



Food and Agriculture
Organization of the
United Nations

The Sudan

Rapid assessment on the summer season agricultural performance

November 2023



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REQUIRED CITATION

FAO. 2023. *The Sudan: Rapid assessment on the summer season agricultural performance – November 2023*. Rome. <https://doi.org/10.4060/cc8960en>

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At a glance

This report provides an overview of the Sudan's summer season agricultural performance as of September 2023. It centres on the status of crop and livestock production to draw out the core challenges that both the agriculture sector and agro/pastoral communities currently face following the outbreak of conflict in April 2023. It moreover points to key recommendations to improve the current season's performance and food security at the household level.

Key findings

- The total planted area fell by 15 percent compared to the last five-year average.
- Based on the estimated percentage of harvestable areas compared to cultivated areas, sorghum production is estimated to be 24 percent less than in 2022 and millet production is estimated to be about 50 percent less than in 2022.
- Unavailability and high cost of agricultural inputs, lack of finance to farmers, absence of agricultural extension services, devaluation of local currency, lack of imports, limited supplies at local markets, poor rainfall distribution, widespread presence of plants pests and diseases, and a highly fragile security situation were common challenges reported.
- Fertilizers, pesticides and herbicides were not available in several states. When available on markets, they were stored from the previous season, and were usually at insufficient quantities and high prices.
- Widespread plants pests were reported in all states.
- Unusual livestock movement was reported in some states, attributable to conflict and changes in rainfall patterns. In North Darfur, pastoralists are actively searching for secure areas in the northeast because of the ongoing conflict. According to reports, some groups have already been denied access to pasturelands in Darfur region. Similarly, pastoralists from South Darfur will be compelled to return to their dry season territory or seek nearby areas in East Darfur. In Blue Nile, the presence of the Sudan People Liberation Movement North Sudan military is expected to become a barrier, preventing pastoralists from reaching their usual dry season camping grounds.
- Four priority zoonotic diseases were reported: brucellosis, dengue fever, rabies and salmonellosis. If left unaddressed, these diseases could have devastating effects on animals and could potentially spread to humans.
- Increased risk of the spread of transboundary animal diseases exists due to a severe shortage of veterinary vaccines and drugs, inadequate veterinary services, lack of supplementary feed, overcrowding of livestock in limited pasturelands, destruction of rangeland by wildfires, water shortages, and irregular movement of livestock across state borders.
- If the state veterinary services are not rebuilt, it is anticipated that there will be significant livestock losses. Additionally, inadequate consumption of animal sourced

food (such as milk) could drive an increase in malnutrition rates among children in vulnerable states.

- Overwhelmingly adverse effects on the current and projected food security situation at the household level were observed due to the disruption and loss of wage labour, deteriorating household purchasing power, disruption of agrifood supply chains and food production factories, lack of input availability for the winter season, and loss of the Khartoum main market to sell local products.

Introduction

In October 2023, the Food and Agriculture Organization of the United Nations (FAO), in collaboration with the Ministry of Agriculture and Forests, the Food Security Technical Secretariat and other partners, carried out a rapid assessment for the 2023 summer season agricultural performance in 17 states¹ across the Sudan to provide a snapshot of the summer season's progress as of the end of September.² Undertaken against the backdrop of conflict that erupted on 15 April 2023 between the Sudanese Armed Forces and the paramilitary Rapid Support Forces, the assessment fills an urgent information gap regarding the factors affecting the seasons' performance, provides a window into the harmful impact of the ongoing conflict and assesses current and projected food security at the household level.

The assessment examines areas cultivated and planted with major crops, especially staple food crops like sorghum and millet, as well as key factors affecting agricultural performance, including rainfall conditions, plant pest and diseases, availability of and accessibility (cost/price) to agricultural inputs and other related factors. In addition, the assessment reveals major challenges encountered during the season's cultivation, such as lack of finance to farmers, absence of extension services, a highly fragile security environment, and limitations of mobility and constraints along supply chains, among others. Moreover, livestock production was examined, including livestock body conditions and health, availability of pasture/feed and water, and availability of and access to livestock vaccination and treatment. The key related challenges in livestock production were assessed, including input prices and conflicts between herders and farmers, among others.

