Food Security Monitoring System (FSMS) Sudan

Q1 2020
Introduction

The 30th round of the Food Security Monitoring System (FSMS) was conducted between November 2019 and February 2020, which is the harvest season in Sudan. The FSMS aims to ascertain the food security situation of refugee households and IDP households. During this food security assessment, data was collected from 13,493 refugee and IDP households across 132 locations in the five states in Darfur and six states in Southern and Eastern Sudan.

In this report, food insecurity is determined by the WFP corporate indicator, Consolidated Approach to Reporting Indicators of Food Security (CARI). Central to the approach is an explicit classification of households into four descriptive groups: food secure, marginally food secure, moderately food insecure, and severely food insecure. It combines a suite of food security indicators into a summary indicator. The indicators include food consumption score (FCS), food expenditure share for economic vulnerability, and livelihood coping strategies to assess asset depletion. Moderate food insecurity is characterized by significant consumption gaps, or marginally able to meet minimum food needs only with the aid of irreversible coping strategies. Households that are severely food insecure often have extreme food consumption gaps or have suffered significant loss of livelihood assets that will eventually lead to food consumption gaps.

WFP would like to thank State Ministries of Production and Economic Resources for their role in data collection, and HAC and COR for their role in field coordination.

Key Findings

The FSMS assessment revealed that, according to the CARI indicator, 44 percent of the refugee households and 54 percent of the IDP households in Sudan are food insecure. For refugee households, this is an improvement from the previous round in May 2019 (53 percent). This is mainly due to seasonality, as the data was collected during the harvest season when more food is available. However, despite the harvest season, food insecurity among IDP households remained at the same level as the previous round (53 percent). The findings suggest that households led by female are more prone to be food insecure.

Darfur had a higher prevalence of food insecurity for both IDP and refugee households compared to Southern and Eastern Sudan. In Darfur, 57 percent of IDP households and 58 percent of refugee households were food insecure. In Southern and Eastern Sudan, 51 percent of the IDP households and 37 percent of the refugee households were food insecure.

11 percent of the refugee households and 14 percent of the IDP households had poor food consumption, which is an improvement from the previous round, where the figure was 16 percent for both groups. This is likely an effect of the harvest. However, the percentage of households who spend more than 65 percent of their expenditure on food increased dramatically to over 90 percent for both households compared to the previous round where the percentage was 64 percent for IDP households and 73 percent for refugee households. This suggests that the economic vulnerability of the population is worsening dramatically, which is likely due to the soaring commodity prices and limited income. Therefore, even though food consumption improved, it did so at the expense of negative coping and economic vulnerability.
Demographics
61 percent of the households were led by male and 39 percent by female. 57 percent of the head of households did not receive any formal education and 36 percent received primary education. 6 percent completed secondary education and 1 percent completed university education.

10 percent of the households reported to have at least one household member with special needs, including physically and mentally disability.

The main income source is non-agricultural wage labour. This involves non-agricultural work that include raksha, labour, wheel barrow or working as porter. 26% in Darfur and 29% in Southern and Eastern Sudan rely on non-agricultural wage labour as their primary income source. This is followed by agricultural wage labour and business, which includes donkey cart, selling water, tea, handcraft or petty trade. Between 17 and 19 percent of respondents reported that one of these were their main primary income sources. In general, the prevalence of households who rely on different income sources is similar between Darfur and Southern and Eastern Sudan, with the key difference being
transfers (such as remittances), which is more common in Southern and Eastern Sudan, and firewood/charcoal which is more common in Darfur.

**Figure 3: Primary income source in Darfur and Southern and Eastern Sudan**

Overall, the main income sources for the female-headed and male-headed households were similar. However, 16 percent of the female-headed households relied on informal transfers such as remittances, which is more than twice the prevalence observed in male-headed households (7.5 percent). Male-headed households relied significantly more on mining and livestock raising.

**Figure 4: Primary income source for female-headed and male-headed households**
Food Security Monitoring System (FSMS)

Food Insecurity by CARI

In Sudan overall, food insecurity has remained high for IDP households, with 54 percent of IDP households found to be food insecure. This is a small increase of 1 percent compared to the previous round. However, this is lower than the 62 percent recorded the year before. For refugee households, prevalence of food insecurity decreased from 53 percent to 44 percent. This is likely due to the increased income and availability of food during the harvest season.

Food security in general has improved in Darfur among IDP and refugee households, both in comparison to May 2019 as well as the previous year. The level of food insecurity is now approximately the same for these two groups at 57 and 58 percent respectively. Particularly refugee households experienced a stark drop in food insecurity from 76 percent in the previous round to 58 percent. However, the level of food insecurity remains high.

In Southern and Eastern Sudan however, food insecurity has increased among IDP households, both compared to the previous round and compared to November 2018. 51 percent were found to be food insecure, which is an increase of 6 percentage points compared to the previous round. This result is also 2 percentage points higher than the year before. Food insecurity among refugee households on the other hand has declined slightly compared to the previous round, from 41 to 37 percent. However, the level of food insecurity remains high.

The FSMS results also showed that female-headed households are more food insecure than male-headed households. 55 percent of female-headed households are food insecure while 48 percent of their counterparts are. However, female-headed households experienced an improvement in their food security. Female-headed households in North Darfur had the highest rate of food insecurity at 70 percent while the male-headed households in White Nile had the lowest rate at 21 percent.

