



Production of sorghum and millet 2.6 million tonnes less than 5 year average



2.6 million tonnes could have fed 17 to 18 million people for a year



With an economic value of USD 1.3 to 1.7 billion dollars



7 states with severe impact to the livestock subsector

From April 2023 to the present day, the Sudan has experienced a huge escalation in conflict which has had devastating effects on the agriculture and food systems sector. During the conflict period, the Sudan has also experienced dry conditions in 2023 and flooding in 2024 which has added to the impact of the ongoing war on agriculture. In order to understand this further, FAO has embarked upon a three stage process to shed light on damage and loss in the agriculture sector. As a first stage, a preliminary analysis was conducted to understand the crop production impacts **experienced in the first year of the war (April 2023–March 2024)**. This preliminary analysis focuses only on millet and sorghum, the main staple cereals. It is thus a **partial analysis in terms of time period and thematic scope**. Further analysis of the crop and livestock subsectors, including agricultural infrastructure will be provided in December 2024–January 2025 using additional remote sensing and field data.

**Crop production impacts**

Production of sorghum and millet over this period was about 2.6 million metric tonnes below the 5 year average. This could have fed between 17 and 18 million people for a year, and represents an estimated USD 1.3 to 1.7 billion at pre-conflict prices.

West Darfur experienced the highest share of foregone economic value amounting to USD 278 million (21 percent of the total), followed by South Darfur with USD 234 million (18 percent) (Figures 1 and 2). Central Darfur and East Darfur each accounted for approximately USD 190 million (14 percent of the total per state). In Kassala and West Kordofan the dollar value of reductions exceeded USD 130 million (10 percent of the total, each), whilst in North Kordofan and Blue Nile the reduction is valued at over USD 100 million in each state. Aj Jazirah, and White Nile experienced reductions estimated at over USD 50 million. Overall, the distribution of states with the highest reductions closely aligns with the main conflict hotspots.

Figure 1. Value of cereal (sorghum and millet) production reductions in 2023 (millions of USD)

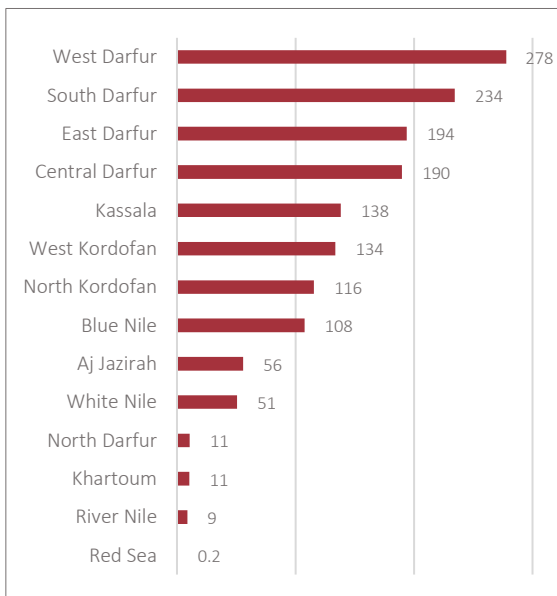
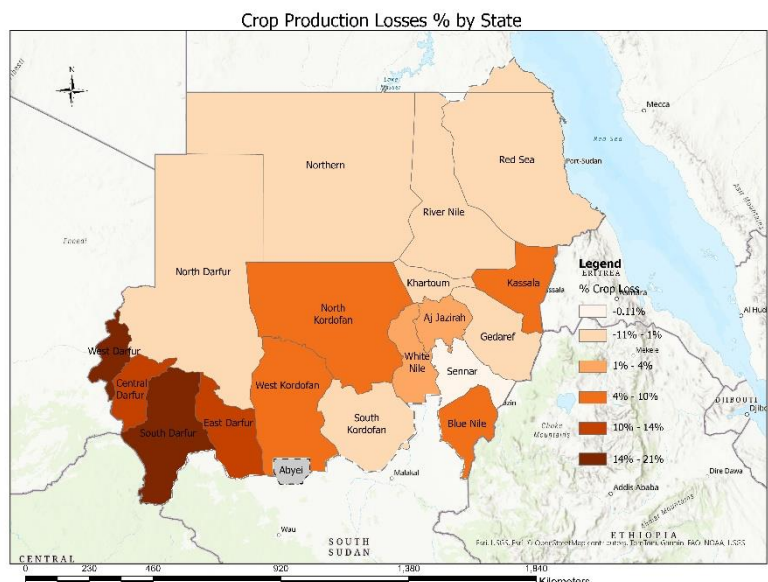


Figure 2. Sorghum and millet production reductions by state (April 2023–March 2024)



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## Agricultural context in the Sudan

The agriculture sector provides livelihoods for about two-thirds of the population, and contributes about a third of the gross domestic product. Crop production is practiced under three main patterns: irrigated, semi-mechanized rainfed and traditional rainfed systems. Crop production in the rainfed sectors, accounting on average for about 95 percent of the planted area and is practiced nationwide. By contrast, production in the irrigated sector, accounting for the remaining 5 percent, is geographically concentrated. More than 60 percent of area under irrigation is located in the Al Jazirah Scheme in the Homonymous State which, at approximately 1 million hectares is one of the largest irrigation scheme in the world. The Sudan has two agriculture seasons. The summer season, the primary, begins with the planting of key crops such as sorghum, millet, groundnuts, sesame, sunflower and cotton in June/July, and harvesting takes place in November/December. The minor winter season focuses mainly on wheat and is planted in November/December, and harvested in March/April (FAO, 2024c; Kumar et al, 2023).