Moreover, the adverse impacts of the conflict's devastating consequences were examined. This includes limited access to agricultural financial resources as a result of disruptions to banking services. A spike in the cost of agricultural inputs, such as seeds, fertilizer, insecticides, herbicides, fuel, and spare parts for machineries, was observed. Farmers had to abandon their agricultural fields and some lost their agricultural assets in search of safety. In some states, technical institutions responsible for agriculture were dismantled. Instability has restricted the movement of farmers, agricultural extension workers and animal health workers. The report further examines the multidimensional impact of conflict on the ever-deteriorating household food security situation.

Based on the assessment's findings, recommendations for decision-makers and partners are proposed for improving the current season's performance and household food security. The recommendations emphasize measures for improving crops, livestock and fisheries production and productivity; managing and resolving community conflicts over resources; strengthening food security and agricultural livelihoods information for improved decision-making and action; and capacity development of local and national agricultural institutions and non-state actors.

¹ Seventeen out of eighteen states were assessed, with Khartoum the exception.

² The summer agricultural season in the Sudan spans June to July and October to November.

Methodology

The assessment covered seventeen of the eighteen states, except Khartoum. Data estimates have been provided by ministries at state level, and the season's agricultural performance data were mainly obtained from the state technical agricultural planning and statistics department of the Ministry of Production and Economic Resources in all the seventeen states. Key informant interviews were also conducted with implementing partners, farmers, community leaders and private companies. A detailed checklist was applied to collect relevant quantitative and qualitative data from those interviews, in addition to focus group discussions. Great lengths were taken to verify the authenticity of the data by cross-checking and triangulating it through the process of key informant interviews, focus group discussions and field visits.³ Wherever possible, brief field visits of the agricultural field performances were conducted.

Summer season rapid assessment results

Planted areas

- **Total planted area** in 17 states (except Khartoum) is estimated at **21.3 million hectares** (ha), about **15 percent less** than the average annual planted area during the previous five years (see Table 1).
- Total area planted in the traditional rainfed sector, the semi-mechanized sector, and the irrigated sector is estimated at 12.5 million ha, 8 million ha, and 0.8 million ha, respectively (see Table 4).
- In 2023, about 55 percent of total planted area was cultivated in July, while 40 percent was cultivated in August, and 5 percent was cultivated in September.
- **Sorghum** planted area is estimated at **9.9 million ha**, nearly **similar** to the planted area in 2022 and the average of the planted area for 2017–2021 (see Table 2).
- In the main sorghum production areas, a considerable increase in the planted areas was reported in Sennar, Gedarif, North and South Darfur compared to 2022. However, this increase was offset by a decline in sorghum planted areas in Kassala and Blue Nile, as well as sharp reduction in Central Darfur and West Darfur, where sorghum planted areas were about 95 percent and 85 percent, respectively, lower than the planted areas in 2022.
- About 38 percent of the total sorghum planted areas are cultivated in traditional rainfed areas, while 57 percent are cultivated in the semi-mechanized areas, and 5 percent are cultivated in irrigated areas.

³ No field measurements were conducted as part of this rapid assessment and is primarily based on secondary data sources. The information contained in this report therefore may not conform with other reports using different methodologies.

- The **millet** planted area is estimated at **4 million ha**, about **16 percent lower** than the planted area in 2022 and about **10 percent lower** than the average of 2017–2021 (see Table 3).
- Millet planted areas in Kassala, Sennar and Blue Nile significantly exceeded planted areas in 2022. On the other hand, **Central Darfur and West Darfur** reported **sharp reductions in the millet** planted areas at 93 percent and 86 percent lower than planted areas in 2022, respectively. South Kordofan reported a 65 percent reduction in the millet planted area compared to 2022.
- No millet is grown in the irrigated areas. About 89 percent of total millet planted area is cultivated in traditional rainfed areas, and 11 percent is cultivated in semi-mechanized areas.
- The total **sesame** planted area is estimated at **2.9 million ha**, about **24 percent lower** than planted areas in 2022. Six states made up 75 percent of the total sesame planted areas, namely Gedarif, North Kordofan, Sennar, South Darfur, South Kordofan and White Nile.
- The total **groundnut** planted area is estimated at **2.7 million ha**, about **27 percent lower** than the planted areas in 2022. West Kordofan, East Darfur, South Darfur and North Kordofan contain 85 percent of the total planted groundnut areas in the country.
- The total **cotton** planted area is estimated at **0.26 million ha**, about **57 percent higher** than the planted area of the previous season. Cotton cultivation is limited to Blue Nile, Gedarif, Sennar, South Kordofan and Aj Jazirah. Small areas in Kassala, Northern and River Nile also reported the cultivation of cotton.
- The total **sunflower** planted area is estimated at **0.15 million ha**, about **71 percent lower** than the planted area of the previous season. Sunflower cultivation is reported only in Blue Nile, Sennar and Gedarif and in a small area in Kassala.