Figure 5: Prevalence of food insecurity among IDP and refugee households in Darfur, Southern and Eastern Sudan and Sudan as a whole
Households that rely on begging, firewood/charcoal collection, and informal transfers as their main income sources have the highest prevalence of food insecurity at 92 percent, 60 percent, and 57 percent respectively. Households that rely on salaried work, mining, and livestock rearing as their main source of income have a relatively lower prevalence of food insecurity at 39 percent, 42 percent, and 41 percent respectively.

**Adequacy of Food Consumption**

**Food Consumption Score (FCS)**

The Food Consumption Score (FCS) is a composite indicator that takes into account the quantity and diversity of food groups consumed at the household level a week prior to the survey to create a score for each household. It is a proxy of households’ food access and a core WFP indicator used to classify households into different food consumption groups (poor consumption, borderline consumption, and acceptable consumption).

The food consumption showed improvements for both IDP and refugee households on the whole in Sudan. In Darfur, the prevalence of IDP households with poor food consumption decreased from 21 percent in the previous round to 16 percent, and for refugee households, the figure decreased from 26 percent to 17 percent. The one except was IDP households in Southern and Eastern Sudan, where
the percentage of households with a poor food consumption score increased from 10 percent to 13 percent.

Similarly, the mean food consumption score also improved for both IDP and refugee households in Sudan as a whole compare to the previous round in May as well as a year before. The one exception are the IDP households in Southern and Eastern Sudan where the food consumption score improved slightly compared to the previous round, but is still worse compared to a year before.

Sources of Food
The main source of cereal for IDP and refugee households in Sudan is from the market, as 48 percent attain their cereal from their local market. This demonstrates the importance of market access in food security. Food aid is also an important source of cereal, particularly in Southern and Eastern Sudan.
where 44 percent rely on food aid. In Darfur, the figure is lower at 29 percent. Own production of cereal as the main source is the least common with 12 percent.

![Figure 10: Main Source of Cereal](image)

**Local Food Basket**

The local food basket in Sudan consists of eight food items that have been identified by focus group interviews with the IDP, refugee and resident population communities based on food preferences and cost minimization. The eight items are sorghum, onion, vegetable oil, milk, cow meat, goat meat, dry tomatoes and sugar. The prices of these items are combined to constitute the local food basket.

The average price of the local food basket in Sudan increased from 23.4 SDG in November 2018 to 41.0 SDG in November 2019. This was a 43 percent increase compared to one year ago, and a 27 percent increase since the previous round. Darfur and Southern and Eastern Sudan have followed a similar trend, with both experiencing the sharpest increase in price since the previous round in May 2019. However, it is important to note that the states have experienced an increase by varying degrees; in West Kordofan, the increase in the price of the local food basket was 55 percent compared to the previous round, while in White Nile, the increase was 28 percent. The increase in the price of the local food basket is a reflection of the soaring inflation rates that Sudan has experienced since December 2017. This has contributed to the economic vulnerability of the population which is elaborated in the sections below.

**Table 1: Price of Local Food Basket (SDG) by state**

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<tbody>
<tr>
<td>North Darfur</td>
<td>20.4</td>
<td>27.4</td>
<td>35.9</td>
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<td>South Darfur</td>
<td>26.8</td>
<td>34.9</td>
<td>40.9</td>
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<td>34%</td>
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<td>West Darfur</td>
<td>21.3</td>
<td>23.2</td>
<td>40.9</td>
<td>43%</td>
<td>48%</td>
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<td>Central Darfur</td>
<td>21.9</td>
<td>25.2</td>
<td>40.6</td>
<td>38%</td>
<td>46%</td>
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<tr>
<td>East Darfur</td>
<td>21.1</td>
<td>39.2</td>
<td>43.0</td>
<td>9%</td>
<td>51%</td>
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<td>Darfur Average</td>
<td>22.3</td>
<td>30.0</td>
<td>40.2</td>
<td>25%</td>
<td>45%</td>
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<td>Kassala</td>
<td>23.7</td>
<td>28.6</td>
<td>39.6</td>
<td>28%</td>
<td>40%</td>
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Vulnerability to Food Insecurity

The degree of vulnerability caused by shocks is measured by the negative coping strategies adopted by the households. The coping strategies are further divided into food and livelihood based coping strategies.

The coping strategy index is an indicator of household food security about how households manage to cope with a shortfall in food for consumption, and results in a numeric score. Data is collected on the frequency of specific coping behaviours and the severity of those strategies, which is combined in a single score, the coping strategies index. This is thus an indicator of a household’s food security status, where a higher score indicates a greater level of coping, and hence increased food insecurity. An coping strategy index score above 11 indicates high coping. A score between 6 and 11 indicates medium coping, while a score between 1 and 6 indicates low coping. Compared to the previous round, the score fell among IDP and refugee households in Darfur, Southern and Eastern Sudan and Sudan, likely due to seasonality. However, compared to one year ago, IDP and refugee households in Southern and Eastern Sudan have a higher coping strategy index.

Emergency coping strategies refers to the most severe level of livelihood coping strategies that households engage in if they do not have enough food or money to buy food. The percentage of households who adopt emergency coping strategy to deal with their food security decreased among both IDP and refugee households in Darfur and Southern and Eastern Sudan compared to the previous round.