The conflict that broke out in April 2023 occurred towards the end of the 2022/2023 winter harvest season. Subsequent 2023 summer season planting activities were disrupted as was access to pasture and water for livestock rearing households. Labour availability plummeted. Looting and destruction of already available food and seed stocks increased, as well as escalated prices of farm inputs (IPC, 2023; FAO, 2024a). The war has hindered not only the winter planting activities but also the repair of irrigation infrastructure (Barhy et al, 2024; Kumar et al, 2023).

A remote sensing assessment conducted by the Food and Agriculture Organization of the United Nations (FAO) during the 2023 summer season (Barhy *et al*, 2024; Kumar *et al*, 2023) indicated an 82 percent reduction in irrigated cultivated areas in July, followed by decreases of 9 percent in August and 4 percent in September. All localities in Aj Jazirah experienced a decline in cultivated area in July 2023, but some saw slight increases in August and September. Additionally, the rainfed cultivated area decreased by 48 percent in July, 7 percent in August and 9 percent compared to the five-year average. The states most affected by this decline were Khartoum, Gedaref, North Darfur, North Kordofan and West Kordofan. Amid escalating conflict during the winter season, the Gezira Irrigation Scheme saw a 9 percent reduction in planted area in 2023/24 compared to the 2019/20 season.

## Livestock sector

In addition to crop production impacts, farmers have suffered livestock deaths, losses of livestock products – including future production losses due to reduced offspring numbers – and livestock pests and diseases. While the figures necessary for calculating damage and loss figures in this sector are not readily available, it seems clear that these will have been very significant.

Conflict has made livestock rearing activities and veterinary services nearly impossible in the seven states categorized as facing severe impact: South Kordofan, West Kordofan, North Darfur, Central Darfur, West Darfur, Aj Jazirah and Khartoum. These states face total abandonment of farms, destruction of infrastructure, lack of humanitarian support and loss of livelihoods, in addition to massive displacement of rural and urban populations, non-functional markets and heavy livestock looting.

Already limited veterinary services are virtually non-existent in many places. Livestock diseases, and shortages of water and veterinary supplies are widespread (FAO, 2024a). Increased livestock diseases have been particularly noted in Darfur and Kordofan.

From March to April 2024, veterinary input vendors reported a sharp increase in the prices of fodder, feed and veterinary drugs across all states, driven by the ongoing conflict and resulting in supply disruptions (FAO, 2024b).

The ability to sell livestock products has been severely curtailed due to the closing down of meat and milk processing facilities. By July 2023, 13 percent of milk and meat processing firms were permanently shut down, 53 percent were temporarily closed and 20 percent significantly reduced operations. This trend continued into 2024 (Kirui et al, 2023).

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## Scope and description of analysis, and next steps

This analysis was conducted using data from the 2022/23 and 2023/24 FAO Crop and Food Security Assessment Missions (FAO, 2024c). It covers the period April 2023–March 2024. The analysis covers the main summer crops – sorghum and millet – and is an underestimate of the total cereal crop loss as it does not include winter wheat. The production loss values were converted into kilocalorie losses and presented as the number of people who could have been fed for one year with the lost production. The USD value of sorghum and millet losses was computed using pre-conflict retail prices. The livestock qualitative analysis from Data and Emergencies and FAO (2024a) provided reporting from the field level.

This analysis is the first of three products to be produced over the period December 2024–March 2025 which will analyse damage and loss in the agriculture sector since the start of the Sudan’s civil war.

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Figure 1: Source of data: FAO. 2024b. *Special report – 2023 FAO Crop and Food Supply Assessment Mission (CFSAM) to the Republic of the Sudan. 19 March 2024*. CFSAMs Special Reports, 01/2024. Rome. <https://doi.org/10.4060/cd0053en>

Figure 2: Source of data: FAO. 2024b. *Special report – 2023 FAO Crop and Food Supply Assessment Mission (CFSAM) to the Republic of the Sudan. 19 March 2024*. CFSAMs Special Reports, 01/2024. Rome. <https://doi.org/10.4060/cd0053en>

Source of map: OCHA. 2020. Sudan - Subnational Administrative Boundaries. [Accessed on 12 November 2024]. <https://data.humdata.org/dataset/cod-ab-sdn> Licence: CC BY-NC-SA 3.0 IGO

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### Underlying data

Underlying data can be accessed from these datasets on the CFSAM 2022/23 and 2023/24 reports



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## Contact

FAO Representation in the Sudan

FAO-SD@fao.org  
www.fao.org/sudan | @FAOSudan  
Port Sudan, the Sudan

Office of Emergencies and Resilience

Data-in-emergencies@fao.org  
data-in-emergencies.fao.org | @FAOEmergencies  
Rome, Italy

Food and Agriculture Organization  
of the United Nations