



The Gambia National Food Security Survey Report

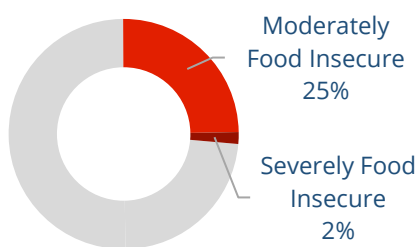
December 2022



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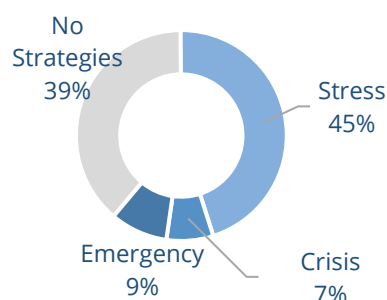
HIGHLIGHTS



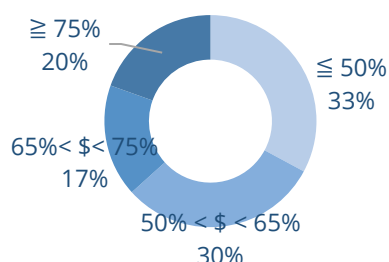
At the national level, one household out of four is food insecure and an additional 2 percent is severely food insecure.



One out of every four households has an inadequate food consumption/does not meet food needs.



To meet essential needs, households are resorting to negative coping strategies¹, with 9 percent adapting emergency strategies².



The proportion of households with a higher food expenditure share (more than 65 percent of total monthly expenditures) has increased compared to 2021. That is to say households are more economically vulnerable.



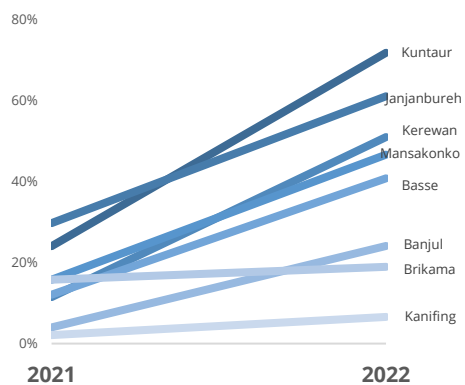
Thirty-six percent of households have had difficulty in covering food needs in the past six months. High food prices and reduced income, often from loss of job, are the most frequent challenges to meet essential needs.



The situation is more dire in rural areas compared to urban ones, as all indicators show higher vulnerability. Since the start of the war in Ukraine prices of agricultural inputs, such as chemical fertilizers, have highlighted the unfavourable dependency on imported inputs going at the detriment of food accessibility.

¹ Households are grouped according to their most severe strategy. Stress Strategies (e.g. sell non-productive assets) Crisis Strategies (e.g. sell productive assets) Emergency Strategies (e.g. sell major productive assets – land). Crisis and emergency strategies can be irreversible coping strategies and can lead to accelerated depletion of livelihood assets.

² The emergency strategies include: Mortgaged/Sold house or land due to lack of food, Sold last female animals due to lack of food, Begged and/or scavenged (asked strangers for money/food) due to lack of food.



Compared to 2021, the food security situation has deteriorated in all the Local Government Areas (LGAs), albeit at different degrees of severity. Food insecurity is more frequent in Kuntaur, Mansakonko, Kerewan, Janjanbureh and Basse.

BACKGROUND

The economy of the Republic of The Gambia, which already faces structural challenges, has been affected by the COVID-19 pandemic with a consequent disruption of the trade and tourism sectors, among others. Despite a regain of the gross domestic product (GDP) in 2021 (from -0.2 percent in 2020 to 5.6 percent in 2021 according to the World Bank³ -WB), it is anticipated that the economy will decelerate in 2022 due to high commodity and fertilizer prices. Supply disruptions, due to the war in Ukraine, and ongoing floods⁴ in the most populated urban areas also contribute to weakening the economy. In July 2022, inflation reached 12.3 percent (year-on-year) – its highest level in the last three decades. The high prices, together with lingering effects of the COVID epidemic, have had a negative impact on accessibility to food by the most vulnerable.