<table>
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<th>Nov-19</th>
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<td>IDPs</td>
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<td>4.08</td>
<td>3.74</td>
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<td>Refugees</td>
<td>3.12</td>
<td>5.67</td>
<td>6.11</td>
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<td><strong>Southern and Eastern Sudan</strong></td>
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<td></td>
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<tr>
<td>IDPs</td>
<td>5.37</td>
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<td>Refugees</td>
<td>7.53</td>
<td>8.76</td>
<td>7.28</td>
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<td><strong>Sudan</strong></td>
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<tr>
<td>IDPs</td>
<td>4.17</td>
<td>5.67</td>
<td>5.83</td>
</tr>
<tr>
<td>Refugees</td>
<td>5.83</td>
<td>5.83</td>
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**Figure 11: Mean of rCSI**
round. However, there are still more households who resort to emergency coping strategies to manage their food security now compared to one year ago.

**Figure 12: Prevalence of emergency coping strategies to manage their food security**

**Economic Vulnerability**

The share of expenditure on food increased among both communities in Sudan. This is a reflection of the high inflation rates, where households have to spend an increasing amount of their expenditure on food. Over 90 percent of IDP and refugee households spend more than 65 percent of their expenditure on food, which indicates an increase in economic vulnerability.

**Figure 13: Percentage of households who spend more than 65 percent of their expenditure on food**

**Nutrition**

One aspect of nutrition looks at if individuals have an adequate diet to reach a state of nutritional well-being, where their physiological needs are met. This includes consuming food that is high in vitamin A, protein and hem-iron (which is present in meat, poultry and fish).
44 percent of male-headed households and 49 percent of female-headed households were found to never consume food that is rich in vitamin A. It is important to note the gender disparity in the consumption of vitamin A-rich food. 24 percent of male-headed households and 19 percent of female-headed households were found to consume vitamin A-rich food daily.

![Figure 14: Consumption of food high in vitamin A](image)

The results showed a more frequent consumption of protein-rich food. 45 percent of male-headed households and 40 percent of female-headed households consume food rich in protein on a daily basis, which half consume sometimes. Nevertheless, 9 percent of female-headed households never consume food high in protein, compared to 6 percent of male-headed households.

![Figure 15: Consumption of food high in protein](image)

Hem-iron is iron found in meat, poultry, seafood and fish, and is a critical micronutrient that helps maintain healthy blood. The FSMS assessment found that 20 percent of male-headed households and 38 percent of female-headed households do not consume food rich in hem-iron on a regular basis. 67 percent of male-headed households and 59 percent of female-headed households sometimes
consume hem-iron rich food. It is thus clear that the vast majority of the population lack hem-iron in their diets.

The Minimum Dietary Diversity for Women (MDD-W) is a dichotomous proxy indicator of whether or not women aged 15-49 have consumed at least five out of ten defined food groups\(^1\) the previous day or night\(^2\). As the sampling scheme was random sampling of households, the indicator provides indicative findings on micronutrient adequacy of women’s diets. The results showed that the number of women in both Darfur and Southern and Eastern Sudan who do not meet the minimum acceptable diet is 94 percent.

\(^1\) These food groups are: grains, white roots and tubers, and plantains; pulses (beans, peas and lentils); nuts and seeds; dairy; meat, poultry and fish; eggs; dark green leafy vegetables; other vitamin A-rich fruits and vegetables; other vegetables; other fruits.

\(^2\) Food and Agriculture Organization, link: [http://www.fao.org/3/a-i5486e.pdf](http://www.fao.org/3/a-i5486e.pdf)
In Darfur, IDP and refugee households experience a similar levels of food insecurity with 57 percent and 58 percent of households food insecure respectively. The prevalence of food secure IDP and refugee households fell compared to the previous round as well as November 2018 round. For IDP households, this is a decrease from the 61 percent recorded in May 2019 and the 69 percent recorded in November 2018. Among the refugee population in Darfur, 58 percent were found to be food insecure, which is a decrease from the 76 percent recorded in May 2019 and the 70 percent recorded in November 2018. The improvement in food security compared to May 2019 is mostly due to the harvest season during the data collection.

84 percent of IDP households and 74 percent of refugee households are not able to afford the local food basket. Most likely due to inflation and increase in food prices, the relative expenditure on food increased with over 90 percent of both IDP and refugee households spending more than 65 percent of their expenditure on food.

Among IDP households, 10 percent adopted emergency coping strategies in November 2019, which is the same percentage as the previous round. Among refugee households, 6 percent adopted emergency coping strategies in November 2019 compared to 9 percent in the previous round.
Female-headed households are more food insecure than male-headed households. 55 percent of male-headed households were found to be insecure while the figure was 61 percent for the female-headed households.

Multiple factors played a role in the food security dynamics in Darfur. One such factor was the rainfall. In South Darfur, good rainfall resulted in a successful harvest for staple food crops and cash crops, with above-average cereal production. In Central Darfur, however, excess rainfall in some areas led to the destruction of cultivated areas. Conflict and security issues also affected the food security situation of some households, particularly in West Darfur, Central Darfur and East Darfur, as it hindered farming activities and led to a reduction of cultivated areas. In general, increased livelihood opportunities, mostly due to the increased demand for manual labour from the harvest season, decreased the prevalence of food insecurity.

**North Darfur**

In North Darfur, analysis of household data showed mixed results in terms of food security. For the IDP households in El Fasher, Zamzam, Al Salam and Abu Shouk (referred to as El Fasher camps), the food security situation deteriorated, both in comparison to the previous round in May 2019 as well as November 2018. 87 percent are now food insecure compared to 82 percent in May 2019 and 70 percent in November 2018. The El Fasher camps have the highest level of food insecurity in North Darfur, with 87 percent food insecure. Overall in the state, 59 percent of male-headed households and 70 percent of female-headed households were food insecure.