Sorghum and millet growth status and production forecast

- Apart from Aj Jazirah, Blue Nile and South Kordofan, where sorghum growth is reported to be in good status, all remaining states reported poor to average growth status.
- All states reported poor to average millet status, except Gedarif and Sennar where it was reported to be in good crop status.
- Poor to average sorghum and millet growth status is attributed to the poor rainfall distribution with prolonged dry spells and the.
- Based on consultations with extensionists and key informants at the state level, the expected percentages of harvestable areas compared to planted areas varies among the different states from between 20 percent for crops with poor status to 90 percent for crops with good status (see Table 5).
- Based on the estimated percentage of harvestable areas compared to cultivated areas, sorghum production is estimated at about 4 million tonnes (24 percent less

than production in 2022) and millet production is estimated at 0.9 million tonnes (about 50 percent less than production in 2022).⁴

Main factors affecting seasonal performance

- Though cumulative rainfall totals from June to September 2023 across much of the country were average to above average. Below-average rainfall totals were observed over some of the main production areas in the southeast. Additionally, the rainy season was characterized by a poor temporal rainfall distribution with dry spells reported by all states. In some cases, these dry spells were extended, exceeding several weeks and affecting crop growth.⁵
- Minor flash flood events occurred in Central Darfur, Gedarif, North Kordofan and White Nile. More specifically, small areas, cultivated with different crops and estimated at about 2 500 ha in Gedarif, and a similar area in North Kordofan were affected. The largest agricultural areas affected by flash flood were reported in West Darfur, where about 28 000 ha were affected. No reports on damage to crops from the river Nile flooding in northern states are available.⁶

Plant pests and diseases

- Widespread plants pests were reported in all states. For example, the presence of tree locusts was reported in 11 states. Local birds and grasshoppers were also widely reported in ten states. Quelea birds and rats were reported in six states, while desert locusts, sorghum bug and sorghum midge were reported in five states. Other pests, such as armyworm, stalk pourer and powdery mildew, were present in three states. Location-specific pests were also reported in several states.
- Unavailability, insufficiency and the high cost of pesticides were the main reasons for the widespread presence of plants pests. In addition, the situation was aggravated by the absence of pest control operations this year by the federal Plant Protection Directorate. With FAO's support, Plant Protection Directorate has resumed operations to control desert locusts and prevent the pest's invasion to agricultural areas in the north and east. As the Sudan's air space is currently closed because of the war, PPD has been unable to operate aircrafts for aerial control of pests, especially for birds and locusts.

Availability and prices of agricultural inputs

- The prices of agricultural inputs are generally increasing in all states, limiting farmers' access to inputs required for crops management, harvest and storage. A lack of financing to farmers, the devaluation of the local currency, limited supplies at local

⁴ Production forecasts are based on current crop status, which is subject to change due to climatic and non-climatic factors affecting crop productivity. Higher quality agriculture production estimates will be produced during the annual Crop and Food Supply Assessment Mission.

⁵ See CHIRPS seasonal rainfall accumulation percent of normal, June through September 2023, by FEWS NET/USGS (<https://earlywarning.usgs.gov/fews/product/597>).

⁶ See CHIRPS rainfall anomalies for June, July, August and September 2023 by FEWS NET/USGS, which show poor rainfall distribution and dry spells throughout the season (<https://earlywarning.usgs.gov/fews/ewx/index.html?region=af>).

markets and limited access to cash, especially in Darfur, were the main reasons reported for the high cost of agricultural inputs.

- Fertilizers, pesticides and herbicides were not available in several states. When available, they were usually at insufficient quantities and high prices. The lack of imports in 2023 is an additional factor affecting the availability and prices of these inputs at local markets. The available quantities currently on markets are stored from the previous season.
- The availability of fuel varies amongst the states. More specifically, it is mostly unavailable in Central and West Darfur, North Kordofan and River Nile. Some areas in Darfur reported fuel available from neighbouring countries, mainly from Libya, though at very high prices. The supply of fuel in other parts of the country is generally stable, but at insufficient quantities and at high prices. Since the lifting of fuel subsidies in 2021, farmers purchase fuel from local markets at prevailing prices. This year, a few state governments managed to allocate fuel for agriculture, but with limited quantities and at market prices.
- Hand tools and empty sacks used for packaging harvests were generally available at local markets, but at high prices and insufficient quantities in some states.
- The availability of agricultural machineries and agricultural services from public and private sector providers varies among the states. Where available, prices are high. Dysfunctional public institutions, the reluctance of private service providers to operate under uncertain security conditions, a lack of machinery spare parts, and limited farmers' purchasing power due to a lack of credit and cash, are the main reasons for insufficient agricultural machineries and services, as well as high prices for these items/services.

