, salary workers, landowners, and those with larger families showed a greater inclination to migrate internally. Additionally, states experiencing higher conflict intensity saw increased rates of migration within their boundaries.

Figure 3.9 Propensity to migrate within state after the conflict began, by household characteristics



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

4) ECONOMIC RESILIENCE

Conflicts profoundly disrupt socioeconomic structures, impacting employment opportunities, income sources, and labor market behaviors. The destruction of businesses and agricultural land and other assets leads to immediate job losses, while disrupted trade routes and markets complicate economic recovery and sustainable employment.

In the Republic of South Sudan, conflicts have caused significant livelihood disruptions, from farming to trading, due to looting and destruction (Malual 2008). Civil conflict victims, like in Colombia, face challenges in income generation, with displacement leading to notable declines in labor income and consumption (Ibáñez and Moya 2006, 2010). Similarly, in Rwanda, conflict intensity correlates with lagging economic performance and consumption, impacting returns to land and labor during the recovery phase (Serneels and Verpoorten 2013). Displacement not only affects migrants but also alters labor conditions in host communities, influencing female labor participation and bargaining power without improving their status (Calderón, Gonzalez and Londoño 2011). In Tajikistan, the civil war's effect on education and labor outcomes reveals a gap in educational attainment among women, affecting their employment and wages (Shemyakina 2011).

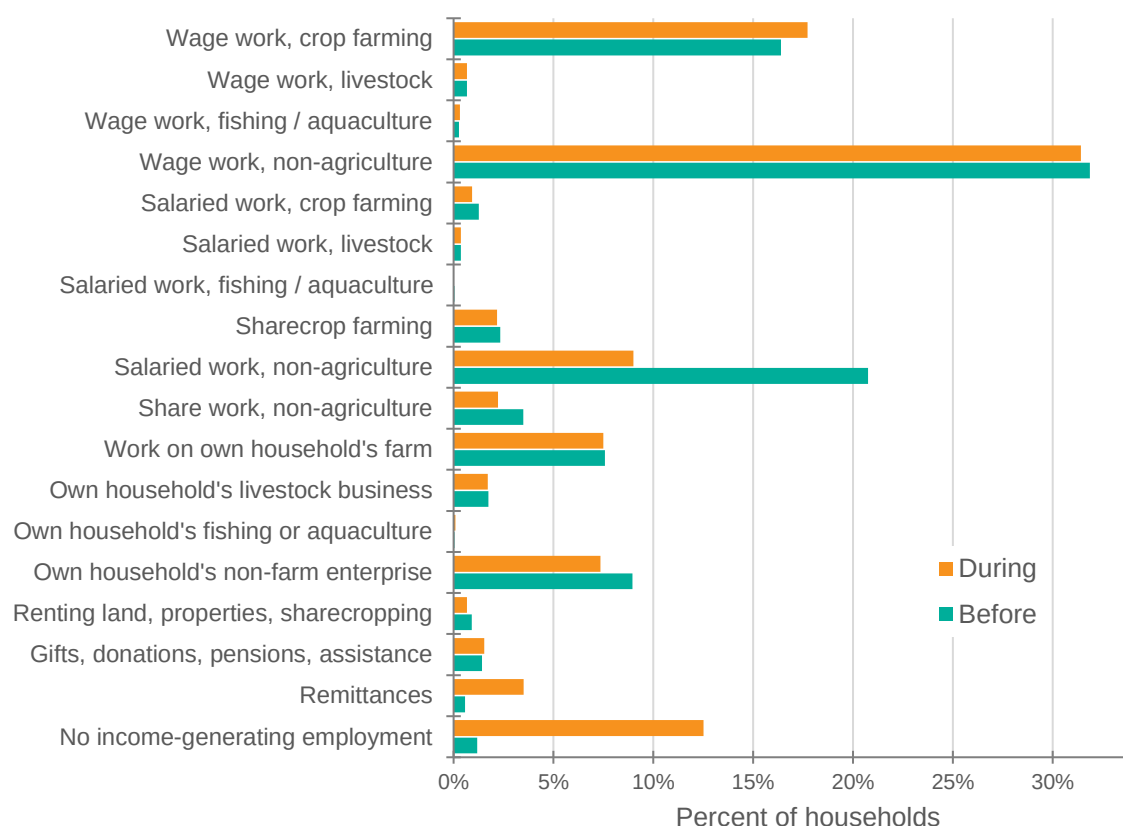
The ongoing conflict in Sudan has severely disrupted employment and livelihoods, causing widespread economic instability. The labor force, especially the less educated, has seen income reductions above 50 percent, with the mining sector experiencing a dramatic income drop of over 90 percent (Siddig, Raouf and Ahmed 2023). The crisis has also exacerbated entry into employment, particularly formal jobs, extending unemployment periods for educated individuals while pushing many into informal activities (Assaad, Krafft and Wahby 2023). Agricultural activities and industrial production, particularly in agro-processing firms, have also declined, resulting in job losses (O. Kirui, et al. 2023a, 2023b).

This chapter explores the conflict's complex effects on rural households' employment and livelihoods across Sudan. It examines shifts in income-generating activities due to the conflict, the transition to and from agriculture, changes in employment status, and increased dependency on remittances. It analyzes income source alterations across occupations and the impact of educational attainment on income stability, highlighting challenges in farming and broader obstacles to income generation, including market access and labor availability. Through this analysis, the chapter aims to understand the economic transformations caused by the conflict, laying the foundation for policy recommendations and interventions to support economic recovery and enhance long-term resilience.

4.1 Main sources of income

The conflict has notably altered household income sources, shifting from a reliance on salaried work in the non-agriculture sectors to unemployment (Figure 4.1). There is also a slight increase in wage work in the agricultural sector (crop farming). This decreased proportion of households earning income from non-agricultural activities underscores the conflict's disruptive impact and potential long-term damage to the industrial, service, and public sectors.

Figure 4.1 Main sources of income before and during the conflict



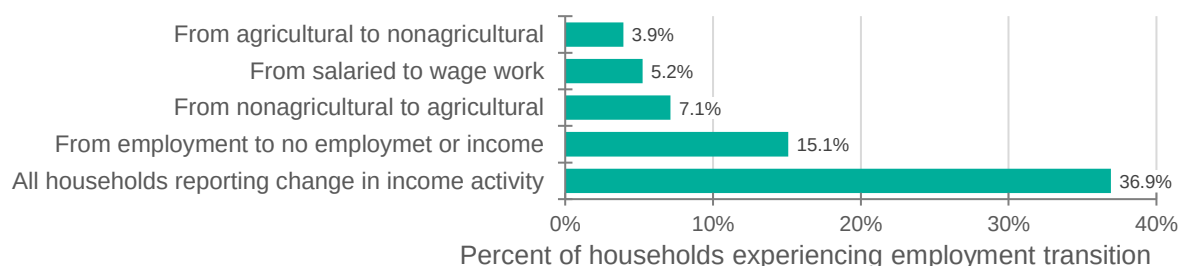
Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

There also has been a notable rise in households citing remittances as their primary income or income—rising from 1 percent before the conflict to 4 percent during the conflict, signaling increased dependency on external financial support. This trend reflects the distress and adaptation of families facing diminished local income opportunities. Moreover, the growing number of individuals reporting ‘No employment and income’ starkly highlights a surge in the number of those facing severe barriers to obtaining any income during the conflict.

The increased reliance on remittances and rising unemployment rates point to a weakened domestic economy, necessitating targeted policy interventions. Such responses should focus on sectoral development and foster sustainable employment opportunities in both agricultural and non-agricultural enterprises to counter the adverse effects of increased unemployment and dependency on external financial support.

A considerable share of households experienced a shift in their income-generating activities, with 15 percent transitioning from employment to no employment, highlighting the severe job losses and economic disruption caused by the conflict (Figure 4.2). There also has been a more limited shift from non-agricultural to agricultural work, likely due to the scarcity of non-agricultural jobs during the current period of conflict. Conversely, movement from agricultural to non-agricultural activities has been minimal (4 percent), suggesting limited disturbances in farming practices that would drive any pursuit of non-agricultural income alternatives. Furthermore, a smaller yet notable trend is seen in the transition from salaried to wage employment, indicating a move from stable formal jobs to more insecure informal labor arrangements.

Figure 4.2 Employment transitions after the eruption of the conflict, percent of households that experienced them

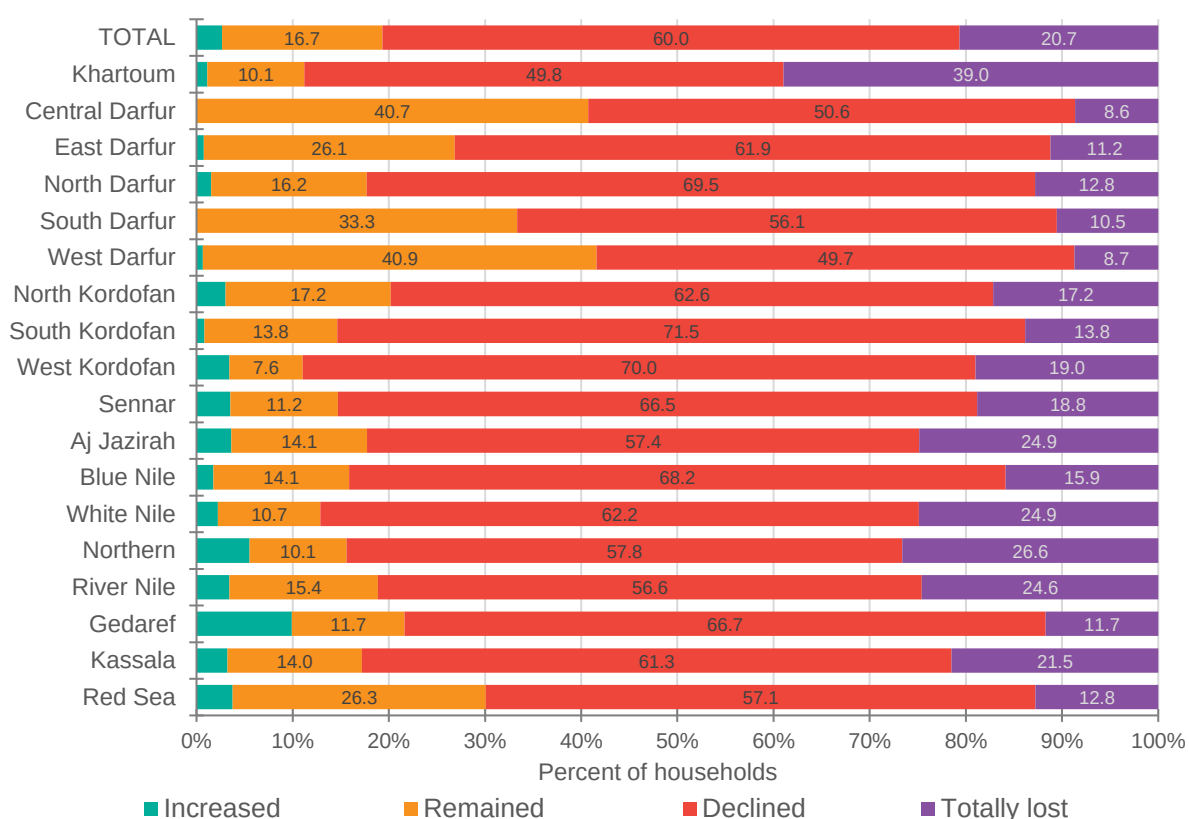


Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Note: The transitions are not mutually exclusive.

Figure 4.3 details the conflict's impact on household incomes across Sudan, presenting patterns in changes in income levels from before to during the conflict by state. Nationally, income has dropped for 60 percent of the sampled households, underscoring the conflict's broad negative economic effects. A small fraction of rural households report income increases. Alarming, 21 percent of rural households nationally report having lost their income entirely, with the highest incidences in Khartoum, the conflict's epicenter, and Aj Jazira state. Income levels for about one-sixth of rural households remained stable, a minority compared to those who suffered declines. This highlights the widespread economic damage brought by the conflict. In summary, Figure 4.3 paints a bleak economic picture for Sudanese rural households under the current conflict, pointing to an urgent need for economic recovery efforts, particularly in the most affected states.

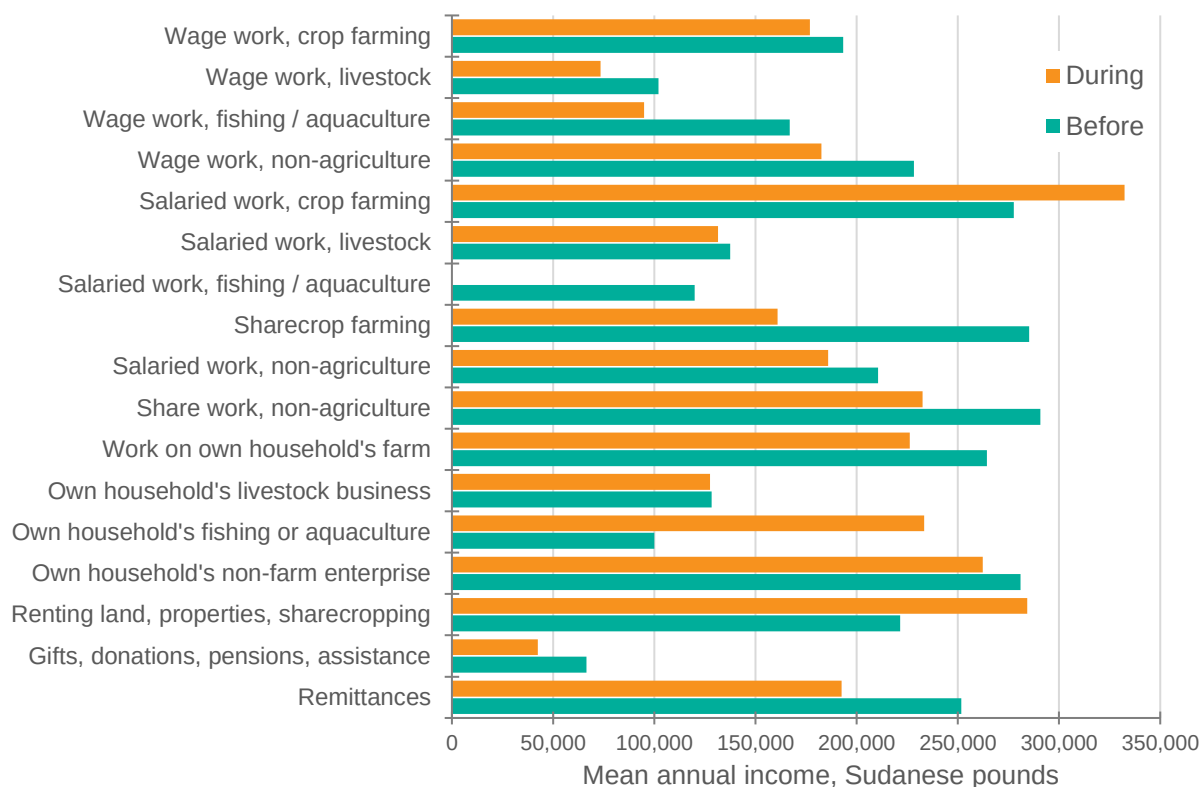
Figure 4.3 Patterns in changes in income from before to during the conflict, by current state of residence



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Figure 4.4 contrasts mean incomes by occupation before and after the conflict began in rural Sudan, highlighting the income toll across employment types. During the conflict, a marked decline in mean income—from 223,600 to 180,400 in nominal Sudanese pounds on average—is evident across most sectors, particularly in wage labor within both agricultural and non-agricultural fields. This decline indicates the conflict’s disruptive impact on industries and employment, leading to reduced wages and potential job losses.

Figure 4.4 Mean annual income by occupation before and during the conflict

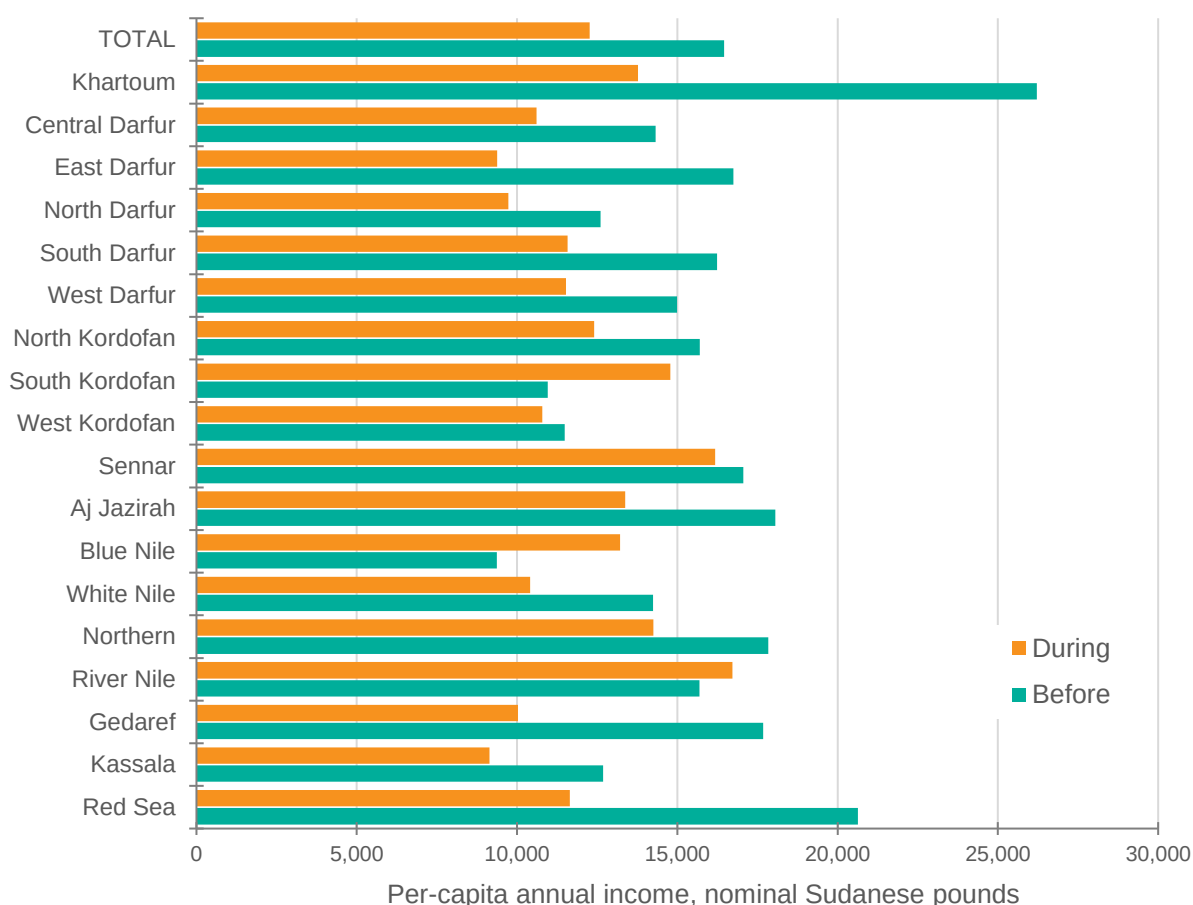


Source: Authors’ weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Individuals earning through production or profit shares have also witnessed income drops, pointing to compromised business profitability and production in both agricultural and non-agricultural sectors. Similarly, income from remittances, gifts, donations, pensions, or assistance has also decreased. An interesting finding is the rise in income from property rentals, likely driven by heightened demand and increased rental rates due to displaced people moving to rural areas amidst the conflict. Overall, the data illustrates significant adverse income impacts across a range of occupations following the conflict. This highlights the urgent need for economic recovery initiatives targeting the most affected sectors in both agriculture (farming and livestock) and other economic sectors.

Figure 4.5 depicts per capita income variations across states before and during the conflict, offering insight into its economic repercussions at a regional level. Overall, a declining trend is seen in per capita income during the conflict, indicating widespread economic disruption.