![Figure 19: Prevalence of food insecurity according to CARI in North Darfur by cluster](image)

For the IDP households in Tawila and Shangil Tobay, as well as the mixed cluster (IDP households & affected residents) of Kassab, Kutum and Fataborno, the prevalence of food insecurity also increased since the previous round. In the three other clusters, the food security situation improved. Most notably, in the mixed cluster of Kebkabiya and Saraf Omra, as well as the South Sudanese refugee households in Al lait, the prevalence of food insecurity decreased by 29 percentage points respectively compared to the year before.
The food consumption score followed a similar trend as the food insecurity. In the clusters where food insecurity increased, so did the prevalence of households who have poor food consumption. The one exception are the IDP households in Tawila and Shangil Tobay, where prevalence of food insecurity increased while the prevalence with poor food consumption score decreased from 31 to 26 percent.

Figure 20: Prevalence of households with poor food consumption in North Darfur by cluster

The price of the local food basket in North Darfur increased by 23 percent compared to the previous round, from 27.4 to 35.9 SDG. Compared to May 2019, the price of sorghum in November 2019 was found to have risen by 12 percent, from 23.3 to 26.4 SDG/kilo. The prevalence of households who spend more than 65 percent of their expenditure on food increased in all clusters.

Figure 21: Prevalence of households who spend more than 65 percent of their expenditure on food

Additionally, the prevalence of households who adopted high coping strategies increased in four of the clusters, particularly the IDP households in Tawila and Shangil Tobay, where 29 percent adopted high coping strategies compared to 5 percent in the previous round. Nevertheless, in two clusters, the
prevalence decreased substantially, namely the IDP households in El Fasher camps (from 82 to 41 percent) and the mixed community in Kebkabiya and Saraf Omra (from 30 to 10 percent).

**South Darfur**

In South Darfur, analysis of household data showed a general improvement of the food security situation apart from one cluster: the refugee households and new arrivals in Al Radom and Buram.

In most clusters, prevalence of food insecurity either stayed the same or decreased, both in comparison to the previous round as well as the year before. The largest improvement was experienced by the IDP households in Kass camps, where food insecurity dropped by 50 percentage points, from 84 percent in November 2018 to 34 percent in November 2019.

The refugee households and the new arrivals in Al Radom and Buram experienced an increase in food insecurity, from 61 to 67 percent compared to the previous round. For the IDP households in Kalma,
Alsalam and Beleil, food insecurity decreased compared to the previous round, but it is still higher compared to the year before. Overall, the average food insecurity among refugee and IDP households in South Darfur decreased by 8 percent, from 61 to 53 percent. Moreover, 56 percent of male-headed households and 53 percent of female-headed households were food insecure.

The percentage of the households who had poor food consumption decreased in all clusters apart from the IDP households in Kass camps and the refugee households/new arrivals in Al Radom and Buram.

The price of the local food basket in South Darfur increased by 15 percent across the state to 40.9 SDG compared to the previous round. Compared to May 2019, the price of sorghum in November 2019 was found to have risen by 25 percent from 21.3 to 28.3 SDG/kilo. The prevalence of households who spend more than 65 percent of their expenditure on food increased or stayed the same.
The prevalence of households who adopted high coping strategies to manage their food insecurity dropped significantly in all clusters apart from the refugee households and new arrivals in Al Radom and Buram, who experienced an increase to 12 percent, which is still less compared to the year before.

The 2019 agricultural season in South Darfur was marked by good rainfall in terms of amount and distribution, and few pest outbreaks. The harvest for staple food crops and cash crops was thus a success, with cereal production reportedly above average in most parts of the state. The improvement in the food security situation among the surveyed IDP camps can be attributed to a significant improvement in food availability from household’s own food production. The significant improvement in the food security for the IDP households in the Kass camps can be explained by income-related factors, including agricultural labor opportunities at vegetable gardens and the sale of crops. IDP households generally have better access to livelihood opportunities as they are legally allowed to work and have more freedom relocating to another area, which enables them to provide for themselves. On the other hand, the deterioration of the food security situation for the refugee households in Al Radom and Buram can be ascribed to limited access to agricultural land and limited opportunities to income-generating activities.

**West Darfur**

In West Darfur, analysis of household data showed mixed results, as the food security situation improved in two of the three clusters. For the IDP households in Ardamata, El Riad, Kirinding 1 cluster, prevalence of food insecurity decreased by 8 percent since the previous round, from 49 to 41 percent. For the IDP households in Fur Buranga, Mornie and Habila cluster, food insecurity decreased by 5 percent, from 67 to 62 percent. However, in the mixed cluster of Mangrasa, Sirba, Beida, Seleah, Abu Surug and Um Tajouk, food insecurity increased by 7 percent, from 53 to 60 percent.
The prevalence of households with poor food consumption decreased in all three clusters and is significantly less compared to the year before. Overall, the average food insecurity among IDP and refugee households in West Darfur decreased marginally by 2 percent to 54 percent. 49 percent of males-headed households and 61 percent of female-headed households were food insecure.

West Darfur experienced an increase in the local food basket price by 43 percent compared to the previous round. This is the largest increase of any state between the two survey rounds. Compared to May 2019, the price of sorghum in November 2019 was found to have risen by 25 percent from 19.4 to 26.0 SDG/kilo. The prevalence of households who spend more than 65 percent of their expenditure of food increased in all clusters, and is now well over 90 percent.
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Figure 29: Prevalence of households in West Darfur who spend more than 65 percent of their expenditure on food, by cluster

The prevalence of households who resort to high coping strategies increased in all three clusters, but is lower compared to the year before.