Conflict

The ongoing conflict has adversely affected the performance of the main agricultural season in multiple ways due to:

- Limited or no access to agricultural financial resources as a result of disruptions or erratic functioning of the banking services. Most importantly, planting activities and production activities in irrigated and semi-mechanized sectors were heavily impacted.
- As noted above, there are high prices, alongside a lack or limited availability of agricultural inputs, such as seeds, fertilizer, insecticides, herbicides, fuel, and spare parts for machineries, which is also attributable to conflict. Conflict and insecurity severely affected the transportation of agricultural inputs to production areas, especially in the Darfur and Kordofan regions.
- Displacement of farmers from conflict hotspot areas (e.g. Central Darfur, West Darfur) caused them to abandon their agricultural fields and lose their agricultural assets. On the other hand, in areas that hosted displaced people (e.g. Al Jazera, White Nile, Sennar and others), heavy pressure on hosting households has been a significant challenge, as many agricultural households have exhausted their meagre resources.

- Limited or non-functionality of federal government technical institutions important to the season's agricultural production, such as crop protection and meteorological agencies. Government technical departments' staff encountered difficulties in actively engaging in the season's cultivation as a result of a lack of means of living because their salaries have not been paid to-date since the outbreak of the conflict.
- In the main production areas, labour is generally available, but at high labour wages due to increased cost of living (eg. South Kordofan and Blue Nile). On the other hand, people fled from Khartoum to agricultural areas, such as Gedarif, White Nile and Sennar, have actively engaged in agriculture for income generation. Therefore, the market in such areas is saturated with labour, causing lower wages. The reported shortage of labour in River Nile and Northern states was attributed to labour engagement in gold mining, despite being the highest recipient states for displaced people from Khartoum.
- Disruptions to agricultural input supply chains due to interruptions and blockades of roads and transportation routes, including erratic or no means of communication (phone and internet links), leading to disruptions in overall agricultural commerce and trade throughout the country and weakened capabilities of vulnerable smallholder households due to ever deteriorating capacities to access food production inputs and services.
- Restricted movement of farmers, agricultural extension workers, and animal health workers as a result of insecurity.

Key challenges encountered related to season's crop production

- The unavailability and high cost of agricultural inputs, a lack of finance to farmers, the absence of agricultural extension and services, a high fragility of the security situation, poor rainfall distribution, and the widespread presence of plants pests and diseases were common challenges to the ongoing season, reported by all states.
- Crops planted this year are exposed to several risks that could affect harvests. Reported risks include crop damage due to pest infestations, lack of safe access to farmlands during the harvest, and conflicts with pastoralists, especially along/near livestock migratory routes, that cause crop losses due to destruction by livestock.

Key challenges encountered related to livestock production

Livestock body conditions, pasture condition and livestock mobility

- Most of the states reported good livestock body condition scores, ranging from three to five in almost all species. However, it is expected that livestock body

conditions will seasonally deteriorate during the transition into the dry season, which typically starts in October. The same situation prevails for pasture conditions. Currently, pastures are reported to be in fair to good condition. Most states reported normal livestock movement, apart from North and South Kordofan, North and South Darfur, Gedarif and Blue Nile.

- Rainfall, conflict, crop harvests and livestock mobility are all interconnected in the Sudan. Reported unusual livestock movement in some states can be attributed to the conflict and changes in rainfall patterns. In North Darfur, pastoralists are actively searching for secure areas in the northeast as a result of the ongoing conflict. According to reports, some groups have already been denied access to pasturelands in Darfur. However, neighbouring states, such as West Kordofan and North Kordofan, may be able to accommodate them. Similarly, pastoralists from South Darfur will be compelled to return to their dry season territory or seek nearby areas in East Darfur. In Blue Nile, the presence of the Sudan People Liberation Movement-North military is expected to become a barrier, preventing pastoralists from reaching their usual dry season camping grounds.
- It is expected that the conflicts between farmers and herders over access to livestock routes and grazing camps, and the damage to crops harvest, will intensify during the winter and dry seasons. In specific regions of Darfur, namely Central, South, and West Darfur, there is a notable probability that the Crop and Livestock Protection Committees will not be able to adequately support the monitoring of cultivated lands and livestock routes. This could lead to blocked routes, crop destruction and conflicts between farmers and herders, ultimately fuelling tribal tensions. Moreover, the situation is worsened by camel herders who ignore designated routes during periods of insecurity, further escalating disputes between farmers and the nomadic community.