Figure 4.5 Per capita annual income before and during the conflict, nominal Sudanese pounds, by current state of residence



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

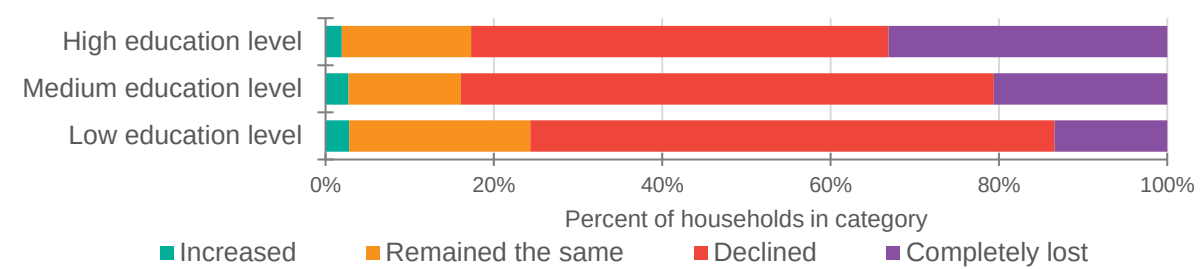
Notably, the extent of economic decline varies by state. Khartoum, previously the wealthiest state, experienced a significant drop in income, likely due to the severe impact of conflict on its economic structure. Siddig et al. (2023) note that higher-income groups and urban sectors, particularly housing and industry in Khartoum, suffered considerable losses. Moreover, reductions in income were not only limited to conflict-affected states. Red Sea and Gedaref states have also witnessed a significant decline in per-capita income due to the conflict. Conversely, other states, like Blue Nile, South Kordofan, and River Nile, saw marginal income increases. This may indicate that the rural economies fared better in these states, possibly due to less dependence on conflict-impacted activities.

In essence, Figure 4.5 illustrates the conflict's broad economic toll, but with impacts varying in intensity across states. This variation highlights the need for tailored economic recovery strategies, particularly in the hardest-hit regions, while also suggesting the value of understanding and leveraging the resilience observed in certain areas to inform broader recovery efforts.

Figure 4.6 offers a detailed view of how household incomes have shifted as a result of the conflict by the educational attainment of the household head. Income changes are categorized into four patterns of increased, unchanged, decreased, or completely lost. A significant finding across all educational groups is a marked decrease in income, reflecting a broad economic downturn triggered by the conflict. This trend is particularly pronounced

among households headed by individuals with medium and low education, which includes household heads with primary, secondary, or vocational training. It underscores the negative impact of the conflict on income-earning opportunities for these household heads. Households with highly educated heads reported the highest rates of total income loss, indicating that higher education did not protect against the financial devastations of the conflict.

Figure 4.6 Patterns in changes in income from before to during the conflict, by education level of the household head

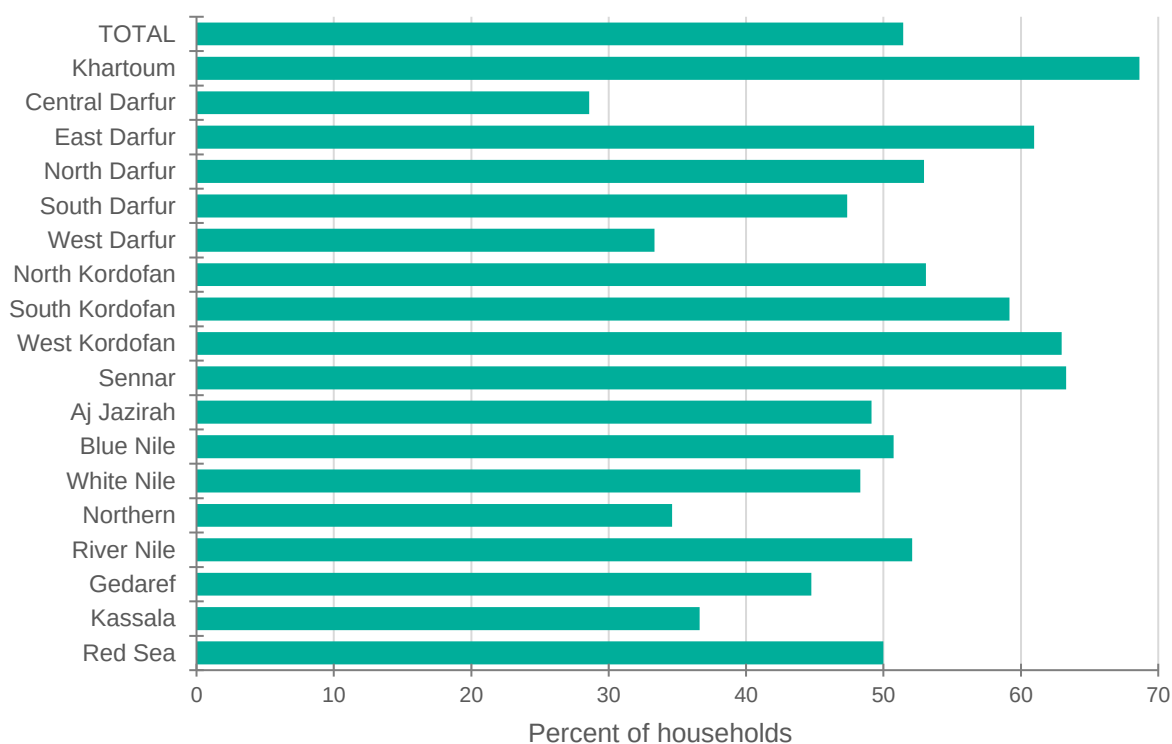


Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Meanwhile, households led by a head with a low level of education were relatively more able to maintain unchanged income levels, possibly due to engagement in subsistence or informal sectors less affected by the conflict or because their incomes were already at a minimum. The overall trend points to greater income stability among those with the lowest educational attainment, while those with higher education faced more substantial disruptions to their incomes. However, the broader pattern is of a general economic decline across educational backgrounds, with significant income reductions being the most common outcome.

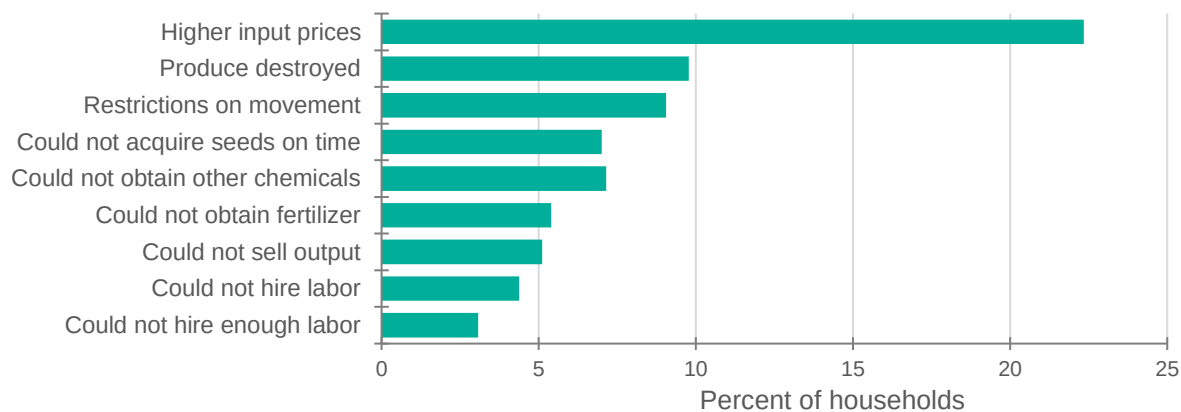
Figure 4.7 and Figure 4.8 offer insight into the disruption of farming activities across various regions under the current period of conflict, highlighting both the extent and causes of these disruptions. Nationally, 51 percent of households undertaking farming reported disruptions in farming, a testament to the conflict's widespread impact on agriculture beyond specific locations, with the highest reports of disruption coming from Khartoum. However, the states considered relatively safe also saw significant disruption, suggesting the conflict's agricultural impact was systemic. A leading cause of disruption to farming, identified by 22 percent of households, was the rise in input prices, reflecting supply chain issues or resource scarcity driven by the conflict. Additionally, 10 percent attributed disruptions to the direct destruction of production facilities, while 9 percent faced restrictions on movement, hampering access to fields and markets. Challenges in acquiring seeds, other inputs, and fertilizer, along with constraints on selling outputs and hiring labor, further illustrate the myriad obstacles faced by farmers. The reported inability to hire sufficient labor for some households hints at a labor shortage due to displacement or conscription. Collectively, these factors reveal a sector under siege from increased costs, physical destruction, and logistical hurdles, emphasizing the conflict's comprehensive effect on agricultural productivity and rural economic sustainability.

Figure 4.7 Proportion of households who reported that their farming work was disrupted, by state



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Figure 4.8 Reason for the disruption to farming work, percent of all households



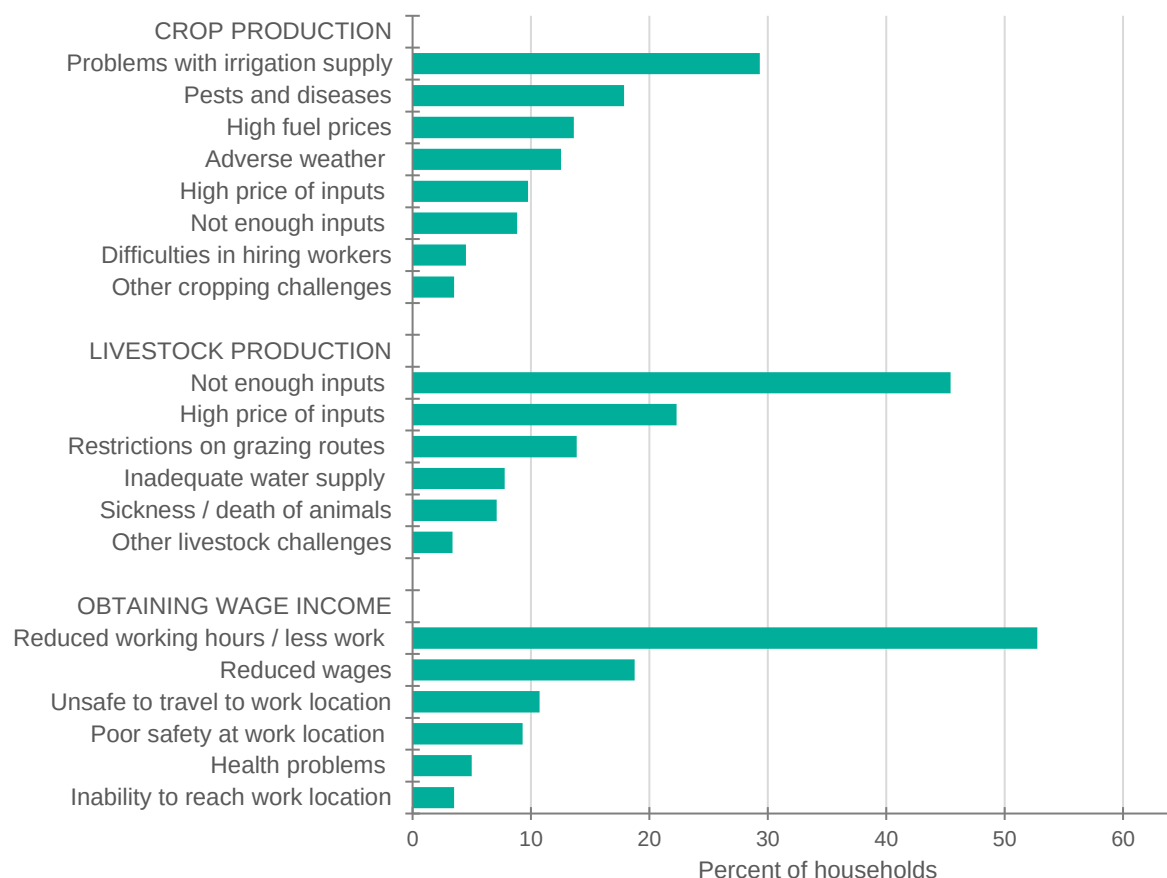
Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Note: The reasons given are not mutually exclusive.

4.2 Challenges faced in income-generating activities

Different sources of rural livelihoods present different challenges under conflict. Here, we examine the challenges specifically related to crop production, livestock raising, and earning a wage (Figure 4.9).

Figure 4.9 Challenges reported in generating incomes from crop production, livestock production, and wages



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

In terms of crop production, the most commonly reported challenge is related to irrigation water supply, affecting around 30 percent of households working in crop production. This could be due to damage to infrastructure, changes in control over water sources, or fuel shortages for pumps, which independently is the third most cited challenge for crop producers. The second most significant issue is the price of inputs. This is likely linked to supply chain disruptions and increased costs of importing goods during the current period of conflict due to the deterioration in the exchange rate. Other notable challenges include pests and diseases, weather conditions, the availability and price of labor, and the general scarcity of necessary inputs for farming.

When it comes to raising livestock, the challenge reported by the greatest share of households working in the livestock sector is insufficient inputs. Livestock raising is input-intensive, requiring feed, medicine, and other supplies, which may be scarce or expensive due to the conflict. Grazing routes are the second most reported challenge, which can be altered or become inaccessible due to conflict-related changes or security issues. Water supply constraints and the sickness or death of animals were further reported to impede livestock-raising activities. These challenges could be linked to the broader environmental and health impact of the conflict, which can lead to water scarcity and increased disease prevalence.

For individuals reliant on wages or salaries, the predominant challenge is reduced working hours, which affects nearly half of those reporting on challenges related to wage labor. This reduction could stem from a decline in demand, business closures, and other restrictions impacting operational hours. The second major challenge reported is decreased wages. This may reflect economic downturns leading to pay cuts or shifts to lower-paying jobs. Safety concerns, both at work and in traveling to work, also emerge as significant issues, indicative of the persisting instability and potential threats in the current period of conflict. Health problems, likely exacerbated by the conflict, further contribute to the difficulties faced by wage earners.

Each of these challenges to livelihoods impacts the ability of individuals and households to maintain or recover their income sources during the conflict. Reduced wages and working hours directly affect the livelihoods of salaried and wage workers, while disruptions in crop and livestock production arising from significantly higher input prices or restricted access to resources highlight the need for comprehensive recovery strategies addressing both market dynamics and infrastructural rehabilitation.

5) FOOD SECURITY AND COPING MECHANISMS

5.1 Food security situation

The relationship between conflict and food security is notably profound in regions dependent on agriculture. Studies, such as those by Olanrewaju and Balana (2023), highlight how conflict-induced factors like migration and fatality exacerbate food insecurity and diminish dietary diversity in Nigeria. Diallo (2023) adds that such shocks, coupled with climate change, cripple agricultural activities, diminishing food supply. Kondylis (2008) explores displacement in Rwanda, showing that resettled households often move to more productive areas, indicating potential shifts in agricultural productivity due to conflict. Similarly, Eklund et al. (2017) observed land-use changes in Syria and Iraq, such as cropland expansion and abandonment, reflecting the conflict's complex impact on agriculture. Brück et al. (2019) note the destruction of infrastructure and supply chains in the Gaza Strip, stressing the importance of aid in sustaining food access amid conflict.

Displacement complicates food access, as displaced populations lose traditional agricultural lands and social support networks, crucial for food security (Shemyakina 2022). The agrifood system in Sudan, vital for livelihoods and food security, faces disruptions due to ongoing conflict, impacting smallholder farmers significantly. Abushama et al. (2023) and Kirui et al. (2023a) report on the adverse effects on farming preparations and outputs, with notable declines in cultivation and essential crop yields (FAO 2023).

This chapter examines food security in Sudan utilizing the Food Insecurity Experience Scale (FIES) (Cafiero, Viviani and Nord 2018, FAO 2021) to assess the extent and severity of food insecurity. FIES also permits consideration of how violence and external shocks further aggravate food insecurity. Additionally, the Livelihood Coping Strategy Index (LCSI) is used to highlight the coping strategies households adopt in the face of economic and food security challenges (WFP 2021). By dissecting these aspects, the chapter aims to offer a detailed view of Sudan's food security during the current period of conflict and the adaptive mechanisms employed by its people. This is done to guide effective interventions for supporting vulnerable communities.

We estimated the severity of food insecurity following a Rasch Model within the context of FIES (Boone 2016). This model is a statistical technique that probabilistically classifies the food security status of households and is derived from the toolkit of Item Response Theory models commonly used in the educational and psychological fields (Reise and Revicki 2015). The model allows for the comparison of food insecurity prevalence rates from different countries by calibrating them against this global reference.

Table 5.1 and Figure 5.1 provide parameters related to the FIES and its Rasch modeling. Approximately 59 percent of Sudanese households during the current conflict are experiencing moderate or more severe levels of food insecurity. Households in West Kordofan, South Kordofan, and Blue Nile states recorded the highest prevalence of food insecurity.

Table 5.1 Household food security status based on raw Food Insecurity Experience Score (FIES) and Rasch Model estimates, by state

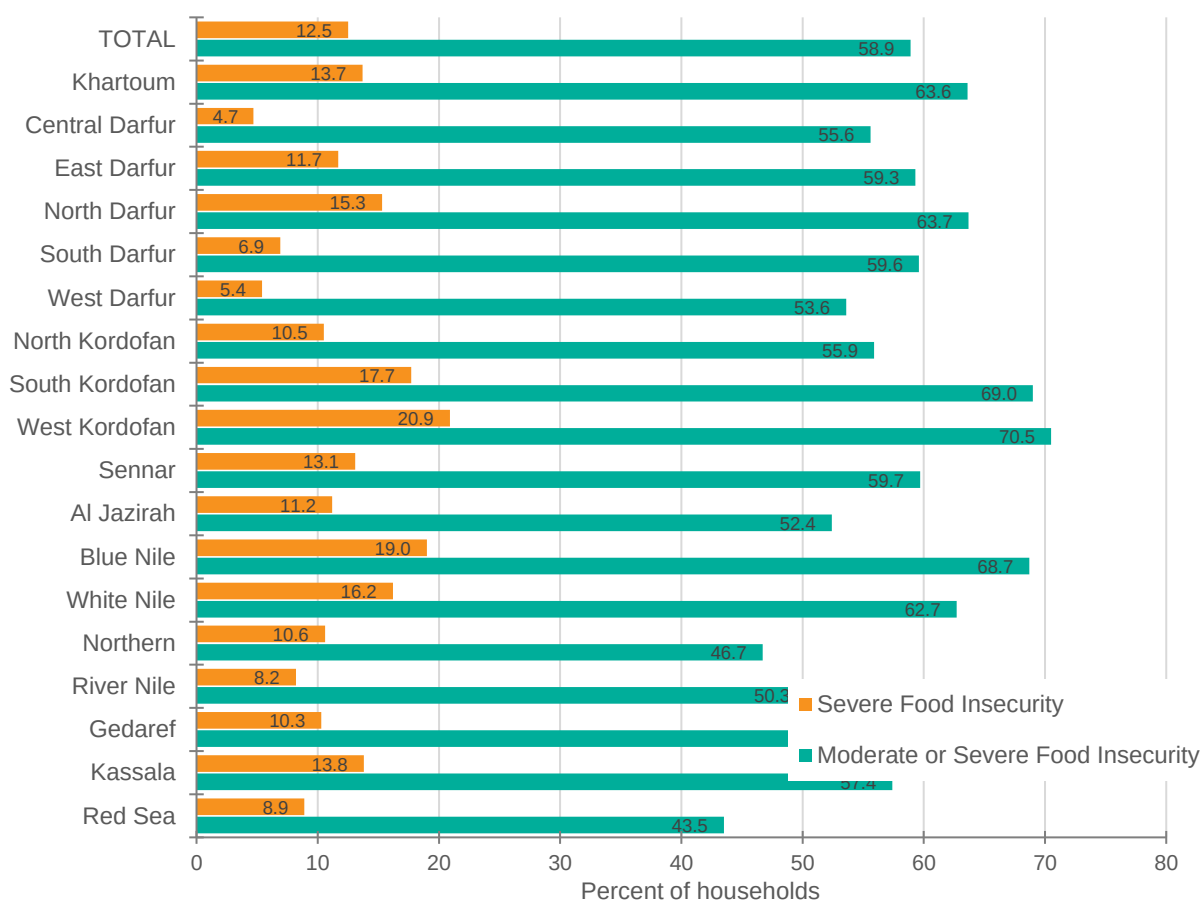
State	Food Insecurity Experience Score (FIES) Raw Scores		Rasch Model			
	Score	Rank (states)	Probability of Moderate or Severe Food Insecurity		Probability of Severe Food Insecurity	
	Score	Rank (states)	Probability	Rank (states)	Probability	Rank (states)
Total	4.10	NA	0.589	NA	0.125	NA
Khartoum	4.39	5	0.636	5	0.137	7
Central Darfur	3.83	13	0.556	13	0.047	18
East Darfur	4.17	7	0.593	9	0.117	9
North Darfur	4.41	4	0.637	4	0.153	5
South Darfur	4.03	10	0.596	8	0.069	16
West Darfur	3.77	14	0.536	14	0.054	17
North Kordofan	3.86	12	0.559	12	0.105	12
South Kordofan	4.74	3	0.690	2	0.177	3
West Kordofan	4.92	1	0.705	1	0.209	1
Sennar	4.16	8	0.597	7	0.131	8
Aj Jazirah	3.74	15	0.524	15	0.112	10
Blue Nile	4.78	2	0.687	3	0.190	2
White Nile	4.38	6	0.627	6	0.162	4
Northern	3.37	17	0.467	17	0.106	11
River Nile	3.50	16	0.503	16	0.082	15
Gedaref	3.95	11	0.575	10	0.103	13
Kassala	4.05	9	0.574	11	0.138	6
Red Sea	3.16	18	0.435	18	0.089	14

Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Note: NA = "not applicable".