Figure 30: Prevalence of households in West Darfur who resort to high coping strategies, by cluster

Despite being the harvest season, mixed cluster of Mangrasa, Sirba, Beida, Seleah, Abu Surug and Um Tajouk reported tribal conflicts before and during the assessment period, which led to the reduction of cultivated areas and lack of cultivation in some areas. Additionally, the continuation of rainfall up until the end of October may negatively have affected the harvest season.

Central Darfur

Analysis of household data in Central Darfur showed that the food security situation was mixed, with two clusters reporting an increase in the level of food insecurity compared to both the previous round and the year before, and one cluster reporting a decrease.
For the mixed cluster of Garsila and Um Kheir, food insecurity rose from 33 percent the year before to 56 percent now (with 47 percent recorded in the previous round, thus showing a continuous increase in food insecurity). This is an increase of 23 percentage points. For the IDP households in Garsila, Um Dokhon and Mukjar, food insecurity also increased, albeit only by 4 percentage points compared to the previous round to 65 percent. For the IDP households in Nertiti, Hameedia and Hasahisa, food insecurity fell by 17 percentage points from 75 percent to 58 percent. Overall, the average food insecurity among IDP and refugee households decreased marginally by 1 percent from 61 to 60 percent in Central Darfur. 59 percent of male-headed households and 63 percent of female-headed households were food insecure.

Similarly, the prevalence of households with poor food consumption also increased for IDP households in Nertiti, Hameedia and Hasahisa to 14 percent. The percentage of those with poor food consumption fell in other two clusters.

Figure 31: Prevalence of food insecurity according to CARI in Central Darfur by cluster

Figure 32: Prevalence of households with poor food consumption in Central Darfur by cluster
The price of the local food basket rose across the state to 40.6 SDG. This is an increase of 38 percent compared to the previous round. Compared to May 2019, the price of sorghum in November 2019 was found to have risen by 54 percent from to 13.3 to 29.3 SDG/kilo. The prevalence of households who spend more than 65 percent of their expenditure on food increased in all clusters to over 90 percent.

The prevalence of households who adopted high coping mechanisms to manage their food insecurity also increased in all the clusters, particularly the IDP households in Nertiti, Hameedia, Hasahisa, where 18 percent adopt high coping strategies.

The reason for the deterioration in food security, as well as the increase in the prevalence of households with poor food consumption, in the mixed cluster of Garsila and Um Kheir was partly due to a poor harvest which was a result of rainfall that continued until the ripening stage of crops and
consequently led to a decrease or lack of productivity. Also, in some areas, more-than-usual rainfall led to the destruction of cultivated areas. In addition, some areas of this cluster witnessed tribal conflicts before and during the assessment period, which led to the reduction of cultivated areas, thus having an adverse impact on food security.

**East Darfur**

In East Darfur, analysis of household data showed an improvement in the food security situation in most of the clusters apart from one: the refugee households and new arrivals in Adila – Abu Karink. In this cluster, 80 percent were found to be food insecure, which is an increase of 1 percent compared to the previous round and 8 percent compared to the year before. Most notably, for the refugee households and new arrivals in Al Firdous, prevalence of food insecurity dropped from 84 percent in the previous round to 53 percent. On the whole, the average food insecurity among IDP and refugee households decreased from 69 to 55 percent East Darfur. 45 percent of male-headed households and 57 percent of female-headed households were food insecure, which is in line with the general trend that female-headed households are more food insecure than male-headed households.

![Figure 35: Prevalence of food insecurity according to CARI in East Darfur by cluster](image)

The prevalence of households who have a poor food consumption score also decreased in most of the clusters apart from one: the refugee households in Kario, where the percentage increased from 17 percent in the previous round to 21 percent. This is still a lower percentage compared to the year before. For the refugee households and new arrivals in Adila – Abu Karink (where food insecurity increased, albeit marginally), the percentage with poor food consumption dropped markedly by 30 percentage points.
East Darfur experienced an increase in the price of the local food basket by 9 percent (from 39.2 to 43.0 SDG), which was the smallest increase out of all the states. However, East Darfur still has the most expensive local food basket at 43.0 SDG. Compared to May 2019, the price of sorghum in November 2019 was found to have risen by 19 percent from 23.2 to 28.6 SDG/kilo. The prevalence of households who spend more than 65 percent of their expenditure on food increased or stayed the same in all clusters apart from the refugee households in Kario, Abu Jabra and Al Firdous where it declined slightly.

The prevalence of households who adopted high coping strategies to manage their food insecurity decreased across all clusters, however the percentage is higher compared to the year before.
For the refugee households and new arrivals in Adila – Abu Karink (where food insecurity increased), these two localities have been affected by tribal conflicts since August 2013 with the Maliya and Rezaigat tribes. The conflict has deteriorated the livelihood of the community in these two areas, as it has hindered farming activities for the majority. The two areas were closed from Ed Daein areas for more than a year, which led to refugee households and the host community competing for limited natural resources and labor opportunities.
ii. Southern and Eastern Sudan

In Southern and Eastern Sudan, indicators show that in general, the food security situation improved for refugee households while it worsened for the IDP households. Among the IDP population of Southern and Eastern Sudan, 51 percent of surveyed households were found to be food insecure. This is an increase from 45 percent recorded in the previous round, and also higher than the 49 percent recorded in November 2018.