Contagious and zoonotic disease burden

Several diseases are suspected in many states, such as peste des petit ruminants, sheep pox, lumpy skin disease, foot-and-mouth disease, black quarter, tick-borne diseases and botulism. However, no official incidents have been reported. Additionally, there were widespread reports of parasitic infestations. This season, four priority zoonotic diseases were also reported: brucellosis, dengue fever, rabies and salmonellosis. If left unaddressed, these diseases could have devastating effects and could also spread to humans.

Availability of and access to veterinary vaccines and drugs

The ongoing conflict in the Sudan has led to a severe shortage of veterinary vaccines and drugs in all 18 states. This shortage is primarily attributed to the extensive damage inflicted on the national veterinary infrastructure at the Central Veterinary Research Laboratory in Khartoum. Consequently, the production of vaccines has been significantly hindered. Limited quantities of leftover vaccine stocks from the previous year are available in some states for livestock vaccination activities. A shortage of medications for livestock owners was reported across various regions of the Sudan, resulting in

unprecedented price increase. To address this issue in the short term, importing vaccines and drugs can help bridge the gap.

Intensive dairy and poultry value chains and food security and nutrition

The ongoing conflict in Khartoum has had a major impact on the poultry and dairy industries. More specifically, conflict has caused damage to infrastructures and spillover effects in urban areas across the Sudan. Khartoum used to be the main centre for the modern dairy and poultry industry in the country. It provided states with high-quality concentrate feed, one-day-old chicks, and improved milking animals. However, the manufacturing companies responsible for producing these inputs were destroyed. This led to a halt in procurement and transportation from Khartoum. Livestock processing factories and market outlets also faced disruptions. Furthermore, decreased purchasing power that has reduced demand has worsened the situation. As a result, many companies and producers have been forced to sell their products at lower prices or donate them to poor households in Khartoum. This has resulted in many producers having to get rid of their high-quality milking cows and improved poultry. If the situation remains unresolved, it will lead to scarcity of animal proteins in Khartoum.

Poor state veterinary services and food security concerns

Cattle, camels, sheep and goats play a crucial role in providing milk and meat for local consumption, as well as generating income through the sale of animal products and the export of meat and live animals. They also act as a safety net in times of low crop yields or crop failure. However, there are concerns regarding the increased risk of transboundary animal diseases spreading due to inadequate veterinary services, lack of supplementary feeding, overcrowding of livestock in limited pasturelands, destruction of rangeland by wildfires, water shortages, and irregular movement of livestock across state borders. These factors, including contagious diseases, have the potential to devastate livestock populations, reducing household incomes and resulting in an increase in food insecurity and malnutrition. The state veterinary services are currently ill-equipped, lacking capacity and sufficient resources to effectively prevent and control contagious and zoonotic diseases. If the state veterinary services are not rebuilt, it is anticipated that there will be significant livestock losses. Additionally, inadequate consumption of animal sourced food (such as milk) could drive an increase in malnutrition rates among children in vulnerable states.

Livestock export

The ongoing conflict in the Sudan has had a significant impact on the export of livestock to Gulf and Arab countries. This is mainly due to the damage caused to export capacities and infrastructure. One major setback is the suspension of the Central Veterinary Research Laboratory, which plays a crucial role in providing essential services for livestock export. However, the government has taken steps to address this issue by utilizing alternative veterinary laboratories in Kassala and Port Sudan. These labs have been given the responsibility of resuming the provision of laboratory services needed for livestock export. Unfortunately, these alternative labs are not adequately equipped to meet the

high standards required for export and therefore require external support, given that the government currently lacks necessary resources.