Fifty-nine percent of households face moderate or severe food insecurity, while 12.5 percent face severe food insecurity. This indicates a critical impact of the conflict on agricultural production and livelihoods, particularly alarming in areas traditionally considered food baskets for urban centers. State-level analysis reveals severe food insecurity across all regions, with West Kordofan, Blue Nile, South Kordofan, White Nile, North Darfur, Kassala, Khartoum, and Sennar showing probability of severe food insecurity above the national average, highlighting an acute crisis. States like Red Sea and Northern, which are among the safest and have better access to markets and humanitarian aid, report the highest percentages of households that are not either moderately or severely food insecure in rural Sudan, suggesting that safety, market access, and humanitarian interventions play crucial roles in food security.

Figure 5.1 Household food security status based on Rasch Model estimates of Food Insecurity Experience Score (FIES), by state



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

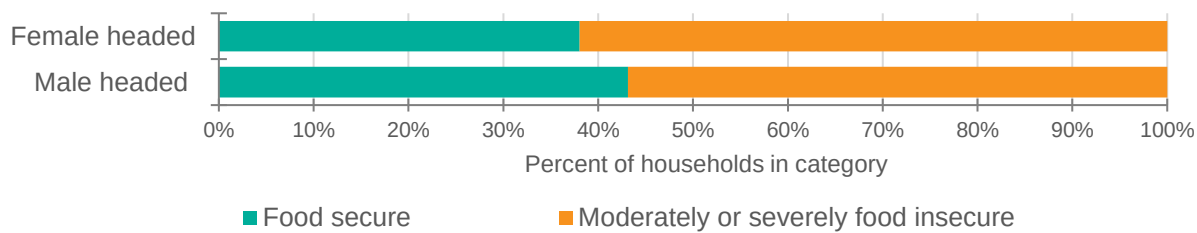
The variations across states suggest that infrastructure quality, conflict intensity, and access to aid significantly influence food security levels. The pervasive severe food insecurity necessitates urgent and extensive interventions to enhance food aid, revitalize agricultural systems, and restore supply chains, aiming to mitigate the food crisis and prevent further escalation.

The situation has continued to deteriorate since the survey was carried out. The Integrated Food Security Phase Classification (IPC) report of March 2024 highlights a sharp decline in food security and nutrition due to escalating conflict, threatening millions with acute food insecurity and malnutrition (IPC 2024). With the severe restriction of humanitarian responses and assessments and an anticipated challenging lean season upcoming, a famine in the country cannot be ruled out in 2024, particularly in Khartoum and Aj Jazirah states and the states in the Darfur and Kordofan regions.

Severe food insecurity presents a critical challenge across both male and female-headed households, with female-headed households slightly more affected (Figure 5.2). This difference may result from socioeconomic inequalities, such as lower income levels and restricted access to resources, that women particularly face, alongside their often greater responsibility for family nourishment. Despite the general struggle with food security, male-headed households report slightly better food security levels than their female counterparts. This scenario underscores the need for gender-sensitive food security interventions during

the current period of conflict, emphasizing support for female-headed households to ensure fair access to food resources and address the unique obstacles they encounter.

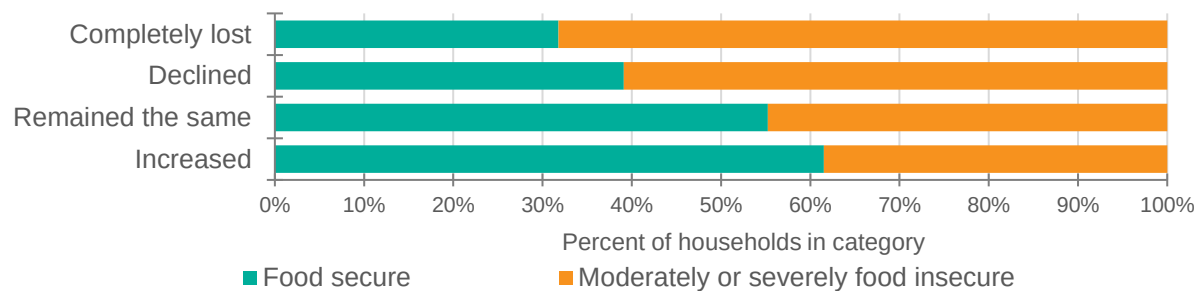
Figure 5.2 Food Insecurity Experience Scale (FIES) categories, by sex of household head



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Analyzing moderate or severe food insecurity alongside income changes reveals a distinct pattern: households experiencing income increases are mostly food secure, highlighting a direct correlation between improved income and access to food (Figure 5.3). In contrast, households with stagnant or reduced incomes face moderate to severe food insecurity, with those experiencing a decrease in income particularly vulnerable to high food insecurity. The situation is most critical for households that have completely lost their income, the majority of whom suffer from severe food insecurity. This pattern demonstrates the profound effect of income loss on food procurement capabilities, resulting in significant food insecurity. These findings underscore the essential role of income stability in ensuring food access. As income diminishes or disappears, the risk and intensity of food insecurity grow, pointing to the necessity of interventions that bolster both food availability and economic opportunities to mitigate food insecurity effectively.

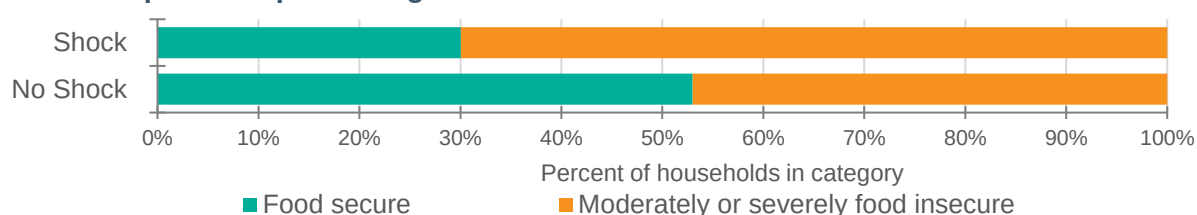
Figure 5.3 Food Insecurity Experience Scale (FIES) categories, by patterns in changes in income from before to during the conflict



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

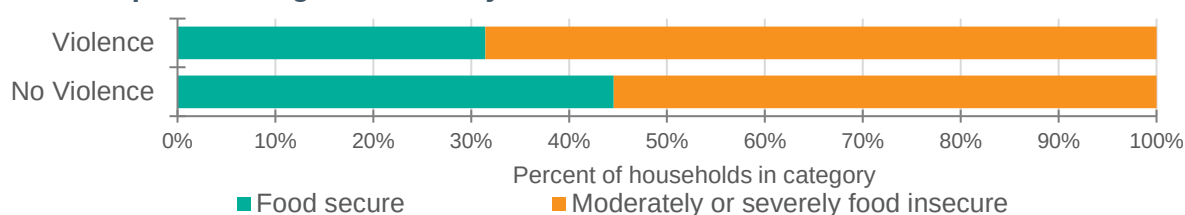
Households encountering shocks, such as illness, death, or climatic events, typically face heightened food insecurity due to diminished savings or income, impeding their food purchasing capacity (Figure 5.4). This effect is more pronounced in areas where such shocks are common, pushing a significant portion of households into moderate or severe food insecurity. Violence exacerbates this scenario by causing displacement and asset loss, further restricting food production and acquisition, leading to higher rates of severe food insecurity among affected households (Figure 5.5).

Figure 5.4 Food Insecurity Experience Scale (FIES) categories, by whether household reported experiencing a shock



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Figure 5.5 Food Insecurity Experience Scale (FIES) categories, by whether household reported being victimized by violence



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

An analysis of the demographic aspects of food insecurity shows that meal skipping is slightly more prevalent among male household members (15 percent) than females (9 percent). However, the issue's severity escalates at the household level, affecting 40 percent of all members. The incidence of going to bed hungry is equal at 9 percent for adult male and female members but extends to 35 percent across all household members, signifying a widespread challenge. Similarly, going to bed hungry impacts children, highlighting the nutritional risks they face during crucial developmental phases. The most extreme cases of food deprivation—going a whole day and night without eating—disproportionately affect children and are more common among females than males.

Recurrent food insecurity experiences over 30 days reveal a deep-rooted issue. Twelve percent of households reported frequently facing entire days without food, indicating severe deprivation. Similarly, half of households reported occasionally going to bed hungry and 20 percent reported often going to bed hungry. These findings highlight the persistent struggle for daily sustenance for many rural Sudanese households. The lack of any food at home affects more than half of households sometimes and almost one-quarter quite often, pointing to an ongoing crisis.

These findings illuminate the pervasive and recurring nature of food insecurity, especially among women and children, necessitating targeted interventions to cater to their specific needs within broader food security efforts. The data underscores the urgency of addressing both immediate and structural challenges to break the cycle of hunger and deprivation.

5.2 Coping mechanisms to maintain livelihoods

The Livelihood Coping Strategy Index (Phukan, et al. 2023) across various states highlights the diverse coping strategies households employ to navigate economic difficulties (Figure 5.6). These strategies include minimizing agricultural input expenses, selling household items or jewelry, and disposing of productive assets or vehicles. Nationally, half of the rural

Sudanese households have adopted one or two coping strategies. However, a notable 35 percent have not employed any, possibly indicating either resilience or an initial absence of resources to liquidate. Fifteen percent report having resorted to three or more coping strategies, signaling deep economic distress.

There is a significant variance in coping responses across states. Darfur region, for instance, shows a high percentage of households without any coping strategies, particularly in West Darfur, where 64 percent of households have not adopted any measures, and only 3 percent have utilized three or more. Central Darfur follows closely, with 63 percent of households not engaging in any coping mechanisms and a mere 2 percent implementing three or more strategies. Conversely, Kordofan's regions, such as West and South Kordofan, demonstrate a greater dependency on all three strategies, at 29 percent and 25 percent of households, respectively, underscoring the region's severe economic challenges but the greater resources households can employ in coping with them.

Overall, the data reveals that although many households across various states have navigated economic challenges without resorting to extreme coping strategies, a significant portion has adopted more drastic measures, such as asset liquidation. This trend underscores a deeper vulnerability, potentially hindering the long-term economic resilience of these households. The observed variations in coping strategies across states highlight the context-dependent nature of economic hardship and the effectiveness of these strategies, influenced by factors like conflict intensity, local economic strength, and the presence of external support like remittances.

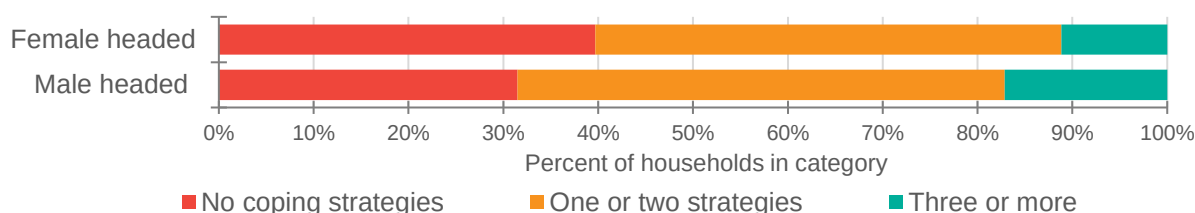
Figure 5.6 Number of livelihood coping strategies reported employed by household, by state



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

These data reveal a disparity in coping strategy use between male and female-headed households, with a higher percentage of female-headed households not employing any strategies (Figure 5.7). This suggests that female-headed households may have fewer assets to utilize during economic hardships, possibly due to inequalities in property ownership, financial access, or social and institutional support, which often impact women more severely. Conversely, male-headed households more commonly adopt one to two or all three coping strategies, indicating they may have more resources or options for mitigating economic strain. This pattern highlights the need for gender-specific interventions to address the unique challenges and limited coping capacity of female-headed households, underlining the importance of creating support mechanisms that cater specifically to their needs.

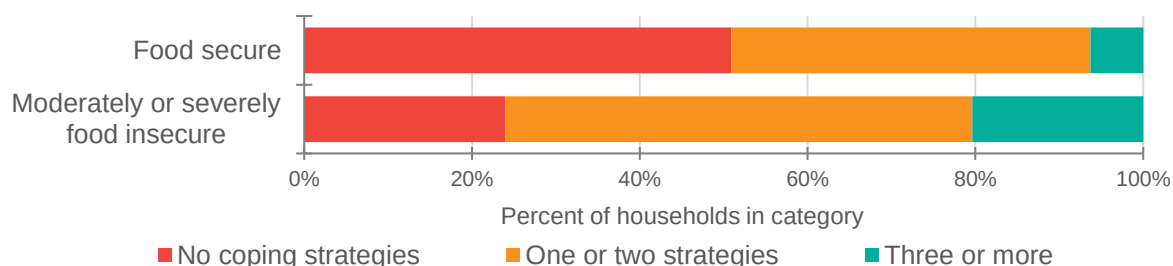
Figure 5.7 Number of livelihood coping strategies reported employed by households, by sex of household head



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Figure 5.8 illustrates that as households experience worsening food insecurity, their reliance on coping strategies intensifies.

Figure 5.8 Number of livelihood coping strategies reported employed by households, by Food Insecurity Experience Scale (FIES) category of household



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Among food-secure households, just over half reported to not be using any coping strategies, reflecting either their stable access to food or lack of resources to use in coping with food insecurity. Forty-three percent implement one or two strategies, likely as a precaution to safeguard their food security. Only a minimal 6 percent of food-secure households employ three or more strategies, indicating either minimal economic distress or good access to one or two resources that are effective for use in coping.

For moderately or severely food-insecure households, less than a quarter do not use any strategies, showing emerging economic challenges. Most, 55 percent, have adopted one or two strategies. Over 20 percent report using three or more, highlighting increasing reliance on coping mechanisms as economic strain grows.

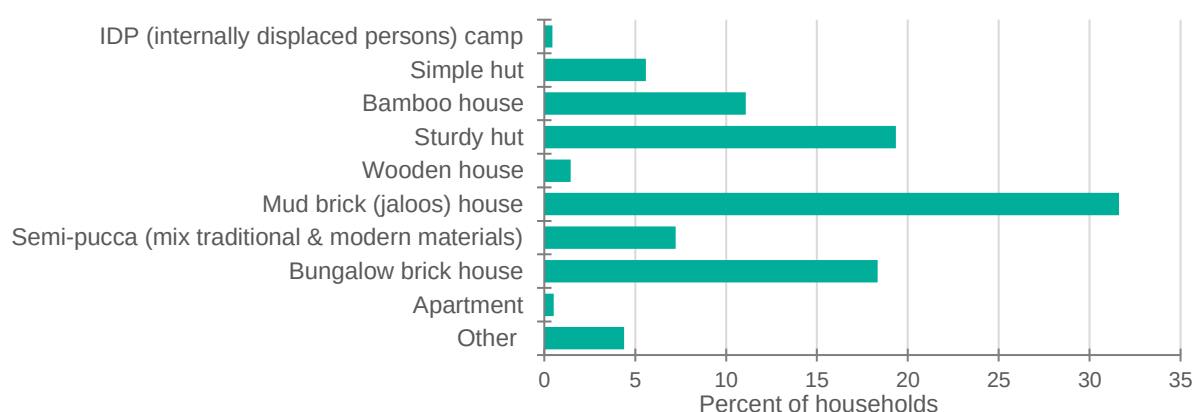
6) HOUSEHOLD AND AGRICULTURAL ASSETS

6.1 Housing type and tenure

This section focuses on three housing-related variables, namely the type of dwelling, its ownership, and the number of persons per room. We will analyze those variables in relation to household head characteristics² and area of residence.

Figure 6.1 illustrates that the largest proportion of respondents reside in mud houses or huts, which are classified as inadequate housing. A smaller percentage of respondents live in adequate housing types, which include brick bungalows or similar houses made of modern materials, semi-pucca houses constructed with a mix of modern and traditional materials, or apartments.³ On average, 73 percent of rural households in Sudan live in inadequate housing.

Figure 6.1 Type of current dwelling of households



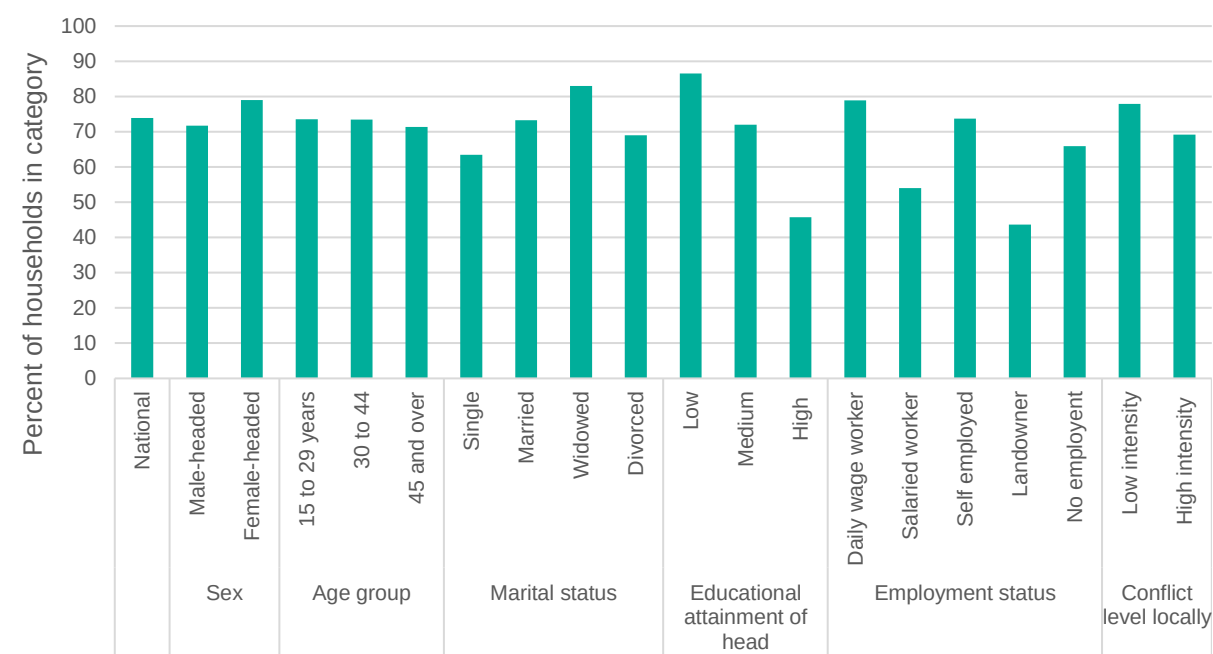
Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Figure 6.2 depicts the housing of rural households disaggregated by characteristics of household heads. Female-headed households are more likely to reside in inadequate housing than male-headed households. Households headed by younger or middle-aged individuals are slightly more likely to live in inadequate housing than are households headed by older individuals. Widowed-headed household are notably more inclined to live in inadequate housing compared to households whose heads are in other marital status categories. The data clearly illustrate a significant decrease in the likelihood of residing in inadequate housing with higher levels of education.

² To achieve this, we have selectively retained only those respondents who identified themselves as household heads within the sample. This refinement resulted in a 50 percent reduction in the sample size. By implementing this measure, we aim to ensure that explanations regarding household housing situations are based solely on characteristics provided by the household head, thus avoiding potential distortions from information provided by other household members.