Among the refugee population of Southern and Eastern Sudan, 37 percent were found to be food insecure, which is a decrease from the 41 percent recorded in the previous round but still higher than the 34 percent recorded the year before. By state, compared to the previous round, White Nile and West Kordofan experienced an improvement in food security, while Kassala and Blue Nile experienced a deterioration. The food security situation was a mixed picture in South Kordofan and North Kordofan, where some clusters experienced an increase in food insecurity and others experienced a decrease.

The price of essential food items in Southern and Eastern Sudan was found to have increased in November 2019 relative to May 2019. The price of the local food basket increased in all states by varying degrees; in the South Kordofan, the increase was 18 percent while in West Kordofan, the increase was 37 percent. West Kordofan now has the most expensive local food basket at 52.3 SDG. The cost of sorghum also increased by 43 percent, from 16.9 to 29.6 SDG per-kilo price of sorghum. This is above the national average which stood at 28.7.
The prevalence of households that adopt emergency coping strategies to manage their food insecurity decreased. Among IDP households, 14 percent adopted emergency coping strategies compared to 20 percent in the previous round. Among refugee households, 10 percent adopted emergency coping strategies compared to 12 percent in the previous round.

The level of food security increased for male-headed households as 43 percent were found to be food insecure compared to 37 percent in the previous round. The opposite trend was found for female-headed households. 48 percent of female-headed households experienced food insecurity, compared to 55 percent in the previous round. Nevertheless, female-headed households are more food insecure than male-headed households.

Various factors played a role in the food security situation. In some states, such as West Kordofan and North Kordofan, the registration of new arrivals led to an improvement in the food security situation as the already-registered refugee households could stop sharing their GFA with their previously non-registered neighbours and relatives. An increase in livelihood opportunities also improved the food security situation. For instance, in White Nile, where food insecurity fell, many men and women engage in farming and harvest activities, such as sesame cutting and sorghum harvest, which brings considerable income that can be used at the household level. Overall, the high inflation rates had a negative impact on the food security situation, as household’s had to spend a considerable amount of their expenditure on food.

**Kassala**

Analysis of household data in Kassala showed a deterioration in the food security situation, as all three clusters experienced an increase in food insecurity since the previous round. However, food insecurity is lower or at the same level compared to the year before. In the wage labor-based camps, the food insecure population rose from 31 percent to 36 percent, which is lower than the 51 percent recorded in November 2018. The same trend was recorded in the land based camps, where the number of food insecure households rose marginally from 34 percent to 36 percent, which is lower than the 41 percent recorded the year before.

![Figure 40: Prevalence of food insecurity according to CARI in Kassala by cluster](image-url)
Among new arrivals, food insecurity rose from 28 percent to 41 percent, which is also the same figure recorded the year before. On the whole, the average food insecurity increased by 7 percent from 31 to 38 percent in Kassala. Moreover, 35 percent of male-headed households and 47 percent of female-headed households were food insecure. The percentage of households with poor food consumption decreased or stayed at the same level compared to the previous round, and is also at a lower level compared to the year before.

![Figure 41: Prevalence of households with poor food consumption in Kassala by cluster](image)

The price of the local food basket increased by 28 percent compared to the previous round, reaching 39.6 SDG. Since May 2019, the per-kilo price of sorghum rose from 16.7 to 25.2 SDG, representing a 34 percent increase. Additionally, the number of households who spend more than 65 percent of their expenditure on food increased markedly in all three clusters, reaching 90 percent and above.

![Figure 42: Prevalence of households in Kassala who spend more than 65 percent of their expenditure on food, by cluster](image)
The prevalence of households who adopted high coping strategies to manage their food insecurity increased slightly in the wage labor-based camps, while it decreased in the other two clusters.

![Figure 43: Prevalence of households in Kassala who resort to high coping strategies, by cluster](image)

The results can partly be explained by the fact that the majority of refugee households are female-headed households, whose husbands either passed away, divorced or are left behind in their country of origin. These females do not have access to other sources of livelihoods.

**Blue Nile**

In Blue Nile, there are four clusters where the FSMS has not been conducted before: Wad Abouk; Alyas, Bakori, Mogran; Bambodie, Umm Darfa; and Bout, Gulli, Roro. Therefore, no comparison to previous rounds can be done for these clusters. In Bulang and Dindiro, the FSMS was conducted in the previous round, but not before that (November 2018). However, the food security situation in the other clusters generally deteriorated. Compared to the previous round, and the year before, the prevalence of food insecure households increased in all clusters. In some clusters, the increase was substantial, such as Al Shaheed Afandi, where food insecurity increased from 19 to 60 percent. The increases varied from 8 to 38 percent.
On the whole, the average food insecurity among IDP and refugee households increased significantly from 28 to 51 percent in Blue Nile. Moreover, 49 percent of male-headed households and 64 percent of female-headed households were food insecure.

The results regarding the food consumption score were mixed, but showed several clusters increasing substantially in the prevalence of households with poor food consumption, including Al Shaheed Afandi. 21 percent in Bambodie and Umm Darfa have poor food consumption.

The price of the local food basket increased in Blue Nile. Between the rounds, the local basket price increased by 35 percent, reaching 45.6 SDG compared to the previous round’s 29.8 SDG. Compared to May 2019, the price of sorghum in November 2019 was found to have risen by 36 percent from to
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20.0 to 31.1 SDG/kilo. The prevalence of households who spend more than 65 percent of their expenditure on food increased in all clusters to over 90 percent.