Impact of conflict on current and projected food security

The ongoing conflict caused overwhelming adverse effects on the current and projected food security situations at the household level, primarily caused by:

- Disruption or loss of wage labour plus increased competition for limited sources of wage-labour income, which severely affected households' access to food and essential commodities.
- High prices of staple food crops and related commodities, coupled with the heavy burden of hosting IDPs, as well as the hyper-inflation, devaluation and liquidity crisis affecting the ever-deteriorating purchasing power of vulnerable households.
- Disruption of food production factories in conflict zones and the food supply chain causing poor dietary diversity and inadequate food intake at the household level.
- Poor to average performance of the agricultural season with expected reduced harvests, causing reduced household food stocks and rising household food insecurity.
- Lack or limited availability of inputs for winter cultivation, which would affect the winter season harvests unless adequate support is provided on time.
- Loss of the Khartoum main market for local livestock, vegetables, fruits and fish, resulting in an oversupply of those products on the local market with reduced market prices, discouraging producers from continuing production.

Recommendations

FAO recommends the following actions be taken to improve the current season's performance and the food security situation at the household level.

Improve crop production

- Provide support to control local and transboundary plant pests, including desert locusts, to prevent a further deterioration in the productivity of planted crops.
- Provide support and trainings to farmers on the reduction of harvest and post-harvest losses, with special attention to storage systems at the household, community, national and state levels, as well as support awareness raising campaigns on food waste reduction.
- Provide timely winter season agricultural inputs (seeds, tools, fertilizers, fuel, irrigation inputs, etc.) to enhance efficient preparations for the next winter season and beyond, with a focus on vegetable seeds to secure a supply of vegetables that could support household dietary diversity.
- Support smallholder farmers to practice home garden activities to produce their own food and improve their family's nutrition, with targeted support to women in home gardening and women-led farms.
- Promote community seed multiplication and seed banking.
- Support rehabilitation and cleaning irrigation channels.

Enhance livestock and fisheries performance

- Provide short-term support for the importation of essential veterinary vaccines and the provision of veterinary drugs, equipment and laboratory kits and materials.
- Establish community drugstores and facilitate the provision of veterinary drugs and equipment to support their operations on a cost-recovery basis.
- Provide veterinary, diagnostic and therapeutic services through fixed and mobile veterinary centres, as well as train working cadres and provide them with job aids. Enhance the capacity of rapid support teams for the early detection and control of diseases.
- Provide support for the One Health Approach to control and manage emerging and routine zoonotic diseases.
- Provide medium to long-term support for the rehabilitation of the vaccine production and disease diagnostic units in the Central Veterinary Research Laboratory in Khartoum and the five regional labs. Support the establishment of a robust quality assurance system for veterinary vaccines. This support aims to rebuild and improve the national vaccine production and disease diagnostic capacities.
- Implement water trucking initiatives to supply livestock with water in areas facing water scarcity during the dry season.

- Rehabilitate and construct hafirs, sand dams and water yards along livestock migratory routes to ensure a sustainable water source.
- Establish water user groups and provide them with trainings on efficient water management practices, while also raising awareness about water-borne diseases.
- Implement measures to protect and rehabilitate pasture, such as broadcasting improved pasture seeds, creating firelines, and providing extension training for nomads and pastoralists.
- Offer training to farmers on improving crop residues and hay making techniques to enhance livestock feed quality.
- Encourage farmers to cultivate green fodder in both irrigated and rainfed sectors by offering them trainings, high-quality pasture seeds and small sprinklers.
- Support vulnerable agro/pastoralists with high-nutrient concentrate feed and mineral licks.
- Support the village poultry subsector by providing necessary inputs, including basic housing, high-quality feed, vaccines, vitamins and medicines. Additionally, establish Pastoral Field Schools specifically aimed at women to enhance the productivity of village poultry flocks.
- Implement goat re-stocking programmes targeting women-headed households and the elderly.
- Support fishermen with basic equipment, such as hooks, nets, traditional boats and cold boxes.
- Provide equipment for fish harvest preservation.
- Support fish processing activities and improve fisheries value chain.

Community conflict management and resolution over resources

- Support peace-building efforts to address and reduce social conflicts among different land users due to competition over natural resources by carrying out the following.
 - Participatory mapping and demarcation of livestock migratory routes.
 - Supporting the establishment/revitalization of community mechanisms to facilitate peaceful coexistence between farmers and nomadic community members.
 - Conducting conflict resolution trainings for farmers and animal herders.
 - Providing services along livestock migratory routes (veterinary clinics, water points, etc.).

Improve the overall food security situation at the household level

- Provide social protection support to vulnerable smallholder households, including multipurpose cash transfers and voucher schemes.
- Provide support to vulnerable smallholder households to undertake income-generating and livelihood diversification activities, including the provision of start-up support kits and trainings for small agriculture and livestock-based entrepreneurship, especially for women and youth groups.
- Improve the value chain of major food commodities.