³ At this first stage, we exclude the category "Other [specify]" from the analysis.

Figure 6.2 Proportion of households who live in inadequate houses, by household head characteristics and local conflict intensity



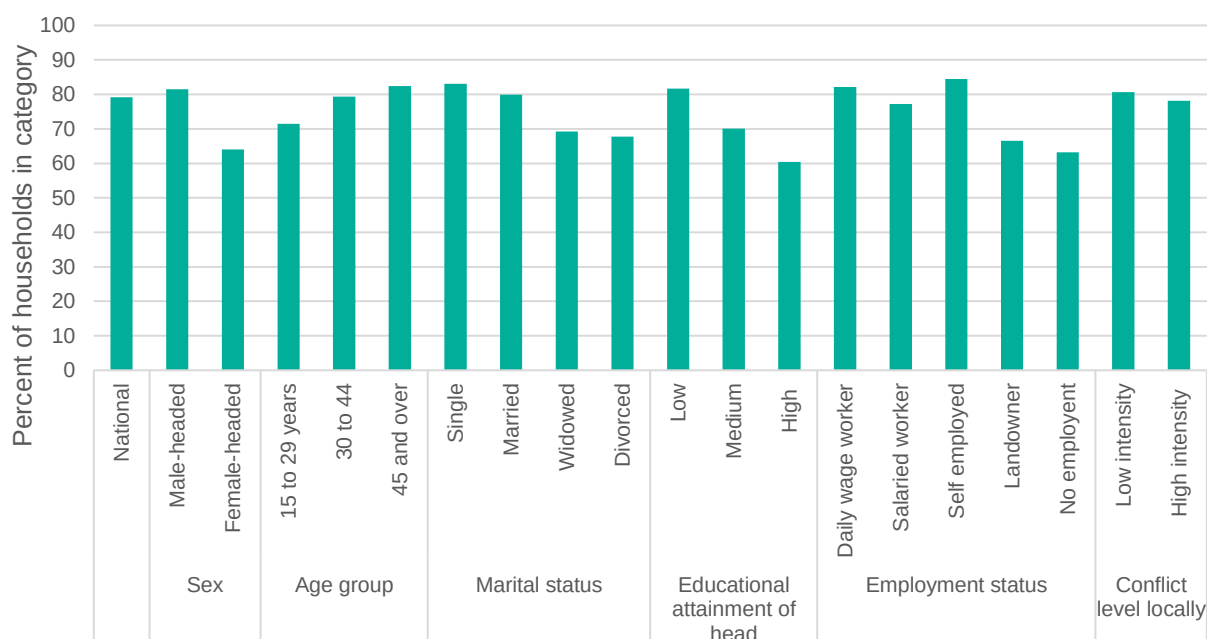
Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.
Note: The high conflict intensity states are Khartoum, Central Darfur, North Darfur, South Darfur, West Darfur, North Kordofan, South Kordofan, West Kordofan, and Aj Jazirah.

Comparing residence in inadequate housing by employment status, daily wage workers are more prone to reside in inadequate housing, while landowners are the least likely. Lastly, the results demonstrate that inadequate housing is more prevalent in areas with low-intensity conflict compared to those with high-intensity conflict.⁴

The data show that 79 percent of households own their dwelling. However, house ownership varies across the characteristics of household heads and areas of residence. Figure 6.3 illustrates that women and young individuals are less likely to own the dwelling they reside in. Ownership rates by the age of the household head vary from 71 percent for households with heads under 29 years of age to 82 percent for those aged 45 and above. Regarding marital status, married heads are more likely to report owning their dwelling.

⁴ Based on ACLED data (2024), “High conflict intensity” states are those that experienced more than six violent events per month on average in the previous six months. The high-conflict intensity states are Khartoum, Central Darfur, North Darfur, South Darfur, West Darfur, North Kordofan, South Kordofan, West Kordofan, and Aj Jazirah.

Figure 6.3 Proportion of households who report they own their dwelling, by household head characteristics and local conflict intensity

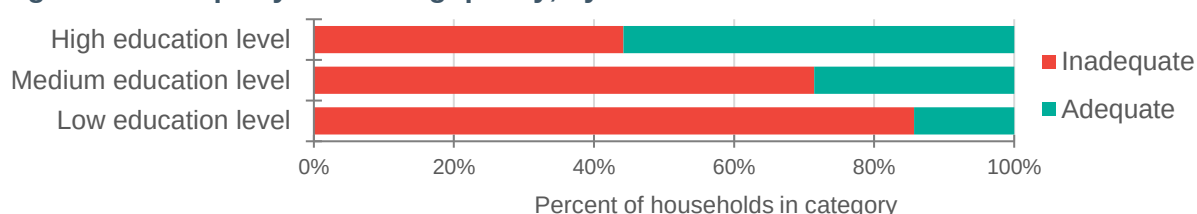


Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Note: The high conflict intensity states are Khartoum, Central Darfur, North Darfur, South Darfur, West Darfur, North Kordofan, South Kordofan, West Kordofan, and Aj Jazirah.

Interestingly, house ownership rates decrease with the level of education. However, as presented in Figure 6.4, it is important to note that households whose heads have lower levels of education are more likely to own inadequate housing. In comparison, those with higher levels of education are more likely to own an adequate house.

Figure 6.4 Adequacy of housing quality, by education level of household head



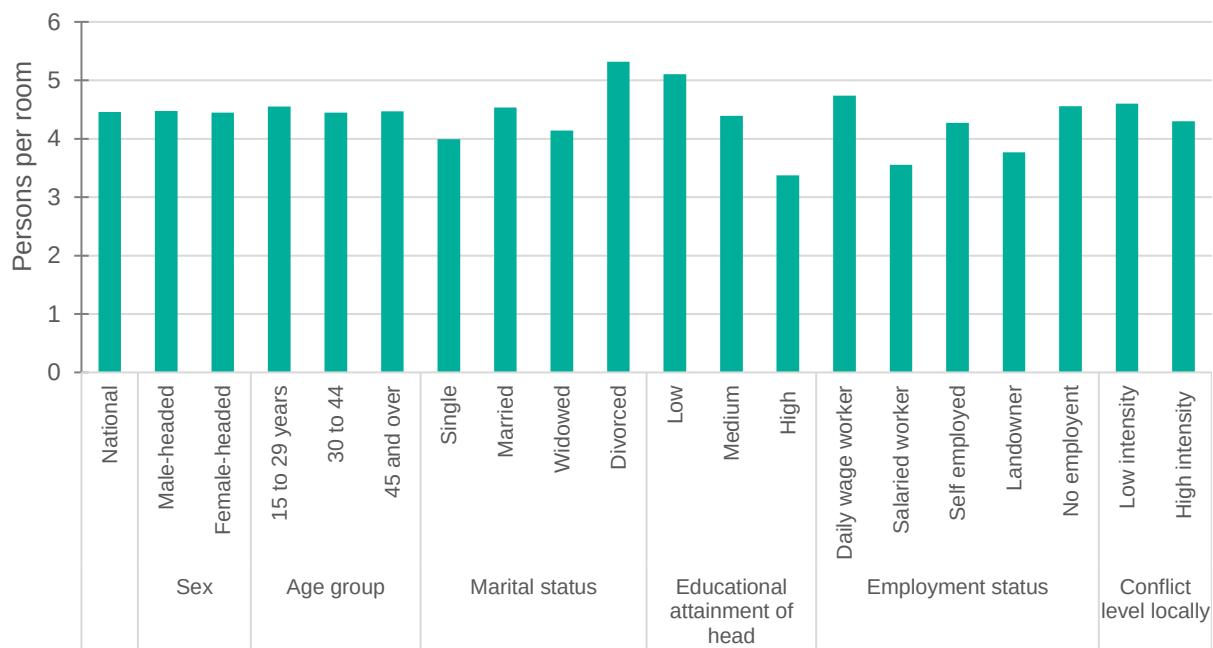
Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Across the different employment categories, self-employed individuals are more likely to own their dwelling, followed by daily wage workers. The unemployed are least likely to be owners. Lastly, households in areas with low intensity of conflict are more likely to own their dwelling than households in areas with high intensity of conflict.

On the number of persons per sleeping room, the average for this indicator is 4.5 persons per room.⁵ This average does vary significantly by the sex or age of the head of household, as illustrated in Figure 6.5.

⁵ We calculated this indicator by dividing the household size by the number of rooms reported by respondents as available for household members to sleep in.

Figure 6.5 Average number of persons per room, by household head characteristics and local conflict intensity



Source: Authors’ weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.
Note: The high conflict intensity states are Khartoum, Central Darfur, North Darfur, South Darfur, West Darfur, North Kordofan, South Kordofan, West Kordofan, and Aj Jazirah.

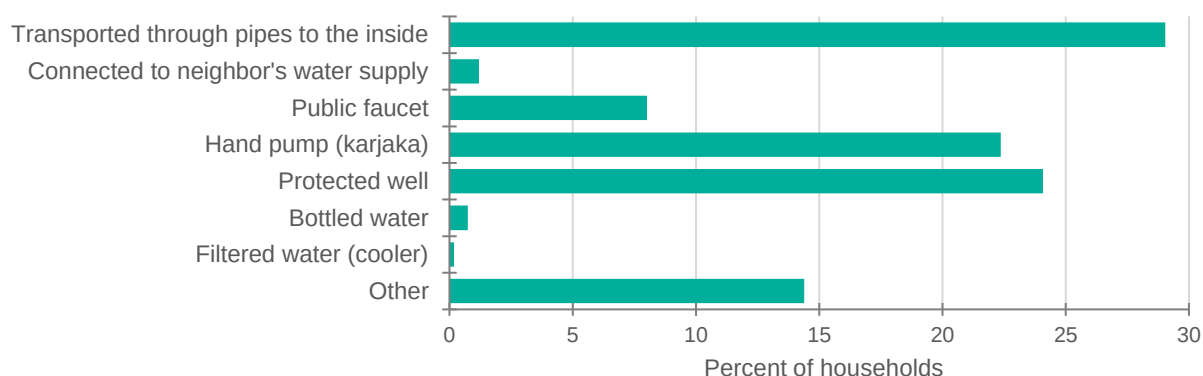
Figure 6.5 provides an overview of the average number of household members per room across various demographic and socioeconomic characteristics. Looking at this measure by the sex of household heads, an average of 4.5 members per room is observed in households headed by men, while this number is slightly lower, with an average of 4.4 in households headed by women. Little difference is seen in this measure between households disaggregated by the age of the household head. Households with married heads average 4.5 members per room, while households with divorced heads have the most crowded sleeping conditions, averaging 5.3 persons per room.

Disaggregating households by the education level of their heads shows significant differences. Households headed by individuals with low education levels have the most crowded sleeping conditions, while those with high education levels have the least. Variation in this metric is also seen with category of employment. Daily wage workers report the highest average of 4.7 members per room. Finally, households in low-intensity conflict areas report slightly more crowded sleeping conditions than those in high-intensity conflict areas.

6.2 Households’ access to services

Access to water has been an important challenge for households in Sudan during the conflict period. When asked about their household’s main source of drinking water, respondents reported frequencies of use of each source, as shown in Figure 6.6.

Figure 6.6 Current main source of drinking water



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Figure 6.6 shows that 30 percent of households have their homes connected to a water network, whether through their own or a neighbor's connection. Additionally, just under one-quarter of households cite a protected well as their primary source of drinking water. While these sources may provide clean water, the 22 percent of households relying on hand pumps may be accessing unimproved water sources. Further investigation into "Other" options reveals that this category comprises households with access to unimproved water sources, as illustrated in Table 6.1.

Table 6.1 Other sources of drinking water

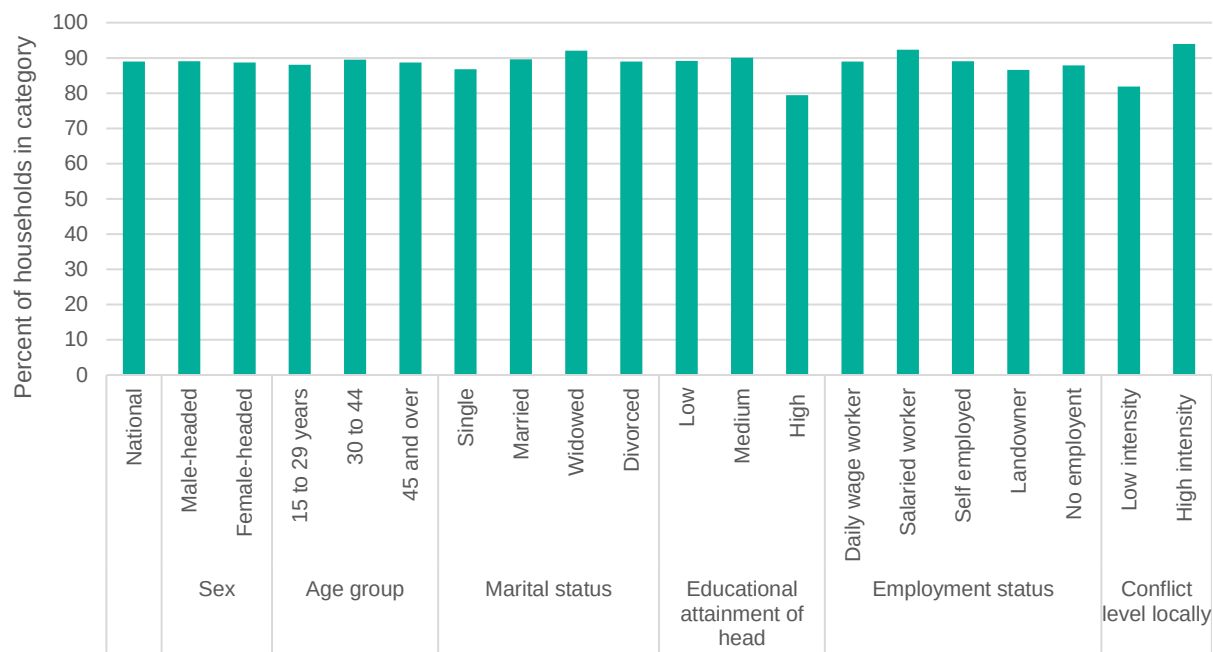
Source	Frequency	Percent
Buy it	8	2.5
From out of the village	1	0.3
Rainwater	50	15.4
River	100	30.8
Solar pump	1	0.3
Water canal	40	12.3
Water tanker	125	38.5
Total	325	100.0

Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Eleven percent of households use an unimproved source of drinking water.⁶ Figure 6.7 presents the share of individuals within different demographic and socioeconomic categories who reported relying on a safe drinking water source. While access rates to improved drinking water sources for male-headed and female-headed households are quite similar, there are notable differences in access rates across education levels. Households with heads that are married, widowed, or single are more likely to have access to improved sources of drinking water than households headed by divorced individuals. Households with salaried workers have the highest rate of access to clean water sources, while households with landowners have the lowest. Finally, households in high-intensity conflict areas have higher access to safe drinking water sources than do households in low-intensity conflict areas.

⁶ According to the classifications of the World Health Organization and UNICEF, unimproved sources of drinking water include filtered water, water tankers, rivers, and bottled water. This report classifies all other sources as improved.

Figure 6.7 Proportion of households who have access to improved source of drinking water, by household head characteristics and local conflict intensity

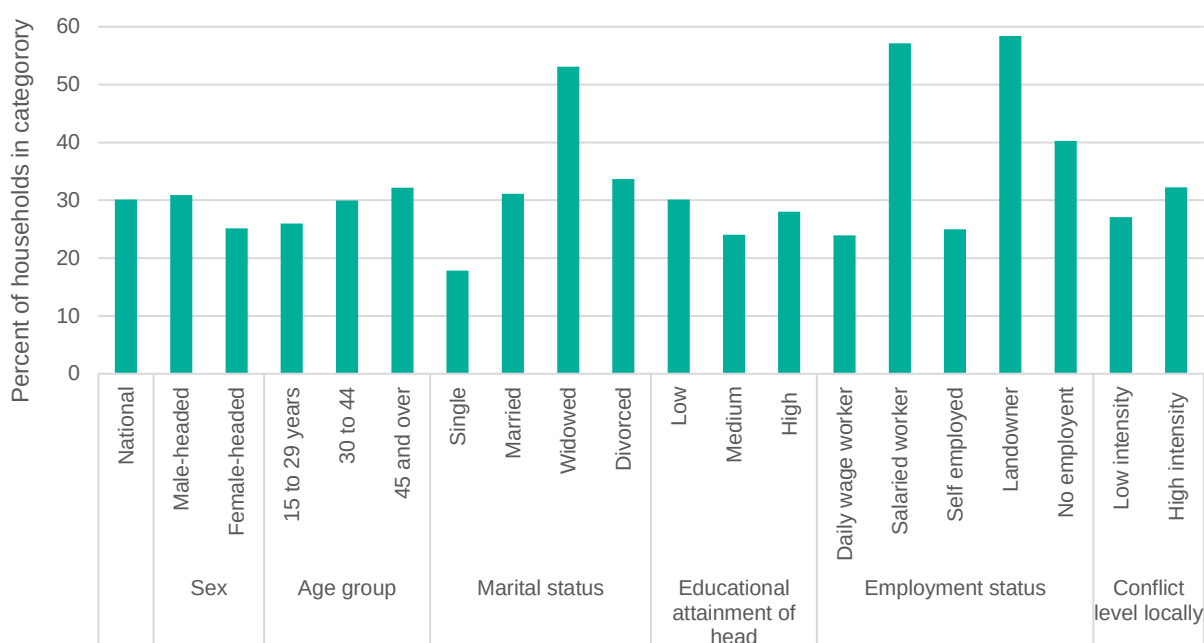


Source: Authors’ weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.
Note: The high conflict intensity states are Khartoum, Central Darfur, North Darfur, South Darfur, West Darfur, North Kordofan, South Kordofan, West Kordofan, and Aj Jazirah.

To achieve in Sudan the Sustainable Development Goal target on the proportion of the population with a handwashing facility with soap and water on premises (target SDG 6.2.1b), it will be critical to have water at home. Figure 6.8 shows that the in-dwelling water connection rate varies significantly across households’ characteristics.

For instance, connection levels are higher for male-headed households than for female-headed households. Differences in connection levels are also seen across different ages of household heads, with the highest levels observed among households headed by individuals aged 45 years and over. Water network connections also vary by the marital status of the household head—households headed by single individuals are least likely to have in-dwelling water connections. In contrast, those headed by widowed individuals are most likely to have such connections. Similarly, disparities are evident based on education level, with households headed by individuals with high education levels exhibiting substantially higher rates of in-dwelling water network connections compared to those with low education levels. Households with salaried workers and landowners are considerably more likely than households in other employment categories to have in-dwelling water network connections. Finally, households residing in areas with high conflict intensity tend to have slightly higher access rates compared to those in areas with low conflict intensity.

Figure 6.8 Proportion of households with in-dwelling water network connections, by household head characteristics and local conflict intensity

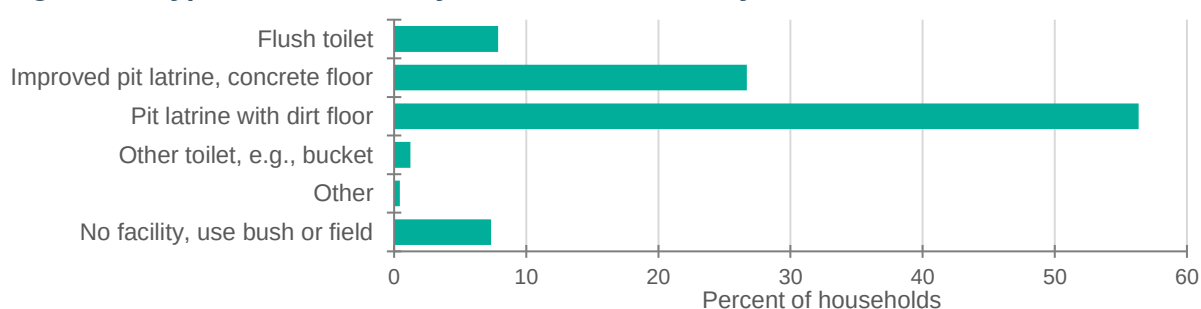


Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Note: The high conflict intensity states are Khartoum, Central Darfur, North Darfur, South Darfur, West Darfur, North Kordofan, South Kordofan, West Kordofan, and Aj Jazirah.