The prevalence of households who adopted high coping strategies to manage their food insecurity is generally higher compared to other states, varying from 18 to 37 percent.

Food availability was a problem in many surveyed locations due to the fluctuating price of crops. This is attributed to fuel scarcity, which led to low productivity during the last agricultural season and an increase in transportation costs of crops from other states to Blue Nile. It is key to note that the majority of IDP households in Blue Nile do not have access to agricultural lands and their main source of income is labour. However, the wages for such labour has not increased at the same rate as the price of food. Furthermore, labour is not available to all IDP households.
While Nile
The three clusters in the White Nile state all experienced an improvement in food security between now and the previous round. The level of food insecurity is however greater compared to November 2018. On the whole, the average food among IDP and refugee households decreased from 39 to 28 percent in White Nile. Moreover, 21 percent of male-headed households and 34 percent of female-headed households were food insecure.

![Figure 48: Prevalence of food insecurity according to CARI in White Nile by cluster](image)

This is improvement in food security is also reflected in the significant decrease in the prevalence of households who have a poor food consumption score.

![Figure 49: Prevalence of households with poor food consumption in White Nile by cluster](image)

Food prices across White Nile increased between the rounds, with the price of the local food basket increasing by 26 percent from 27.8 SDG in May 2019 to 37.6 SDG. Compared to May 2019, the price of sorghum in November 2019 was found to have risen by 26 percent from to 19.2 to 25.8 SDG/kilo.
In all three clusters, roughly 90 percent of the population spend more than 65 percent of their total expenditure on food, which is an increase compared to the previous round, and the year before.

![Figure 50: Prevalence of households in White Nile who spend more than 65 percent of their expenditure on food, by cluster](image)

The prevalence of households who adopted high coping strategies to manage their food insecurity decreased compared to the previous round, but is still between 24 and 28 percent, which is higher than the year before.

![Figure 51: Prevalence of households in White Nile who resort to high coping strategies, by cluster](image)

As this assessment was conducted during the harvest/ productive season, many men and women engage in farming and harvest activities, such as sesame cutting and sorghum harvest, which brings considerable income that can be used at the household level. Another reason for the improvement is that in November, most families who live outside the camps come to join their families to celebrate Christmas and New Years. These households come with considerable amounts of money that contribute positively to the food security.
**West Kordofan**

In West Kordofan, analysis of household data showed an improvement in food security among the South Sudanese refugee households, both compared to the previous round as well as November 2018. The refugee households in Elmairam cluster experienced a 7 percent point decrease in the percentage of households who are food insecure, from 66 percent in the previous round to 59 percent. This is also lower than the 79 percent recorded the year before. For the refugee households in Kharasana cluster, the figure also decreased from 71 percent to 65 percent. In Elmairam, the figure decreased from 31 percent to 26 percent, while in Kharasana cluster, the figure decreased from 48 percent to 22 percent. On the whole, the average food insecurity among refugee households decreased by 7 percent from 69 to 62 percent in West Kordofan. Moreover, 63 percent of male-headed households and 61 percent of female-headed households were food insecure.

![Figure 52: Prevalence of food insecurity according to CARI in West Kordofan by cluster](image)

This improvement in food security is also reflected in the food consumption scores, which also witnessed an improvement, as the prevalence of households who have poor food consumption decreased in both clusters. For the refugee households in Kharasana, the decrease was particularly stark, from 48 percent to 22 percent.
In West Kordofan, the price of local food basket increased by 37 percent since the previous round, from 32.8 SDG to 52.3 SDG. This was the largest increase in Southern and Eastern Sudan. Compared to May 2019, the price of sorghum in November 2019 was found to have risen by 55 percent from to 16.1 to 35.8 SDG/kilo. The prevalence of the population who spend more than 65 percent of their expenditure on food increased to 98 percent in Kharasana and 99 percent in Elmairam.
The prevalence of households who resorted to high coping strategies to manage their food insecurity increased for the refugees in Kharasana and stayed the same for the refugees in Elmairam.

The improvement in food security in West Kordofan can partly be attributed to the registration of new arrivals (refugees). The previously-registered refugees have been sharing their GFA with their neighbours and relatives, who were not registered for many months. The registration of the new arrivals (i.e. the previously non-registered) has reduced the burden for the old refugee households and resulted in the improvement of their food security status.

South Kordofan

Analysis of household data revealed a mixed picture in regards to the food security situation in South Kordofan, with some clusters experiencing an increase in food insecurity and others experiencing a decrease.

For the IDP camps, some clusters increased in food insecurity while others decreased. Compared to the previous round, food insecurity increased in Dilling; Abbassiya; Talodi; Gadir; and Illire. The increase was particularly large in Gadir (14 percent) and Illire (24 percent). In Dilling, Abbassiya and Illire, the level of food insecurity is also higher than the year before. On the other hand, food security improved in Kadugli, Rashad and Abu Gebeiha. The improvement in food security was quite substantial (between 11 and 17 percent). However, in Kadugli and Rashad, the level is still higher than the year before. Among the refugee households in South Kordofan, food insecurity generally improved. Even though it increased marginally in Abbasiya (by 1 percent), it decreased in Illire (by 13 percent), Abu Gebeiha (by 17 percent) and Rashad (by 13 percent). Among the refugee households in Illire, the level is still higher than the year before. On the whole, the average food insecurity among IDP and refugee households decreased by 3 percent from 50 to 47 percent in South Kordofan. Moreover, 47 percent of male-headed households and 50 percent of female-headed households were food insecure.
The prevalence of households who have a poor food consumption score increased in all clusters, apart from the IDP households in Abu Gebeiha and the refugee households in Illire and Abu Gebeiha.