Strengthen food security and agricultural livelihoods information for improved decision-making and action

- Undertake regular assessments and surveys to generate timely food security and agricultural livelihoods data and information.
- Conduct field assessments and rapid appraisals on crops, livestock, fisheries, and forests, plus multidimensional impacts of conflict on the sector.
- Provide support in establishing and strengthening food security and agricultural livelihoods information systems covering the entire country.

Capacity development of local and national agricultural institutions and non-state actors

- Support the progressive restoration of local and national agricultural institutions and non-state actors to function at full capacity.
- Support state governments to develop and adapt strategies to protect harvests from smuggling and related misuse.
- Build the capacity of farmers and herders by providing trainings and technical support in crops, livestock, fisheries and natural resource management.
- Provide agricultural extension trainings.
- Promote integrated pest management and pest infestation control practices.
- Provide vocational trainings on topics, such in food processing, handicraft, etc.

Overview of planted areas and crop production per state

The tables below provide a detailed summary of the data presented in the sections above. Disaggregated by state, the data outlines the performance of the 2023 summer agricultural season in 17 of the 18 states in the Sudan as of September 2023.

Table 1. Total planted areas (in ha)

State	Sorghum	Millet	Sunflower	Cotton	Sesame	Groundnuts	Other crops	Total planted areas
Aj Jazirah	697 184	21 765	0	24 702	55 410	48 079	16 587	863 726
Blue Nile	504 202	42 017	84 034	100 840	75 630	8 571	50 420	865 714
Central Darfur	27 498	31 393	0	0	5 369	12 544	7 570	84 374
East Darfur	554 622	504 202	0	0	252 101	630 252	201 681	2 142 857
Gedarif	2 432 143	245 924	23 697	56 920	436 227	68 487	38 782	3 302 181
Kassala	512 644	63 025	588	4 790	21 008	14 416	16 387	632 858
North Darfur	409 664	1 144 958	0	0	155 186	403 025	119 748	2 232 581
North Kordofan	441 176	420 168	0	0	441 176	130 252	247 899	1 680 672
Northern	20 196	0	0	420	0	0	90 808	111 424
Red Sea	42 017	0	0	0	0	0	0	42 017
River Nile	67 540	0	0	426	0	0	3 173	71 139
Sennar	1 532 076	237 342	40 597	49 714	377 088	20 798	61 702	2 319 317
South Darfur	907 563	680 672	0	0	378 151	478 992	75 630	2 521 008
South Kordofan	676 891	22 269	0	18 908	263 025	36 387	32 941	1 050 420
West Darfur	31 279	40 216	0	0	6 256	13 405	7 150	98 307
West Kordofan	310 926	478 525	0	0	122 322	741 205	343 909	1 996 887
White Nile	764 006	89 286	0	0	292 017	49 580	47 400	1 242 289
Total	9 931 626	4 021 763	148 916	256 721	2 880 968	2 655 994	1 361 785	21 257 772

Source: FAO. 2023. *The Sudan – FAO rapid assessment on the 2023 summer agricultural season*. Khartoum.

Table 2. Sorghum planted area

State	Planted area in 2023 (ha)	Planted area in 2022 (ha)	Average planted areas during 2017–2021 (ha)	Planted area in 2023 as % of planted area in 2022	Planted area in 2023 as % of average planted areas in 2017–2021
Aj Jazirah	697 184	591 780	579 100	118%	120%
Blue Nile	504 202	787 920	673 010	64%	75%
Central Darfur	27 498	514 500	181 270	5%	15%
East Darfur	554 622	672 000	605 470	83%	92%
Gedarif	2 432 143	1 890 000	2 185 680	129%	111%
Kassala	512 644	878 220	738 520	58%	69%
North Darfur	409 664	287 280	219 580	143%	187%
North Kordofan	441 176	388 080	472 840	114%	93%
Northern	20 196	5 040	2 760	401%	732%
Red Sea	42 017	75 980	24 040	55%	175%
River Nile	67 540	137 720	100 800	49%	67%
Sennar	1 532 076	880 320	1 030 210	174%	149%
South Darfur	907 563	666 960	637 060	136%	142%
South Kordofan	676 891	588 000	826 900	115%	82%
West Darfur	31 279	210 420	214 370	15%	15%
West Kordofan	310 926	310 800	732 890	100%	42%
White Nile	764 006	814 090	708 130	94%	108%
Total	9 931 626	9 699 110	9 932 630	102%	100%

Source: FAO, 2023. *The Sudan – FAO rapid assessment on the 2023 summer agricultural season*. Khartoum.