When asked about the kind of toilet facility members of a household usually use, a majority of households reported relying on an unimproved pit latrine with dirt floors for their toilet facility (Figure 6.9). Just over one-quarter have improved pit latrines with concrete floors or slabs. Less than 10 percent of households have flush toilet access, even as a similar share report having no toilet facility at all.

Figure 6.9 Types of toilet facility households normally use

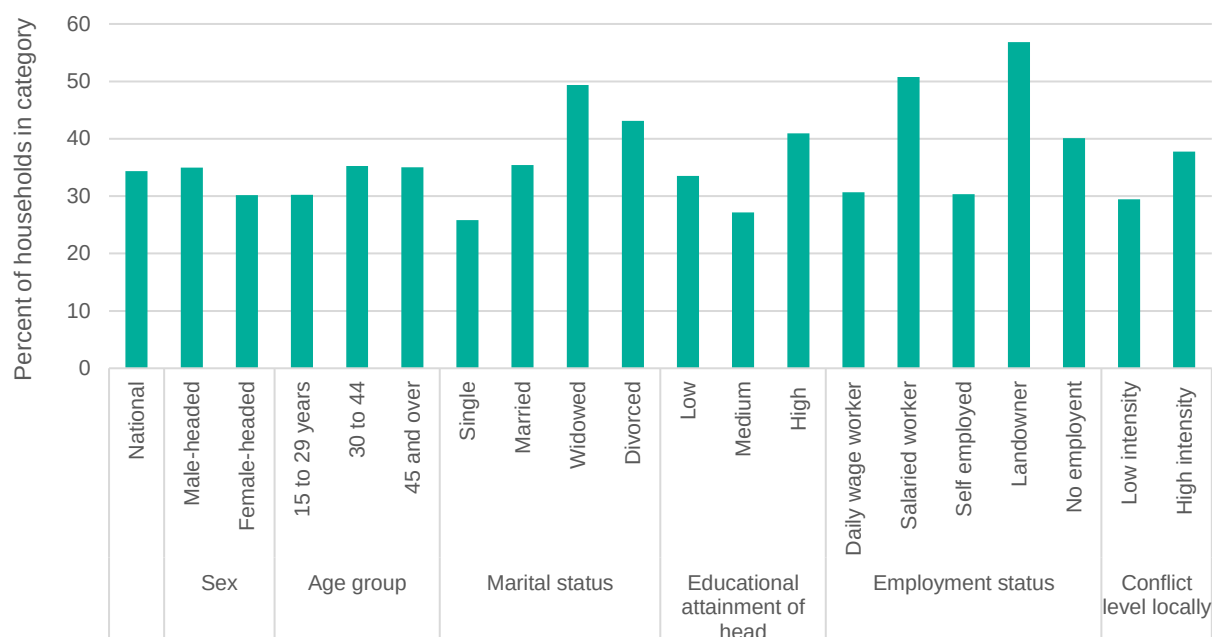


Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Households utilizing flush toilets or pit latrines with concrete floors are considered to have improved sanitation. Figure 6.10 reveals notable differences between household groups as to the percentage of households with improved toilet facilities. The use of improved toilet facilities is higher among male-headed households than among female-headed households. Use also varies to a limited degree across households disaggregated by the age group of the head—the highest use is observed among households headed by individuals aged 30 to 44 years. However, their use level is only slightly more than that of households headed by individuals aged 45 years and older. Marital status is also associated with the use of

improved toilet facilities—households headed by widowed or divorced individuals are more likely to rely on such facilities than households headed by married or single individuals.

Figure 6.10 Proportion of households with improved toilet facilities, by household head characteristics and local conflict intensity



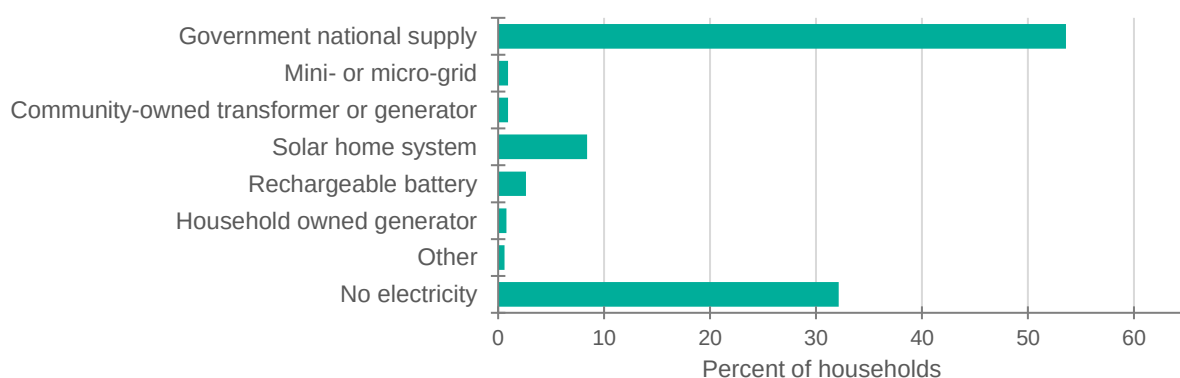
Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Note: The high conflict intensity states are Khartoum, Central Darfur, North Darfur, South Darfur, West Darfur, North Kordofan, South Kordofan, West Kordofan, and Aj Jazirah.

Disparities are also evident based on education level, with households headed by individuals with high education levels exhibiting substantially higher rates of use of improved facilities compared to those with low education levels. Additionally, significant differences are observed across employment statuses, with households with salaried workers and landowners having the highest levels of use of improved facilities. Finally, households residing in areas with high conflict intensity tend to have higher access rates to improved toilet facilities compared to those in areas with low conflict intensity.

Moving now to access to electricity, the results of the survey show that 32.2 percent of households do not have access to electricity (Figure 6.11).

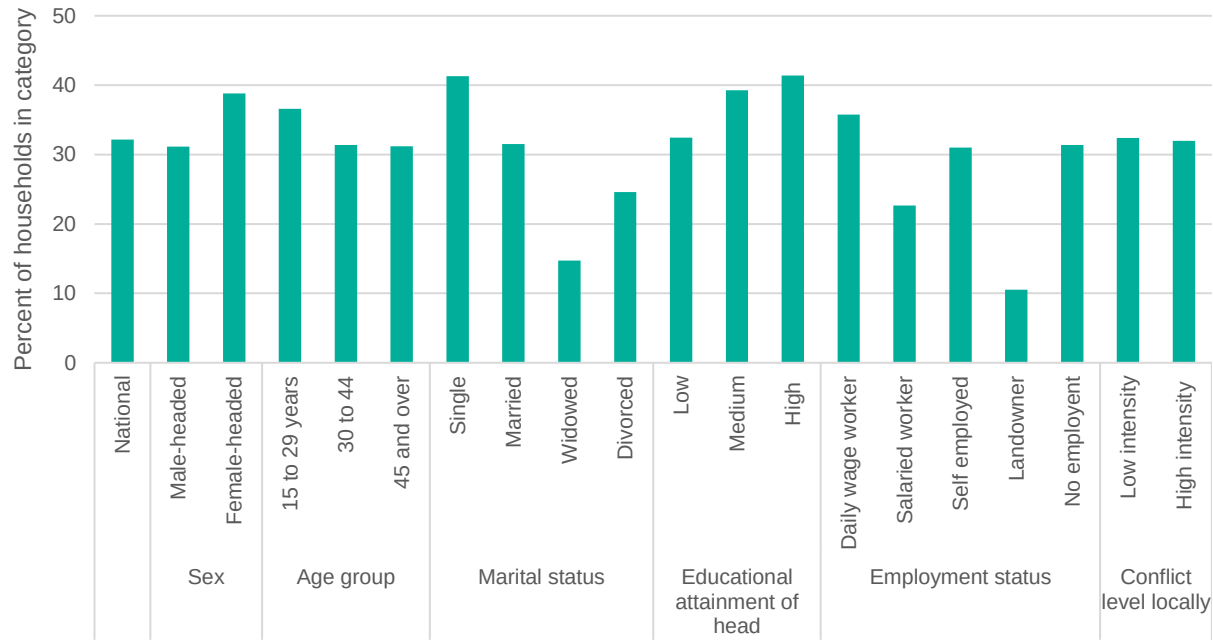
Figure 6.11 Sources of electricity



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

There are significant differences across households in terms of those without access to electricity, as illustrated in Figure 6.12. Female-headed households tend to have a higher percentage of households without electricity compared to male-headed households. Marital status also influences access, with households headed by divorced or widowed individuals being more likely to have electricity than those headed by married or single individuals.

Figure 6.12 Proportion of households who report having no access to electricity, by household head characteristics and local conflict intensity



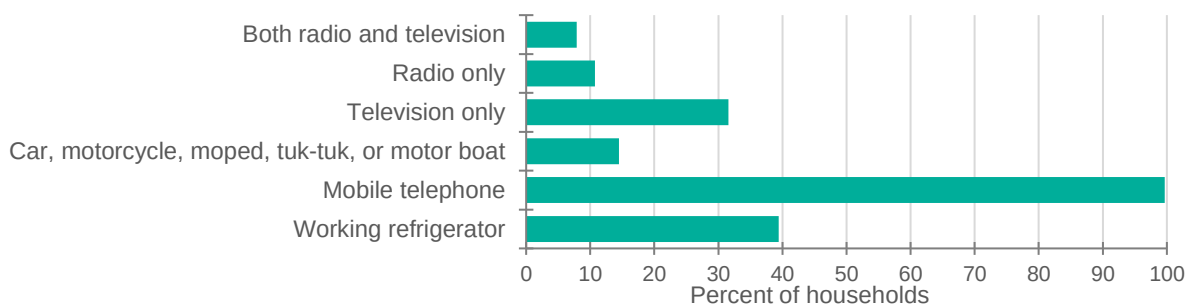
Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.
Note: The high conflict intensity states are Khartoum, Central Darfur, North Darfur, South Darfur, West Darfur, North Kordofan, South Kordofan, West Kordofan, and Aj Jazirah.

Similarly, households headed by individuals with a low education level are less likely to have electricity than those headed by those with more education. By employment category, households with members who work for a daily wage, are self-employed, or are unemployed are less likely to have electricity than those with salaried workers or landowners. Conflict intensity does not seem to significantly impact access to electricity, with similar levels of access observed in both low- and high-intensity conflict areas.

6.3 Ownership of assets

Assets potentially are important resources for use in coping with economically adverse conditions. The survey explored whether rural households own communication assets, such as radios, televisions, and mobile telephones, assets for transport, and assets for domestic use, such as refrigerators (Figure 6.13). The findings from the survey show that almost half of the households do not own either TV or radio, over 85 percent do not own a car, motorcycle, scooter, tuk-tuk (motorized rickshaw), or motorized boat, and three-fifths of the households do not own a working fridge.

Figure 6.13 Ownership of household assets

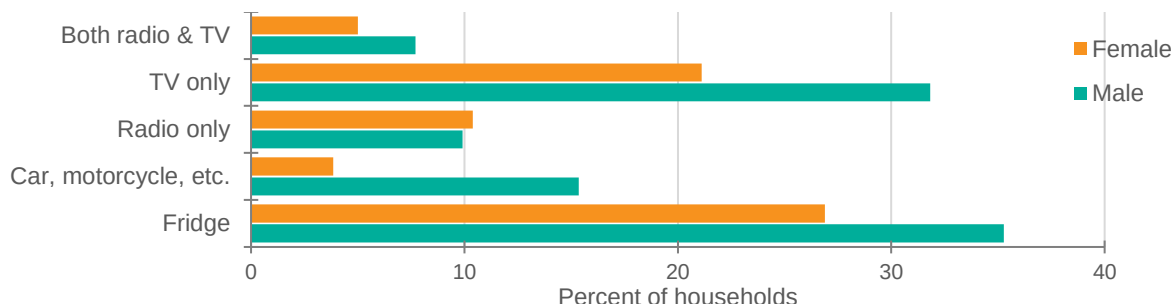


Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

On the other hand, in virtually all households, there is at least one member who owns a mobile phone. However, recall that the survey employed a computer-assisted telephone interview (CATI) methodology, which requires that the enumerated household own or have ready access to a telephone. Consequently, ownership of mobile phones by rural households in Sudan is likely overestimated here.

Male-headed households are likely to own a greater number of assets than female-headed households (Figure 6.14). This is seen across all categories of assets considered, except for owning a radio only.

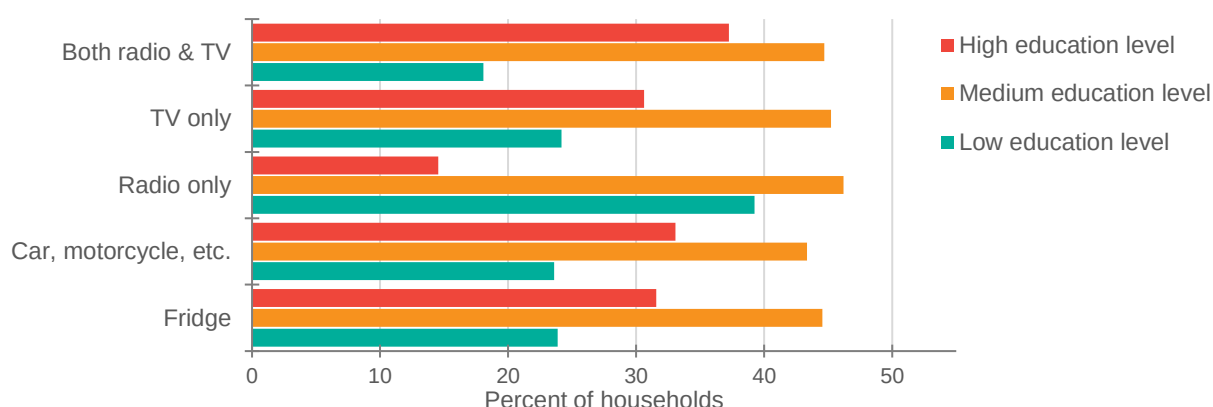
Figure 6.14 Ownership of household assets, by sex of household head



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

One would expect a positive correlation between the educational status of heads of households and the ownership of assets by the household, but this is not the case in the data from the rural household survey (Figure 6.15). For example, out of households having both a radio and a TV, households with heads with a medium level of education are more likely to own the two assets than households with heads with a high level of education. A similar pattern is seen for ownership of working refrigerators and ownership of a car, motorcycle, scooter, tuk-tuk, or motorized boat.

Figure 6.15 Ownership of household assets, by educational status of household head

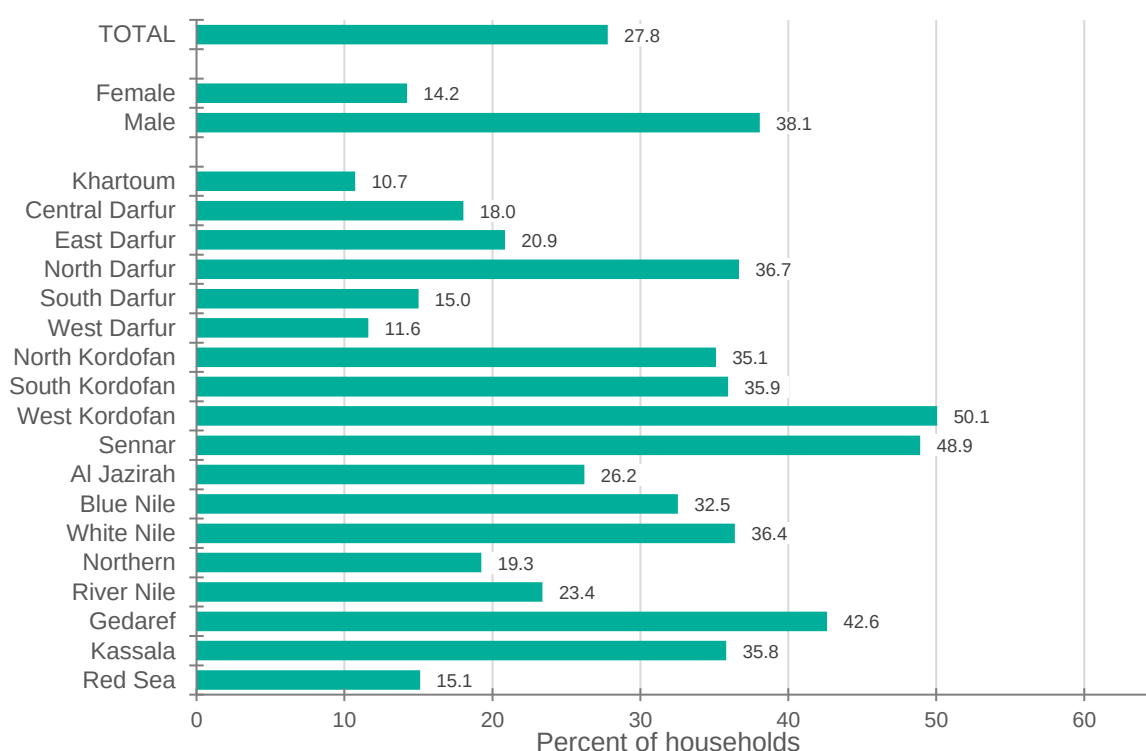


Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

6.4 Ownership of agricultural land

Over 71 percent of the respondents indicated that they or any of their household members do not own agricultural land (cropland, fishponds, or land for livestock rearing). Khartoum has the lowest share of respondents indicating that they own agricultural land, followed by West Darfur, South Darfur, and Red Sea states (Figure 6.16). West Kordofan is the only state where more than half of the respondents indicated owning land, followed by Sennar and Gedaref. About two-fifths of male-headed households own agricultural land, but only 14 percent of female-headed households do so.

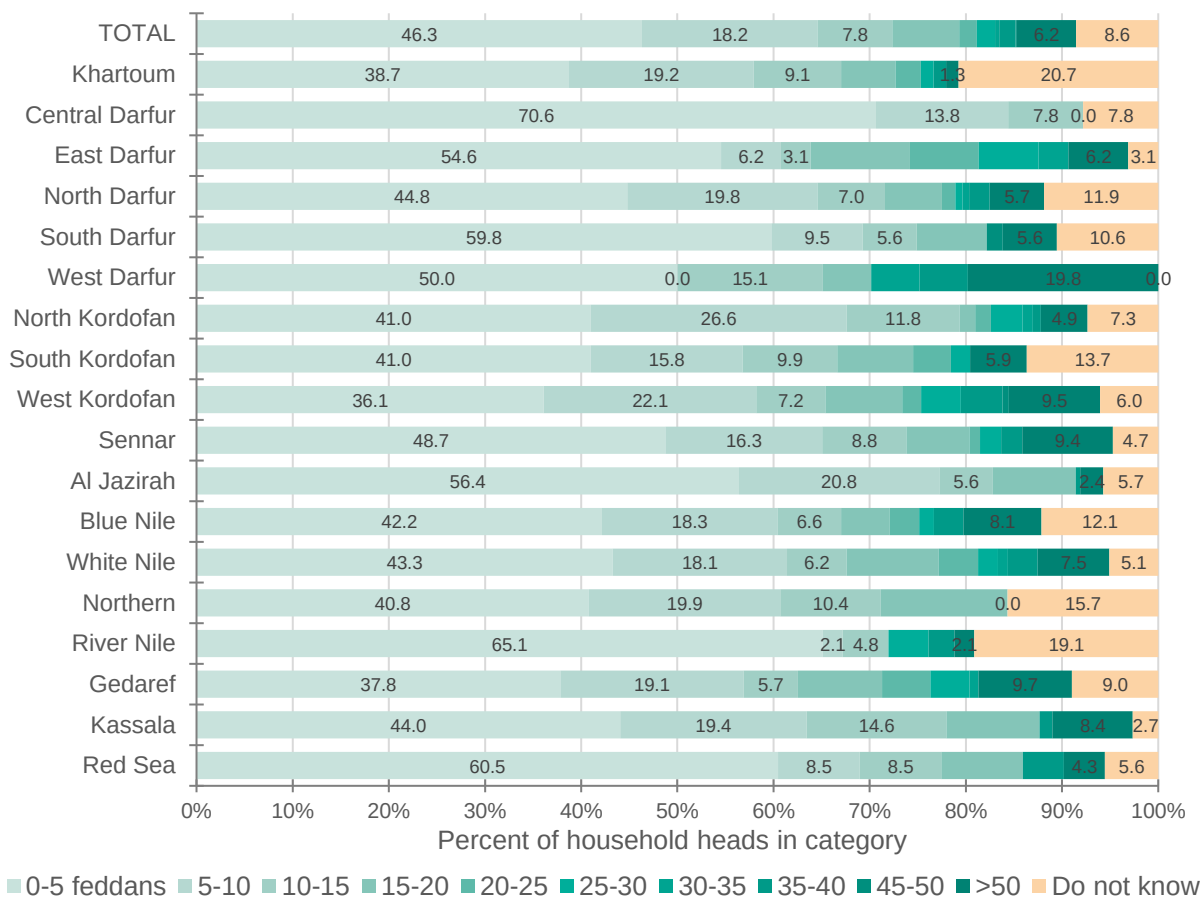
Figure 6.16 Reported ownership of agricultural land, by sex of household head and state



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Just under half of the households that reported owning agricultural land own less than 5 feddans (Figure 6.17). Six percent of agricultural land-owning households own more than 50 feddans, with the largest share of agricultural land-owning households with such large parcels being found in West Darfur, West Kordofan, and Sennar.