The price of the local food basket was 18 percent more expensive compared to the previous round. The price of one local food basket per day is 35.0 SDG. Compared to May 2019, the price of sorghum in November 2019 was found to have risen by 54 percent from to 13.3 to 29.2 SDG/kilo. The percentage of households who spend more than 65 percent of their expenditure on food increased (reaching over 90 percent in all clusters).
The prevalence of households who adopted high coping strategies to manage their food insecurity decreased in all clusters compared to the previous round. However, between 8 and 22 percent resort to high coping strategies; the prevalence is particularly high among the refugee households in Abbasiya.
**North Kordofan**

Analysis of household data showed mixed results compared to the previous round (no comparison can be done to November 2018 as the FSMS was only conducted last year). In Sheikan and Um Ruwaba, food insecurity decreased by 6 and 7 percentage points respectively. In El Rahad, however, food insecurity increased significantly, from 38 to 73 percent. On the whole, the average food insecurity among IDP and refugee households increased by 8 percent from 47 to 55 percent in North Kordofan. Moreover, 42 percent of male-headed households and 48 percent of female-headed households were food insecure.

![Figure 60: Prevalence of food insecurity according to CARI in North Kordofan by cluster](image)

The prevalence of households who had a poor food consumption score increased marginally in Sheikan and El Rahad, while it dropped significantly in Um Ruwaba (from 19 to 5 percent).

![Figure 61: Prevalence of households with poor food consumption in North Kordofan by cluster](image)
The price of the local food basket increased from 29.5 SDG to 39.4 DSG, an increase of 25 percent. The per kilo price of sorghum rose from 16.1 to 30.3 SDG, which is a 47 percent increase. The prevalence of households who spend more than 65 percent of their expenditure on food increased and reached 100 percent in El Rahad and Um Ruwaba.

![Figure 62: Prevalence of households in North Kordofan who spend more than 65 percent of their expenditure on food, by cluster](image)

The prevalence of households who adopted high coping strategies to manage their food insecurity increased in Sheikan by 5 percentage points to 25 percent, while it fell in El Rahad (from 25 to 5 percent) and Um Ruwaba (from 14 to 10 percent).

![Figure 63: Prevalence of households in North Kordofan who resorted to high coping strategies, by cluster](image)

The decrease in food insecurity in Sheikan and Um Ruwaba localities can be attributed to the registration of new refugees. Furthermore, labor and small trading opportunities are more available in Sheikan, which contributed positively to their food security situation. The worsened food security situation in El Rahad locality is likely due to the fact that the majority of South Sudanese in the locality...
are from Abyie Area and are not registered as refugee households, thus receiving limited basic services. Additionally, the labor wage opportunities are very limited in El Rahad locality for the South Sudanese refugee households, apart from during the cultivation period in the rainy season.

**Methodology**

WFP conducts continuous food security monitoring of populations across Sudan affected by emergencies, focusing on internally displaced persons and refugee households. The FSMS covers the states of North Darfur, South Darfur, West Darfur, Central Darfur, East Darfur, Kassala, Blue Nile, White Nile, West Kordofan, South Kordofan and North Kordofan.

**Sample**

Data collection takes place two time per year, in May and November. The household data collection for this round of monitoring was conducted in November 2019, which is in the harvest season. Field teams collected data from a set number of sentinel sites. The sentinel sites did not change across monitoring rounds. Some variation occurred between rounds because of access or operational constraints. In Darfur, a total of 6,442 households were interviewed. A total of 7,051 households were interviewed in Southern and Eastern Sudan. Within the fixed sentinel sites, sampled households were selected randomly. Results were aggregated to groups of camps and locations, called clusters, and statistics were reported at that level. The data from the locations in Southern and Eastern Sudan were aggregated to 30 clusters (as listed in the Data Table). The sample size varied considerably in the different states. In South Kordofan, the number of households where data was collected was 3000, while in North and West Kordofan the figure was 300 respectively.

**Indicators**

Food security was determined, as per WFP Emergency Food Security Assessment standards, by cross-tabulating two economic food access indicators with a household food consumption indicator (see below). For the first economic food access indicator, the price of a local food basket was used as a benchmark against which to compare household total expenditure (a proxy for income), to determine the ability of households to meet their food needs through food purchases. The local food basket consisted of sorghum, onions, vegetable oil, milk, cow meat, goat meat, dry tomatoes, and sugar in amounts sufficient to attain a nutritionally acceptable diet, while minimizing the cost. For the second economic access indicator, the prevalence of total household expenditure spent on food was calculated, as a complementary indicator of economic strength and a proxy indicator for household food production (under the assumption that households with large food production would spend a smaller prevalence of their expenditures on food purchases). Household food consumption data was collected and analysed using standard WFP methodology: the variety and frequency of foods consumed over a 7-day period was recorded to calculate a household food consumption score. Weights were based on the nutritional density of the foods. Using standard thresholds, households were classified as having either poor, borderline or acceptable food consumption. See the WFP methodology paper for more details. WFP in Sudan is transitioning to WFP’s standard Consolidated Approach to Reporting Indicators of Food Security (CARI).

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