Table 3. Millet planted area

State	2023 (ha)	2022 (ha)	2017–2021 (ha)	Planted area in 2023 as % of planted area in 2022	Planted area in 2023 as % of average planted areas in 2017–2021
Aj Jazirah	21 765	18 480	26 000	118%	84%
Blue Nile	42 017	30 500	87 000	138%	48%
Central Darfur	31 393	441 000	411 000	7%	8%
East Darfur	504 202	672 000	393 000	75%	128%
Gedarif	245 924	273 000	159 180	90%	154%
Kassala	63 025	22 300	11 970	283%	527%
North Darfur	1 144 958	833 700	243 000	137%	471%
North Kordofan	420 168	693 000	47 000	61%	894%
Northern	0	0	0	0%	0%
Red Sea	0	0	8 000	0%	0%
River Nile	0	0	0	0%	0%
Sennar	237 342	138 520	122 860	171%	193%
South Darfur	680 672	712 740	864 000	96%	79%
South Kordofan	22 269	63 000	522 740	35%	4%
West Darfur	40 216	284 760	745 000	14%	5%
West Kordofan	478 525	525 000	721 000	91%	66%
White Nile	89 286	100 800	102 650	89%	87%
Total	4 021 763	4 808 800	4 464 400	84%	90%

Source: FAO. 2023. *The Sudan – FAO rapid assessment on the 2023 summer agricultural season*. Khartoum.

Table 4. Planted areas per production system (in ha)

State	Rainfed traditional	Rainfed semi-mechanized	Irrigated	Total
Aj Jazirah	0	597 679	266 047	863 726
Blue Nile	172 437	693 277	0	865 714
Central Darfur	78 395	5 978	0	84 374
East Darfur	2 142 857	0	0	2 142 857
Gedarif	882 353	2 361 004	58 824	3 302 181
Kassala	147 059	427 232	58 567	632 858
North Darfur	2 120 368	0	112 213	2 232 581
North Kordofan	1 042 017	638 655	0	1 680 672
Northern	0	0	111 424	111 424
Red Sea	42 017	0	0	42 017
River Nile	63 775	0	7 364	71 139
Sennar	455 866	1 823 462	39 989	2 319 317
South Darfur	2 521 008	0	0	2 521 008
South Kordofan	294 118	756 303	0	1 050 420
West Darfur	90 602	7 705	0	98 307
West Kordofan	1 991 112	5 775	0	1 996 887
White Nile	493 487	679 412	69 389	1 242 289
Total	12 537 471	7 996 482	723 818	21 257 772

Source: FAO. 2023. *The Sudan – FAO rapid assessment on the 2023 summer agricultural season*. Khartoum.

Table 5. Sorghum and millet production forecast for 2023 summer agricultural season

State	Sorghum			Millet		
	% harvestable area	Harvestable area (tonnes)	Estimated production (tonnes)	% harvestable area	Harvestable area (tonnes)	Estimated production (tonnes)
Aj Jazirah	90	627 466	370 205	0.7	15 235	6 917
Blue Nile	60	302 521	178 487	0.2	8 403	3 815
Central Darfur	70	19 249	11 357	0.5	15 696	7 126
East Darfur	20	110 924	65 445	0.2	100 840	45 782
Gedarif	70	1 702 500	1 004 475	0.8	196 739	89 320
Kassala	55	281 954	166 353	0.7	44 118	20 029
North Darfur	45	184 349	108 766	0.4	457 983	207 924
North Kordofan	80	352 941	208 235	0.75	315 126	143 067
Northern	70	14 137	8 341	0	0	0
Red Sea	60	25 210	14 874	0	0	0
River Nile	70	47 278	27 894	0	0	0
Sennar	80	1 225 661	723 140	0.75	178 007	80 815
South Darfur	50	453 782	267 731	0.5	340 336	154 513
South Kordofan	90	609 202	359 429	0.8	17 815	8 088
West Darfur	20	6 256	3 691	0.2	8 043	3 652
West Kordofan	50	155 463	91 723	0.5	239 263	108 625
White Nile	85	649 405	383 149	0.85	75 893	34 455
Total		6 768 296	3 993 295		2 013 499	914 128

Source: FAO, 2023. *The Sudan – FAO rapid assessment on the 2023 summer agricultural season*. Khartoum.

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