Figure 6.17 Size of agricultural land owned, by state

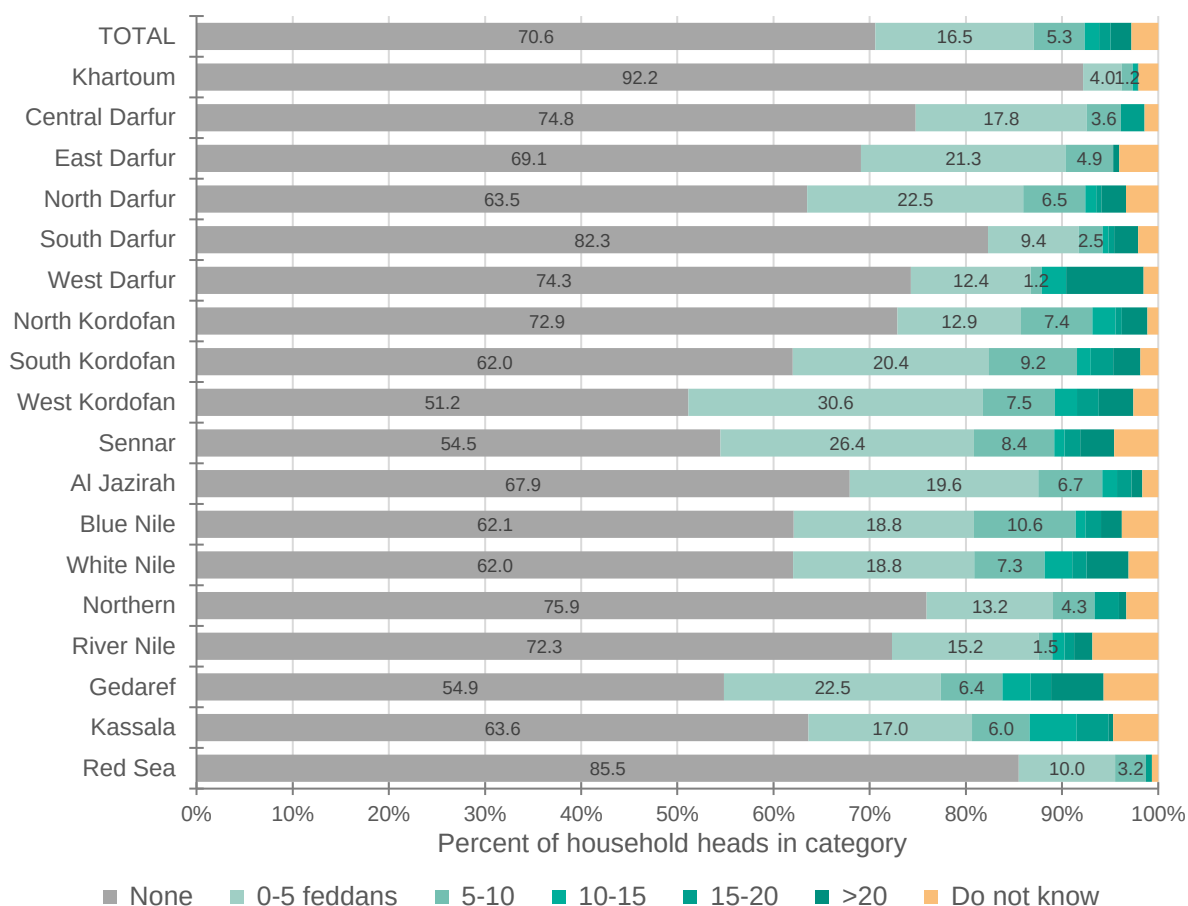


Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Note: A feddan is equivalent to 0.42 hectares or 1.04 acres.

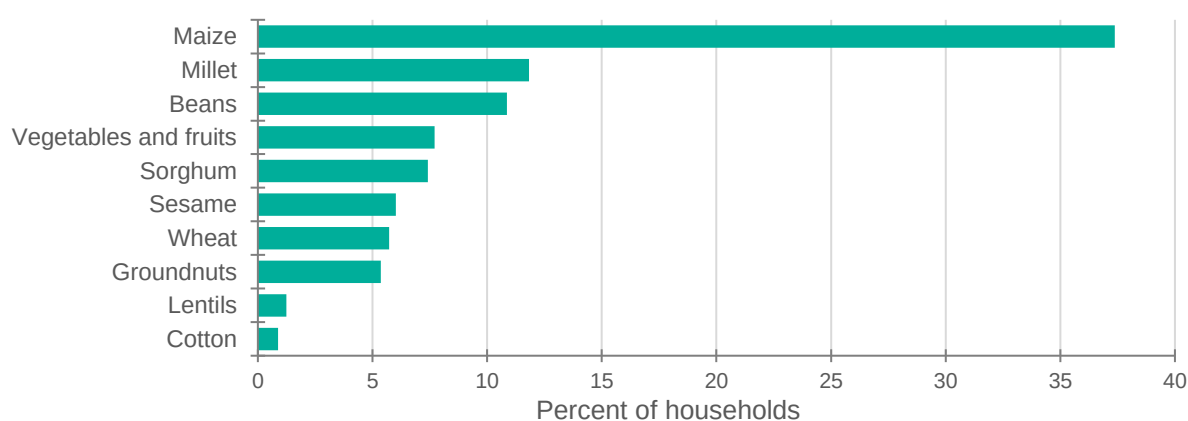
Over 70 percent of respondents indicated that they did not cultivate any land during the 2023 summer season (Saif season) (Figure 6.18). Sixty percent of the 30 percent of all households who cultivated land cultivated only up to 5 feddans and 20 percent cultivated between 5 and 10 feddans. Maize was the main crop planted, followed by millet and beans (Figure 6.19).

Figure 6.18 Area of land cultivated in the last season, by state



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Figure 6.19 Main crops planted

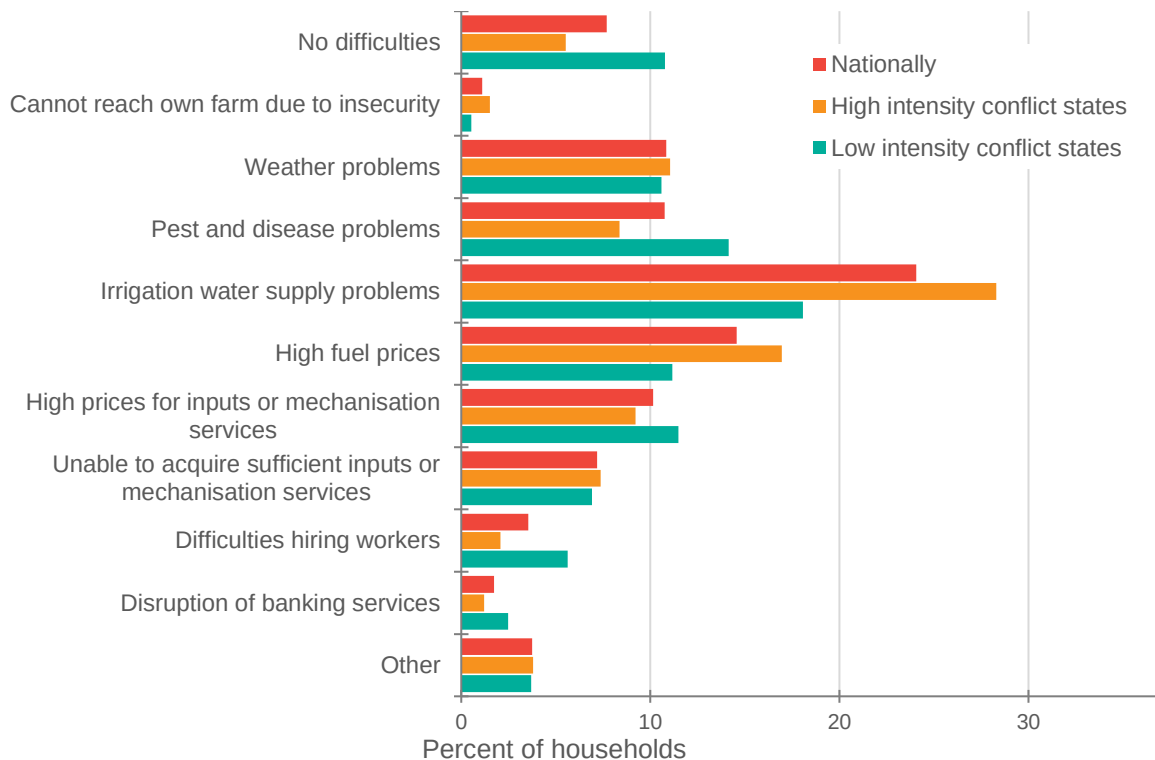


Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Moving to perceptions of the immediate challenges that farming households are facing, the top five challenges reported in order of priority include irrigation water supply problems, pest and disease problems, high fuel prices, weather problems, and high prices for inputs or agricultural mechanization services (Figure 6.20). Almost 11 percent of respondents indicated that they faced no significant challenges. When looked at from the perspective of conflict intensity, there are slight differences in the priority accorded to the type of challenges experienced regarding crop production. Irrigation water supply problems are the major

challenges in both low-intensity and high-intensity conflict states. The second major problem in low-intensity conflict states is high price of fuel, while pests and disease problems are the second most important challenges in high-intensity conflict states.

Figure 6.20 Most significant challenges experienced regarding crop production, by intensity of conflict locally



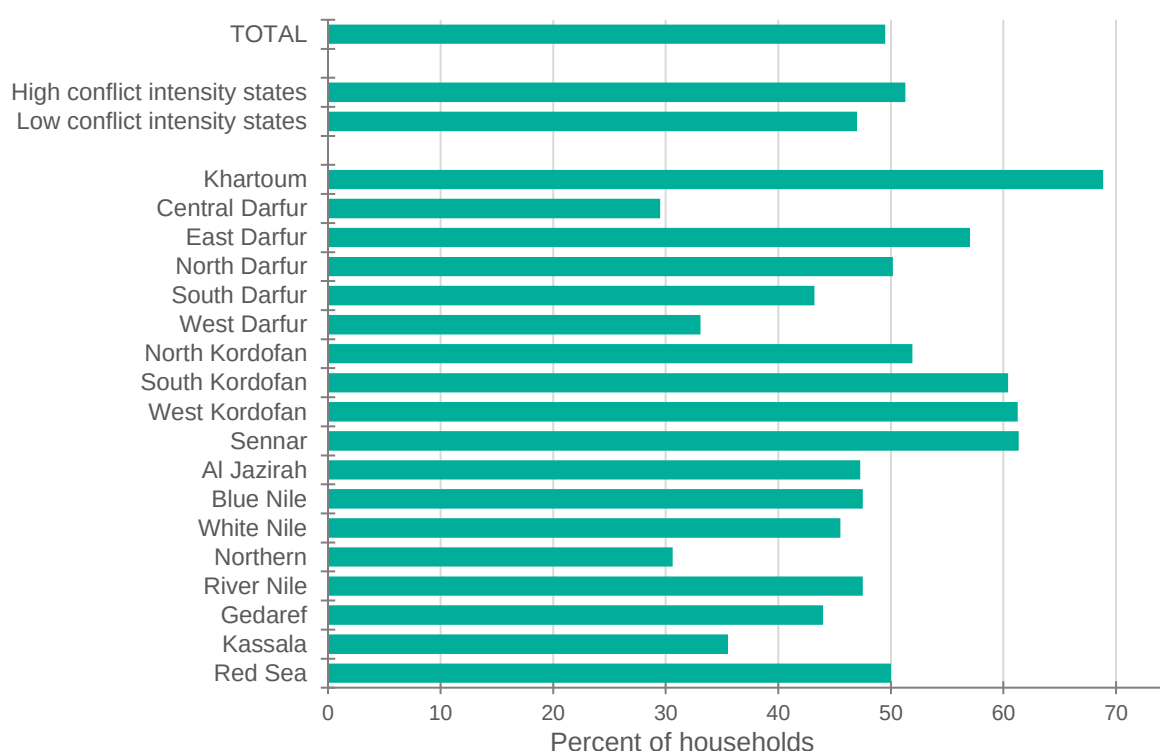
Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Note: The high conflict intensity states are Khartoum, Central Darfur, North Darfur, South Darfur, West Darfur, North Kordofan, South Kordofan, West Kordofan, and Aj Jazirah.

Respondents were asked whether the conflict impacted their farming. Half of the households that reported cultivating land indicated that their farming was disrupted by the conflict, with the share of households reporting this varying between states (Figure 6.21). The lowest share of households reporting that conflict disrupted farming was reported in Central Darfur. The highest share of households reporting that conflict disrupted farming was in Khartoum, followed by Sennar, South Kordofan, West Kordofan, and East Darfur.

Just over half of households from high-conflict intensity states reported disruption of cultivation due to the conflict, while just under half of households from low-conflict intensity states did so (Figure 6.21)—this difference is not statistically significant at $p < 0.05$, but is at $p < 0.10$. The reason why cultivation was affected by conflict in the low-conflict intensity areas could be due to disruption in transportation services, which limits access to markets, such as those for fertilizer and seeds. The principal market node for agricultural inputs is Khartoum, where the intensity of conflict has been the highest.

Figure 6.21 Households that reported their work in farming was disrupted, by state and local conflict intensity

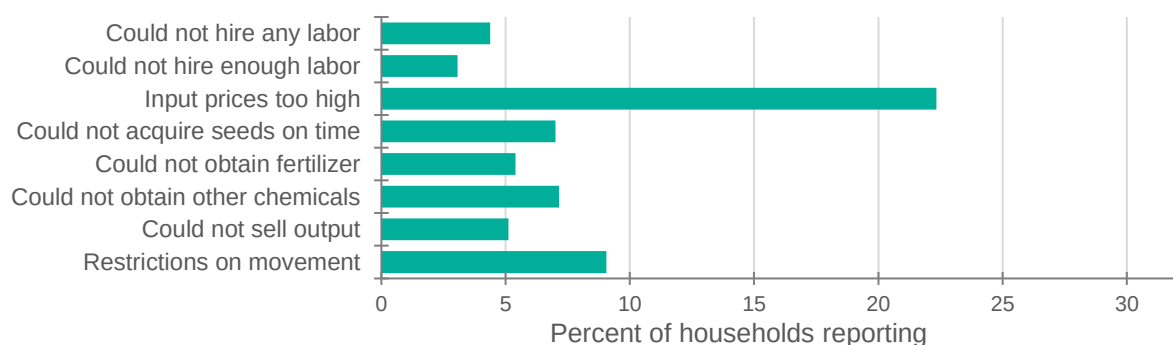


Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Note: The high conflict intensity states are Khartoum, Central Darfur, North Darfur, South Darfur, West Darfur, North Kordofan, South Kordofan, West Kordofan, and Aj Jazirah.

The most commonly reported disruption to farming was sharply higher agricultural input prices (Figure 6.22). This was reported by over 20 percent of households. Other disruptions were typically mentioned by between 5 and 10 percent of households. They included restrictions on movement, problems in acquiring seeds on time, and obtaining other inputs, whether fertilizer or other chemicals. Obtaining sufficient labor was a problem for a smaller share of households, but the reported inability of these households to hire sufficient labor suggests rural labor shortages may be emerging due to displacement or conscription.

Figure 6.22 Reasons reported for the disruptions to farming



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Collectively, these factors reveal an agricultural sector under siege from increased costs, physical destruction, and logistical hurdles and emphasize the conflict's comprehensive adverse effects on agricultural productivity and economic sustainability.

7) MARKET ACCESS AND DISRUPTIONS

The ongoing conflict in Sudan has resulted in substantial disruptions to market access, a pivotal aspect of the socioeconomic stability of the nation and its citizens. The ensuing turmoil has dramatically undermined the functionality of markets and led to widespread looting and a sharp decline in incomes, substantially elevating levels of insecurity within the country. These developments have impeded the regular flow of goods and services, crippled trade networks, and restricted consumer access to essential commodities. The collective impact of these events has not only disrupted the livelihoods of individuals and households but also posed significant threats to the nation's food security and economic resilience. Addressing these threats requires urgent and concerted efforts to restore access to markets and stabilize the market infrastructure.

Disruptions in market operations not only affect the flow of trade but also significantly influence production choices. The current conflict has adversely affected the regular operation of local markets across Sudan. According to a national rapid survey of almost 3,300 smallholder farmers conducted by IFPRI in late 2023 to assess the impact of the conflict on them, nearly one-third reported that markets are not functioning normally (Kirui et al 2023a). This impact is more acute in regions experiencing heightened conflict intensity, notably in Khartoum, Blue Nile, South Kordofan, and North Kordofan states, where a substantial number of markets are reported to be closed or not operating as usual.

In this chapter, we undertake an in-depth analysis of market dynamics within the current period of conflict in rural Sudan. We focus on market accessibility for households and implications of any restrictions on access. We aim to uncover the varied challenges households encounter in reaching markets, considering the significant roles that income levels, security situations, and gender play in shaping market access. Additionally, the chapter scrutinizes the barriers faced by households when it comes to buying and selling goods under conflict conditions.

We gain insights into both physical and economic hurdles that impede market transactions, such as market closures, low consumer demand, and high prices. All of these disrupt the economic well-being of communities. We identify patterns of market disruptions and understand the interplay between market access and the broader socioeconomic context.

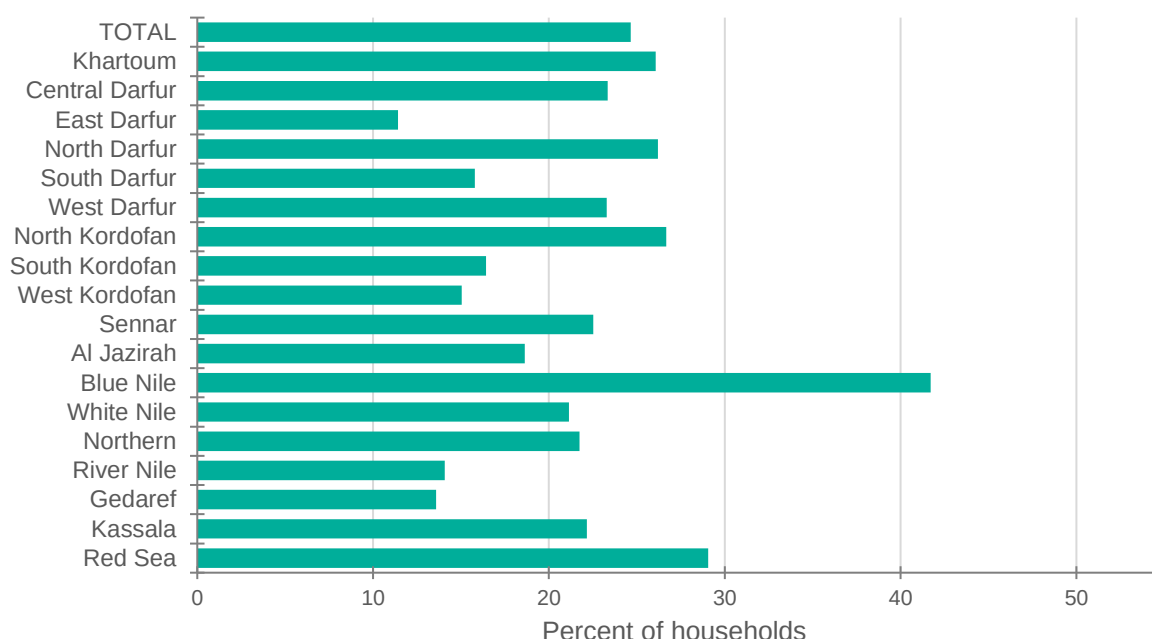
Ultimately, this chapter highlights the critical need for strategic interventions that ensure market accessibility and functionality. Such interventions are key to promoting recovery and resilience both during the conflict and in post-conflict settings. The goal is to provide a narrative that not only maps the current challenges but also serves as a foundational analysis for policies aimed at rebuilding and strengthening market systems in rural Sudan.

7.1 Market access

Figure 7.1 shows that only one-quarter of rural households reported that they were always able to visit markets. This lack of market access indicates obstacles like physical barriers, economic limitations, or safety issues that hinder households from obtaining essential supplies, including food. This situation could negatively influence their nutrition and general well-being. In rural Sudan, the fact that 25 percent of households face difficulties accessing

markets signals a significant threat to food security and the sustainability of household livelihoods.

Figure 7.1 Households reporting being not able to visit the market, by state



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Variation in market accessibility is noticeable across the states. For instance, Khartoum, Aj Jazirah, River Nile, South Kordofan, and White Nile states show market inaccessibility levels above the national average. This suggests localized challenges to market access in these states due to greater levels of instability, conflict, or restrictions on movement. However, it might also be due to income reductions or increases in the market prices of goods which prevented households from frequenting the markets.

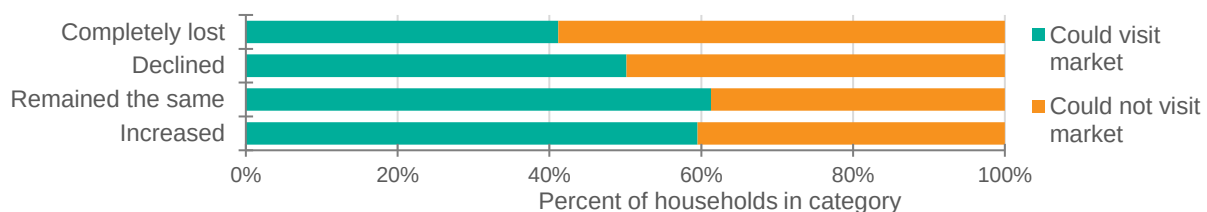
The variation in market accessibility underscores the need for targeted interventions. States with lower market access may require focused efforts to improve transport infrastructure, enhance security, or provide alternative means of commerce, such as local markets that are more readily accessible or delivery services, to ensure that households have consistent and safe access to essential goods.

The inability of a significant fraction of rural households to access markets is concerning and requires attention from policymakers and humanitarian organizations to address the specific barriers these communities face. The regional differences in market access emphasize the need for localized strategies to ensure that all households can obtain the goods and services necessary for their sustenance and livelihoods.

The data shows that for households whose incomes increased or remained the same, the majority were able to visit the market (Figure 7.2). This may be a positive factor contributing to their economic activity and potential to meet their needs through market purchases. However, when we look at households that have experienced a decline in income or have totally lost their income, the proportion of households who were not able to visit the market increases. This suggests that a lack of financial resources to make purchases may result in their not visiting their local market. Alternatively, the same conditions causing the loss of

income, such as conflict or a generalized or local economic downturn, may also be impacting market access.

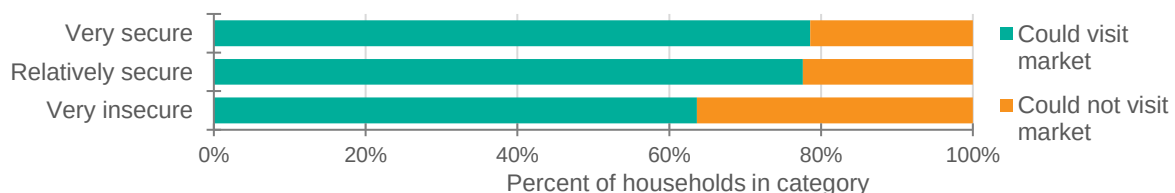
Figure 7.2 Ability to visit the market, by patterns in changes in income from before to during the conflict



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Market access is significantly associated with perceptions of security (Figure 7.3). Those households that felt “secure” or “very secure” about their physical security situation were more likely to go to markets. In contrast, those who perceived their situation as “very insecure” were much less likely to do so. This suggests that concerns over personal safety, particularly concerns stemming from conflict or the threat of violence, are preventing people from visiting markets and could result in shortages and difficulties in acquiring food and other essentials. This highlights the importance of improving physical security to facilitate market access in regions perceived as insecure. However, in areas considered secure, it is clear that addressing other barriers unrelated to security will be essential to ensure everyone can reach markets.

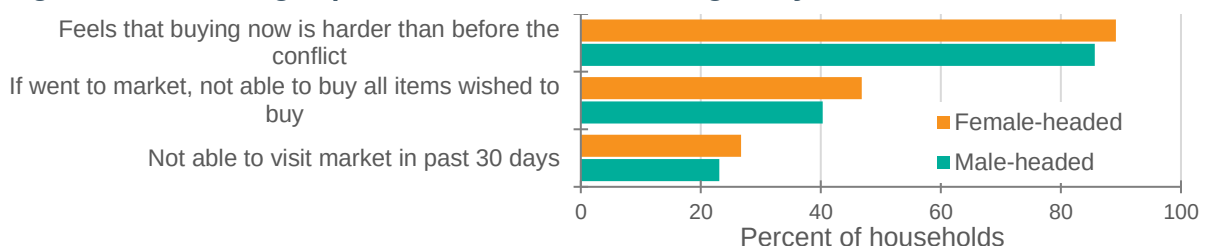
Figure 7.3 Households reporting being always able to visit the market, by perceived own level of security



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Figure 7.4 displays differences in market access and ability to buy between male-headed and female-headed households. These data show that a higher percentage of female-headed households reported that no one in the household was able to visit the market, indicating that these households face greater barriers to market access. This could be due to a range of factors, including safety concerns that disproportionately affect women or social norms that restrict women’s mobility (Etang, et al. 2021).

Figure 7.4 Marketing experiences since conflict began, by sex of head of household



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

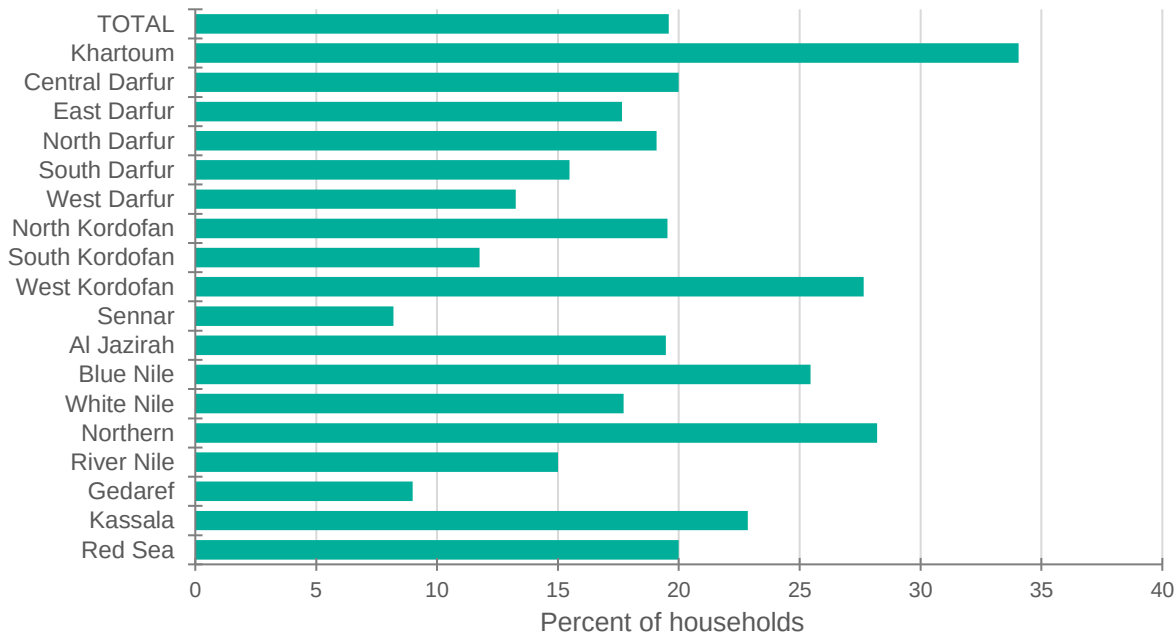
A higher percentage of female-headed households were not able to buy what they wanted to buy compared to male-headed households. This difference could be attributed to female-headed households having lower income levels than male-headed households or a relatively greater lack of control over financial resources. While buying now is harder compared to before the conflict for households headed by both men and women, a larger proportion of female-headed households than male-headed households find it difficult to buy goods in the current period of conflict.

The data suggest that female-headed households are at a disadvantage when it comes to market access and the ability to buy what they need. This may necessitate targeted interventions to support these households, such as providing safe transportation to markets, financial assistance, or creating more accessible market opportunities within communities. The analysis emphasizes the need for gender-sensitive approaches both during the conflict and in post-conflict recovery and development efforts, ensuring that both male-headed and female-headed households have equitable access to markets and the means to purchase essential goods.

7.2 Main challenges related to selling or buying goods

Figure 7.5 and Figure 7.6 highlight the challenges faced by sellers across various states in Sudan and the underlying reasons why sellers are unable to conduct transactions. From Figure 7.5, it is evident that the inability to sell spans across all states with varying intensity. Khartoum stands out with the highest percentage of sellers unable to sell.

Figure 7.5 Households reporting an inability to make sales, by state

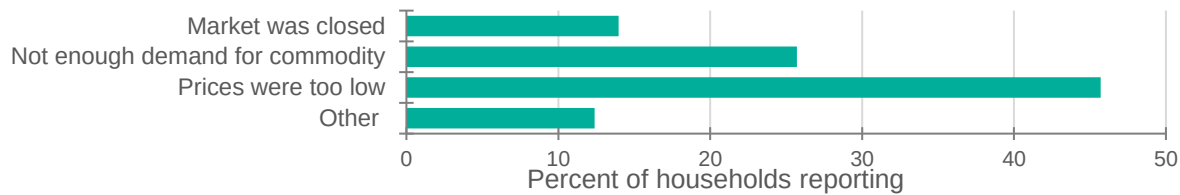


Source: Authors’ weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

When asked about the reasons that prevented them from selling, households working as sellers gave ‘prices were too low’ as the most common reason, accounting for nearly half of the responses (Figure 7.6). This could reflect a broader economic downturn, affecting market prices and leading to a gap between the cost of production and the selling price that makes transactions unviable for sellers. ‘Not enough demand’ is the second most common issue

and represents a significant barrier to selling. This indicates that consumer purchasing power may be diminished, possibly due to widespread economic hardship or displacement, leading to a decrease in the market demand for goods and an inability to access markets.

Figure 7.6 Reasons given by households for not being able to make sales



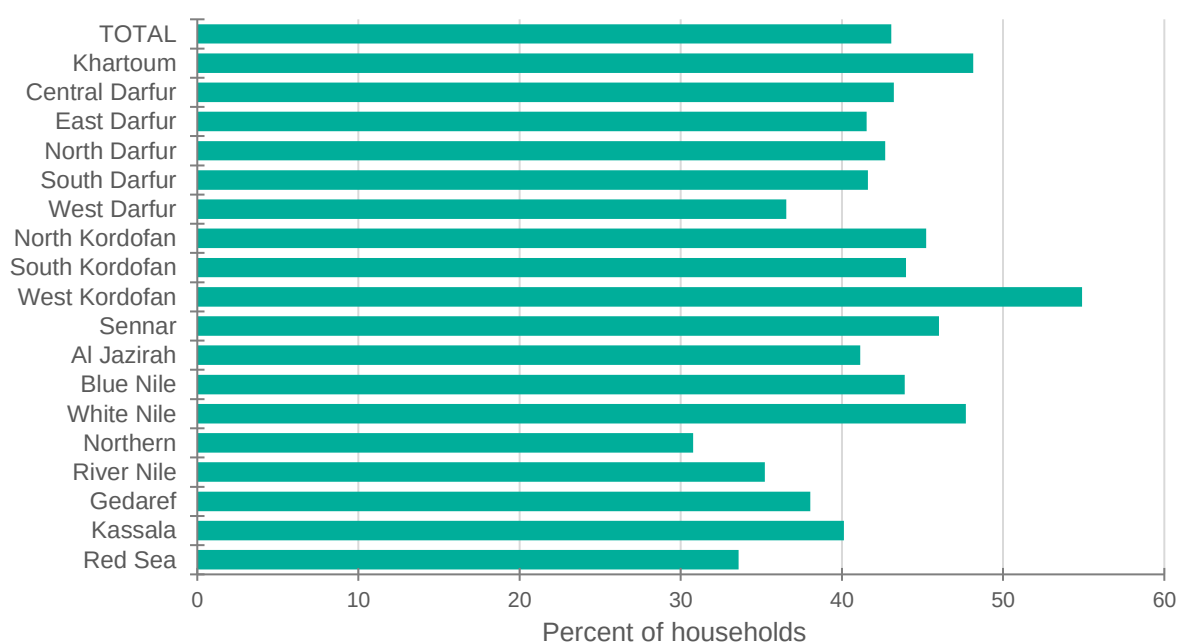
Source: Authors’ weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

The ‘market was closed’ response, while less frequent, is still significant and points to the structural and regulatory hurdles that sellers face. This response could be attributed to conflict-related closures, temporary market shutdowns for security or health reasons, or even seasonal variations in market activity.

Sellers also are grappling with market dynamics that prevent them from engaging in productive commerce. These challenges are widespread and suggest that recovery efforts must address the root causes of conflict and any other factors that might lead to market dysfunction.

The challenges of purchasing necessities in various Sudanese states reveal difficulties surpassing those of selling goods. Forty-three percent of respondents nationwide reported being unable to make essential purchases (Figure 7.7). This issue widely affects the population with relatively high levels seen in all states, reflecting significant financial strain and market instability that hinder consumer transactions.

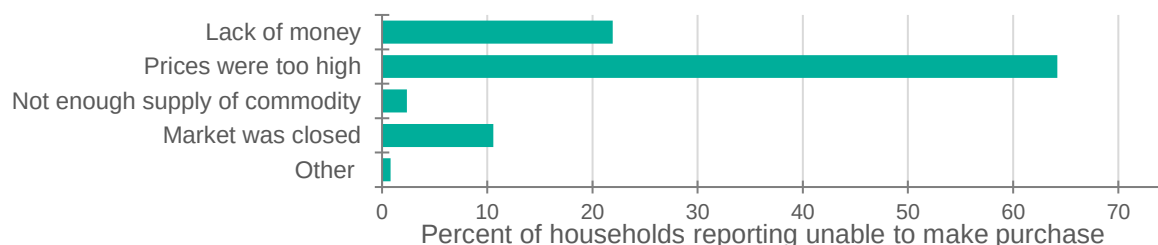
Figure 7.7 Households reporting an inability to make purchases, by state



Source: Authors’ weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

High prices are the primary barrier, cited by 64 percent of those unable to purchase, indicating an inflation trend that places goods beyond many consumers' financial reach (Figure 7.8). Furthermore, 22 percent attribute their purchasing difficulties to a lack of funds, highlighting how decreased income or job losses directly limit buying power. This situation mirrors the challenges faced by sellers, where low demand affects sales, showing that economic difficulties impact both market sides.

Figure 7.8 Reasons given by households for not being able to make purchases



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Market closures, reported by 11 percent of households, suggest conflict-related disruptions contribute to these challenges, complicating market participation further. The similarity in issues faced by buyers and sellers underscores a shared economic strain, emphasizing the necessity for holistic economic measures to tackle both supply and demand obstacles, aiming to reestablish market balance and ensure goods are accessible and affordable for all impacted communities.

8) EXPOSURE TO SHOCKS

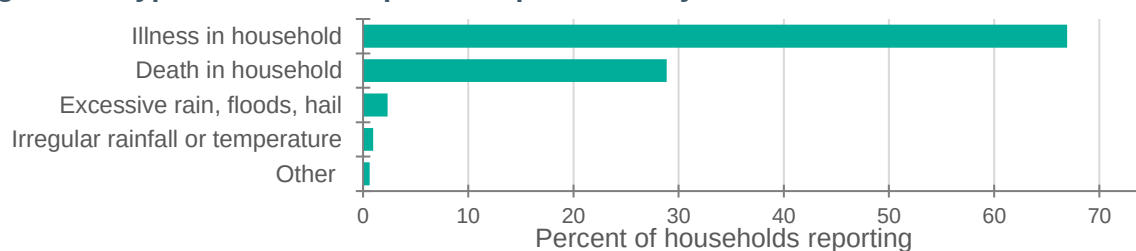
This chapter elucidates the multifaceted effects of demographic shifts, economic stressors, and conflict on the livelihoods of rural households in Sudan. By delving into the dynamics of shock exposure, shifts in physical security perceptions, impacts on asset ownership, and the evolution of employment and income levels, the chapter sheds light on the complex realities confronting these households.

The examination of shock exposure reveals significant variances, highlighting how conflict intensity and personal experiences shape households' vulnerability to shocks. The study also uncovers the influence of household characteristics, such as the sex of the household head and household size, on shock exposure, suggesting that larger households and those led by females are more likely to encounter shocks.

8.1 Types and frequency of shocks experienced by households

Figure 8.1 shows the degree to which households in Sudan experienced different types of shocks in the previous year.

Figure 8.1 Types of shocks reported experienced by households



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Very few households reported experiencing drought. This may simply reflect the relatively good rainfall obtained for crop production in 2023. Under different conditions, drought may be an important shock affecting the livelihoods of many rural households. However, some households reported facing irregular rainfall, without specifying what sort of irregularities were encountered. Excessive rain and flooding were reported by 4 percent of the sample, suggesting that, while not widespread in 2023, when such events occur, they can adversely affect a notable subset of the population.

Death and sickness within the household were the most common shocks reported. Almost 30 percent of households experienced the death of a family member or someone close, while sickness affected about two-thirds of all households. These two shocks underscore the pervasiveness of health-related issues and their impact on household well-being in rural Sudan.

A tabulation of the total number of shocks that households reported experiencing is presented in Table 8.1. Notably, 2,305 households, or 51 percent of all households, experienced at least one type of shock. Out of the households that experienced a shock, 85 percent reported experiencing only one type of shock. A smaller yet considerable portion of the sample, reported experiencing two types of shocks. Very few households reported experiencing more than two shocks. This pattern might be attributable to either the resilience

of the households or the absence of compounding factors that lead to households experiencing multiple shocks.

Table 8.1 Number of shocks households reported experiencing

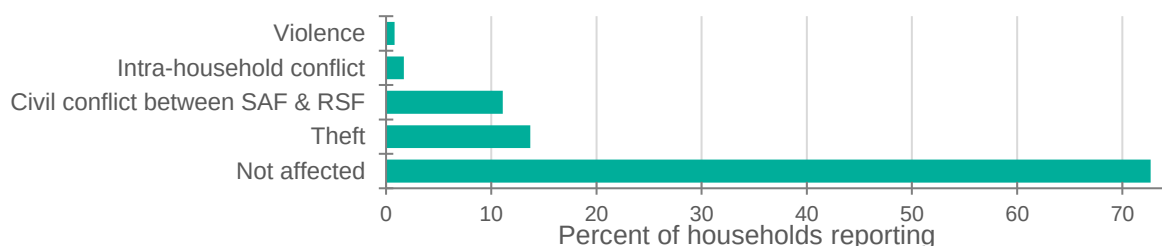
Number of shocks	Frequency	Percent of households	Percent of those experiencing shocks
None	2,198	48.8	NA
One	1,971	43.8	85.5
Two	315	7.0	13.7
Three	16	0.4	0.7
Four	2	0.0	0.1
Five	1	0.0	0.0
Total	4,503	100.0	100.0

Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Note: NA = "Not applicable".

Shocks that are specifically related to conflict were reported by only a few households (Figure 8.2). Theft was reported by about 14 percent of households, indicating that crime, likely exacerbated by conflict conditions, is a considerable concern. Violence affected about one in twenty households, directly impacting the physical security and mental well-being of those households. A relatively small percentage of households reported intra-household conflicts, suggesting that while not widespread, such conflicts do arise and can disrupt family dynamics.

Figure 8.2 Conflict-related shocks experienced by households



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Note: SAF = "Sudanese Armed Forces". RSF = "Rapid Support Forces".

The analysis shows a spectrum of shock experiences, with personal idiosyncratic shocks, particularly sickness, being the most common. This primarily reflects widespread health challenges in rural Sudan. Climatic shocks, like irregular rainfall and flooding, though less frequent, are notable as they can have far-reaching consequences on agriculture and housing. Conflict-related shocks, particularly theft, are significant and could be linked to the breakdown of social order and security mechanisms during conflict. This detailed classification of shocks offers insight into the multifaceted nature of the challenges faced by households, highlighting the need for diverse mitigation and support strategies tailored to the specific types of shocks experienced by rural community members.

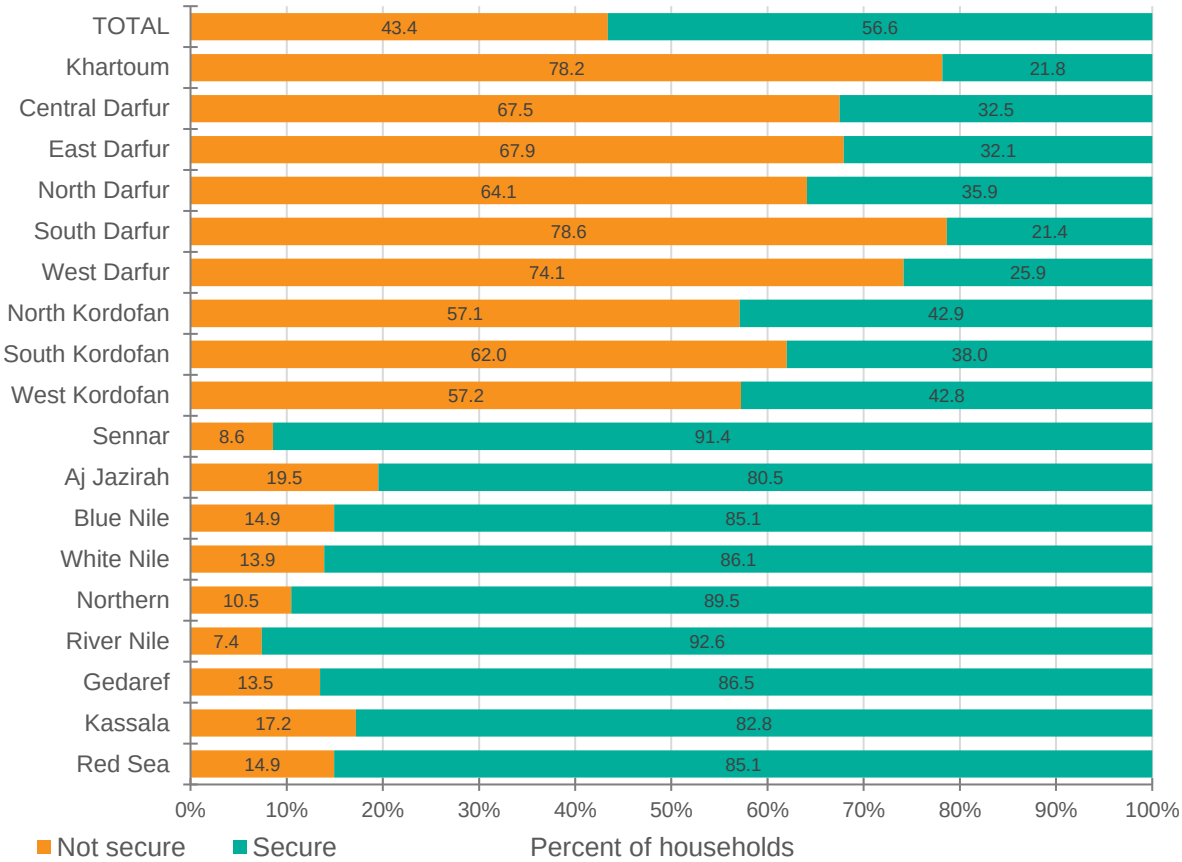
8.2 Shifts in the level of physical security across states

In analyzing the shifts in physical security across different states, a detailed look at the current perceptions of security provides some understanding of how residents perceive their safety amidst varying levels of conflict intensity. The information presented in Figure 8.3 is

based on households’ perceptions of the current security situation. These findings suggest that the relationship between the objective presence of conflict, as indicated, for example, by ACLED’s classification of conflict events and violent incidents across Sudan, and the subjective experience of security is complex and multi-dimensional.

The complexity of conflict in Sudan suggests that the straightforward presence of conflict, as quantitatively measured, does not directly translate into uniform perceptions of insecurity among affected communities. Instead, individuals’ subjective experiences of security are shaped by many factors, including, but not limited to, the intensity and proximity of conflict, historical experiences of violence, community resilience, and the effectiveness of local governance and security measures.

Figure 8.3 Perception of households of current security situation, by state



Source: Authors’ weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

Central Darfur, South Darfur, and Khartoum, all identified as high-intensity conflict zones, exhibit contrasting trends in security perceptions. Households in Central Darfur reported a notably positive security perception, challenging the expectation that high-intensity conflict zones inherently correlate with lower feelings of security among their residents. This discrepancy might indicate that the intensity and nature of conflict events, as well as their direct impact on the populace, significantly influence the communal sense of security. It could also reflect a temporal improvement in security conditions not captured by the conflict event counts.

Conversely, residents in Khartoum and South Darfur primarily report a perception of insecurity, aligning with their classification as high-intensity conflict areas. This observation

underscores the anticipated impact of conflict on security perceptions, suggesting a direct correlation in these regions between the presence of conflict and a pervasive sense of insecurity among the population.

Some states classified as low-intensity conflict areas, like Blue Nile and Sennar, reveal high perceptions of insecurity, hinting at the profound effect even minimal conflict events can have on public sentiments. This suggests that factors other than direct conflict, such as economic instability, social unrest, or environmental challenges, might also be at play in shaping these perceptions.

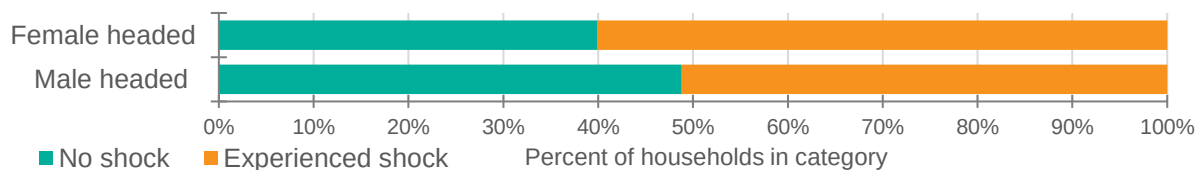
States like Gedaref, Kassala, and White Nile, with fewer recorded conflict events, generally exhibit more stable perceptions of being secure. This observation aligns with the initial hypothesis that lower conflict intensity might correlate with perceptions of higher security. However, the varied security perceptions across different low-intensity conflict states suggest that the absence of conflict does not automatically translate into a universally heightened sense of security.

The intricate relationship between recorded conflict events and the subjective sense of security underscores the complexity of how conflict intensity influences public perceptions. It is clear that a myriad of factors, including economic conditions, social changes, and government policies, shape these perceptions. As such, understanding shifts in physical security across states requires a holistic approach that considers both quantitative conflict data and qualitative assessments of societal well-being and resilience.

8.3 Types of shocks vis-à-vis household characteristics

Our analysis of the exposure to shocks among households by household characteristics reveals a noteworthy distinction based on the sex of the household head (Figure 8.4). The data indicates that 51 percent of male-headed households were affected by shocks, compared to 60 percent of female-headed households, a statistically significant difference (Pearson Chi-square of 5.50; p-value of 0.019).

Figure 8.4 Exposure to shocks, by sex of household head



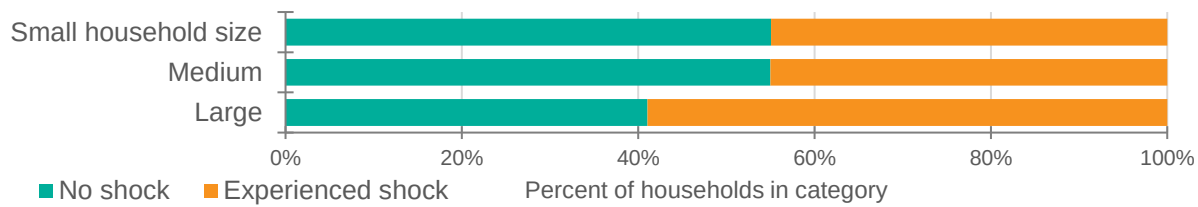
Source: Authors’ weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

The observed gender-based differences in shock exposure necessitate a deeper exploration into the underlying factors. It prompts an inquiry into the social, economic, and cultural dynamics that shape these disparities, including potentially limited access to resources, lower income levels, and less social support, which can make it more challenging for female-headed households to mitigate the impacts of shocks. Specifically, it calls for an examination of the risks and reporting behaviors unique to male-headed households, as well as the support mechanisms and resilience strategies employed by female-headed households.

The differential impact of shocks across households of varying sizes is also a subject of considerable importance. Our analysis shows that as household size increases, the

proportion of households reporting shock exposure also rises (Figure 8.5). While similar shares of small and medium-sized households experience shocks, larger households are considerably more likely than smaller households to have experienced a shock. The Chi-square test confirms the statistical significance of this relationship between household size and shock exposure ($p<0.001$).

Figure 8.5 Exposure to shocks, by household size

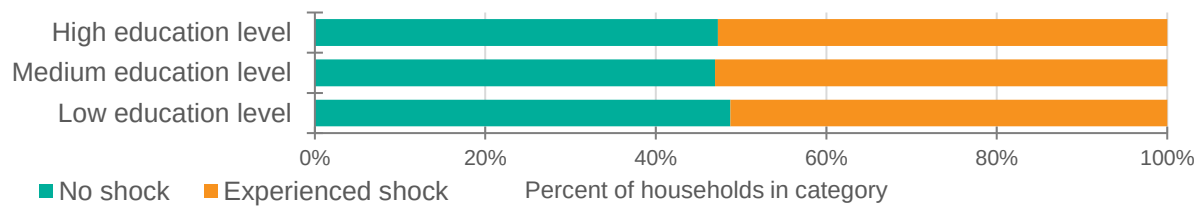


Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.
Note: Small household size = 1 to 4 members; Medium = 5 to 8 members; Large = 9 or more members.

This pattern may suggest that larger households face a diversity of risks due to their broader range of activities and dependencies. Alternatively, it could reflect a concentration effect where shocks, when they occur, affect a larger number of individuals simultaneously. These findings imply that larger households, perhaps by virtue of their complexity and the multiplicity of their socioeconomic engagements, may be more susceptible to encountering shocks.

The assessment of shock exposure by the level of education of household heads presents an intriguing picture of resilience and vulnerability across educational strata. The data reveals a nuanced perspective on how households, regardless of the educational attainment of their heads, navigate the challenges posed by natural, climatic, or personal shocks. The distribution shows that there is very little difference in experience of shock by households based on the educational attainment of their head (Figure 8.6). The uniformity in exposure to shocks across educational levels challenges the notion that higher educational attainment could serve as a robust buffer against the potential adverse impacts of such shocks on a household. Instead, it highlights the pervasive nature of these adversities, cutting across educational boundaries and affecting households in a more universally distributed manner.

Figure 8.6 Exposure to shocks, by household head education level



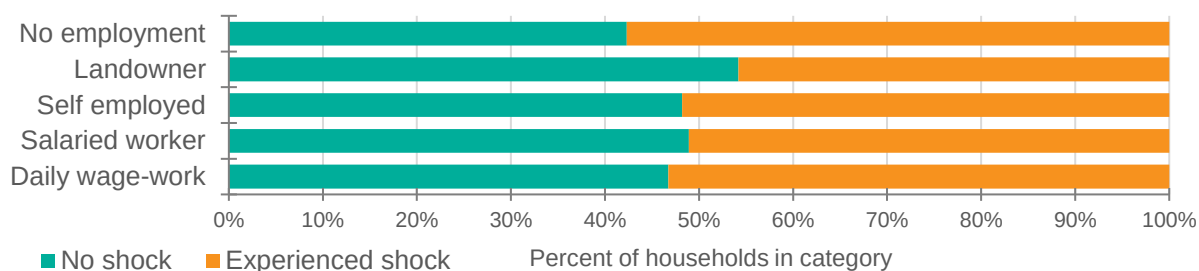
Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

The relatively even distribution of shock exposure across educational groups suggests that factors beyond educational attainment might play a critical role in shaping households' vulnerability and resilience to shocks. This could include the nature of employment, access to financial resources, social networks, and the geographical location of households, which might collectively influence how households experience and respond to shocks. The analysis underscores the importance of adopting a holistic approach to enhancing household

resilience. While education is undoubtedly valuable for numerous reasons, including potentially enhancing long-term resilience and adaptive capacity, the immediate impact of educational attainment on shocks seems to be less discriminant.

In revisiting the analysis concerning the impact of employment status before the conflict on households' exposure to shocks, the dataset illuminates subtle differences among various employment groups (Figure 8.7). The graph highlights the heightened vulnerability of households with unemployed workers and households dependent on daily earnings to abrupt economic and environmental shifts. Salaried workers experienced shocks at a slightly lower rate than unemployed and wage workers, hinting at a minor variance in vulnerability that could be attributed to the relative steadiness provided by salaried roles.

Figure 8.7 Exposure to shocks, by household employment status before the conflict



Source: Authors' weighted analysis of data from IFPRI-UNDP Sudan Rural Household Survey 2023.

The results show that households with no employment and those relying on daily wage work are more susceptible to experiencing shocks, with 57.7 percent and 53.3 percent, respectively, experiencing shocks. This could be attributed to the precarious nature of their income sources, often the first to be disrupted during economic downturns or conflicts (Banerjee and Duflo 2007). Landowners show a higher resilience to shocks, with only 45.8 percent experiencing shocks. This could be due to their ability to rely on agricultural production for self-consumption and income, which may provide a buffer against external shocks. Salaried workers and the self-employed exhibit a moderate level of shock exposure, which may reflect the mixed nature of their income stability and sources.

However, despite these differences in exposure to shocks based on employment, the differences are not statistically significant. The absence of statistical significance in these differences suggests a widespread vulnerability to shocks that cut across employment status, indicating that the type of shocks—be it climatic, economic, or health-related—impacts a broad array of households irrespective of the pre-conflict employment status of the head. This generalized vulnerability could reflect the pervasive nature of certain events that indiscriminately affect households across different sectors.

However, the relatively lesser exposure among landowners merits attention and aligns with the notion that possession of assets, such as land, can offer a cushion against shocks. This resilience might stem from the dual role of land as both an income source and a means of sustenance, providing a layer of protection against the potential immediate consequences of shocks.

This analysis highlights how employment status before a conflict can significantly influence a household's vulnerability to economic shocks, emphasizing the critical role of stable and diversified employment in building economic resilience.

9) CONCLUSIONS AND IMPLICATIONS

9.1 Conclusions

This IFPRI-UNDP joint report reveals the severe impact of armed conflict on the livelihoods of rural households in Sudan, demonstrating significant socioeconomic disruptions. The conflict has led to widespread displacement, diminished livelihoods, and increased food insecurity, adversely affecting agriculture and other income-generating activities. Additionally, market disruptions and a greater reliance on remittances highlight the complexity of these challenges. However, the impact has been heterogeneous across states and households.

Thes pervasive severe food insecurity necessitates urgent and extensive interventions to enhance food aid, revitalize agricultural systems, and restore supply chains in order to mitigate the food crisis and prevent further escalation. Furthermore, other urgent and immediate actions are needed to prevent famine, including a ceasefire, unhindered humanitarian access, and increased support for food, nutrition, health, water, and sanitation interventions.

Migrants, typically with higher pre-conflict incomes, faced harsh economic downturns, with 30 percent losing their income entirely. Non-migrants also suffered, with a majority experiencing income declines, albeit to a lesser extent in terms of complete income loss.

The conflict has exacerbated challenges in access to basic infrastructure—notably, 73 percent of households now live in inadequate conditions. Vulnerabilities in access to water, electricity, and sanitation are pronounced, particularly among women and the less educated, highlighting the exacerbation of existing disparities by the conflict. Furthermore, only a small fraction of households owns agricultural land, with cultivation heavily disrupted by conflict across all states, regardless of conflict intensity. Essential challenges include disruptions to irrigation and the high cost of fuel, affecting both high- and low-conflict areas.

The report calls for urgent, targeted interventions to mitigate these effects, focusing on addressing income loss, vulnerabilities in housing, damage to infrastructure, and disruptions in agriculture. It emphasizes the necessity of improving public services, supporting agricultural and economic resilience, and ensuring equitable access to resources for affected households.

9.2 Implications and recommendations

The findings call for significant investment and strategic interventions to address these disparities and improve living conditions for the most vulnerable. The necessity for tailored interventions and policies that consider sex, household size, and socioeconomic status is clear if the multifaceted effects of conflict on rural communities in Sudan are to be mitigated. These efforts should focus on enhancing public services, supporting livelihoods, and ensuring equitable access to resources and markets. We propose the following priority actions:

Immediate Humanitarian Assistance: For households facing severe food insecurity and income loss, immediate aid is essential. This could be in the form of food aid, cash transfers, or both.

Enhance Public Services: Immediate efforts should be directed towards improving access to basic utilities, including safe drinking water, sanitation, and electricity, particularly in conflict-affected regions. This involves the provision of temporary solutions in areas where restoration may take longer.

Support Agricultural Livelihoods: Given the critical role of agriculture in rural livelihoods, interventions should focus on providing farmers with access to inputs, irrigation, and modern farming techniques. This could include subsidized input packages, rehabilitation of irrigation infrastructure, and training programs on resilient farming practices. Efforts should also focus on improving agricultural practices and access to markets.

Market Accessibility and Functionality: Restoring market functionality is vital for both economic recovery and food security. Efforts should include reconstructing market infrastructure, establishing secure trade corridors, and supporting local traders and small businesses in resuming operations.

Economic Interventions: Diversification of income sources through active labor market policies, vocational training, and support for non-agricultural micro-enterprises can offer affected households alternative livelihood options. Additionally, cash transfer programs could alleviate immediate financial burdens, enabling households to access food and other necessities.

Social Protection Measures and Targeted Support for Vulnerable Groups: Establishing and expanding social protection programs to support the most vulnerable, including women-headed households, households with low education levels, large families, and unemployed and daily-wage workers is crucial. Tailored interventions, such as targeted cash transfers, social safety nets, and access to childcare and eldercare services, can address the specific vulnerabilities of these groups.

Long-term Economic Recovery Plans: The government and international organizations should devise and implement long-term strategies aimed at economic stabilization and recovery, focusing on agriculture and market access.

Infrastructure Rehabilitation: Rebuilding and enhancing critical infrastructure, including roads, water systems, and electricity, is fundamental for the recovery of rural livelihoods.

Resilience Building and Preparedness: Initiatives aimed at building the resilience of rural communities to withstand future shocks are necessary. These include efforts to diversify livelihoods and strengthen community-based support systems, investments in early warning systems, and the establishment of grain reserves to mitigate the impacts of future food crises.

Gender Responsiveness to humanitarian and livelihood opportunities and longer-term economic recovery and stabilization is necessary to ensure the inclusion of female-headed households, expanding their ability to cope, to access services, and to accumulate assets.

Coordination and Partnership: A coordinated approach involving government agencies, international organizations, non-governmental organizations, and local communities is essential for the effective implementation of these interventions. Partnerships should focus on leveraging resources, sharing expertise, and ensuring interventions are culturally sensitive and aligned with the needs of the affected populations.

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