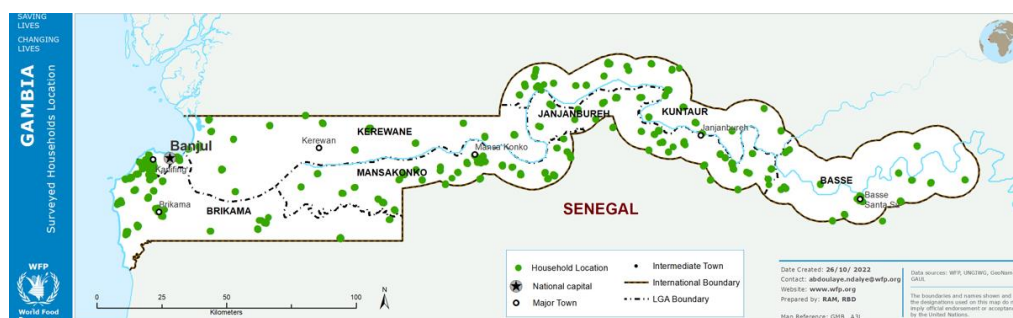
METHODOLOGY

This survey is part of the joint WFP-Government Food Security Monitoring System, which collects information on the population's food security status every six months. Data are compared with those of the Comprehensive Food Security and Vulnerability Analysis (CFSVA), conducted in September/October 2021.

Data collection. This National Food Security Survey was carried out between September 30 and October 14, 2022, by 48 enumerators and 12 supervisors in eight Local Government Areas (LGA) of the country (rural and urban areas).

Map 1: distribution of sampled population across the country

Sampling. WFP has opted for a stratified two-stage cluster sampling methodology, the first stage



aiming at choosing the clusters and the second at selecting the households. The sample has then been weighted based on sampling probabilities for each sampling stage and each cluster. Overall, 3,500 households have been interviewed, 617 in urban areas and 2883 in rural areas.

Analysis. Analysis was done using SPSS version 25.

Representativity. Results are representative at national and LGA level, as well as at rural and urban areas level.

³<https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?end=2021&locations=GM&start=2018&view=chart>

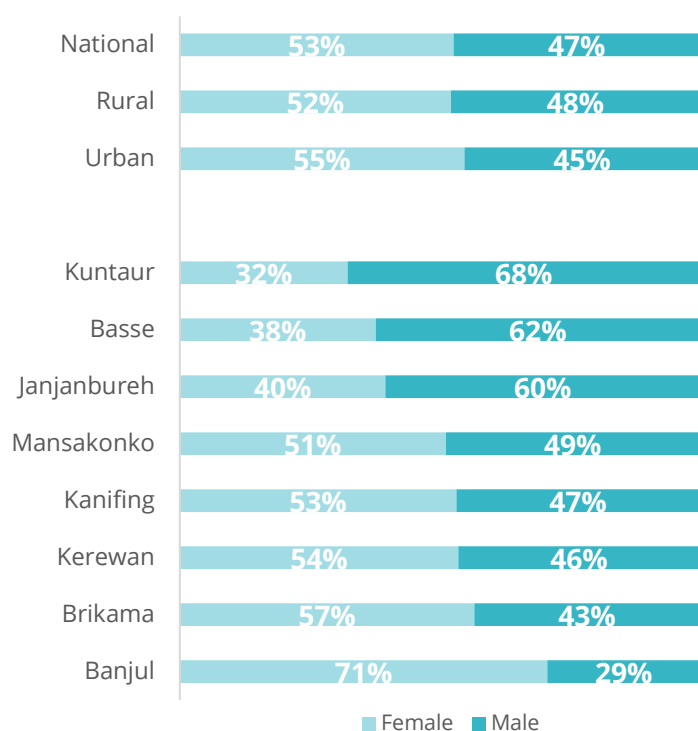
⁴ <https://www.worldbank.org/en/country/gambia/overview>

For the full detailed methodology used in this survey, please refer to Annex 3.

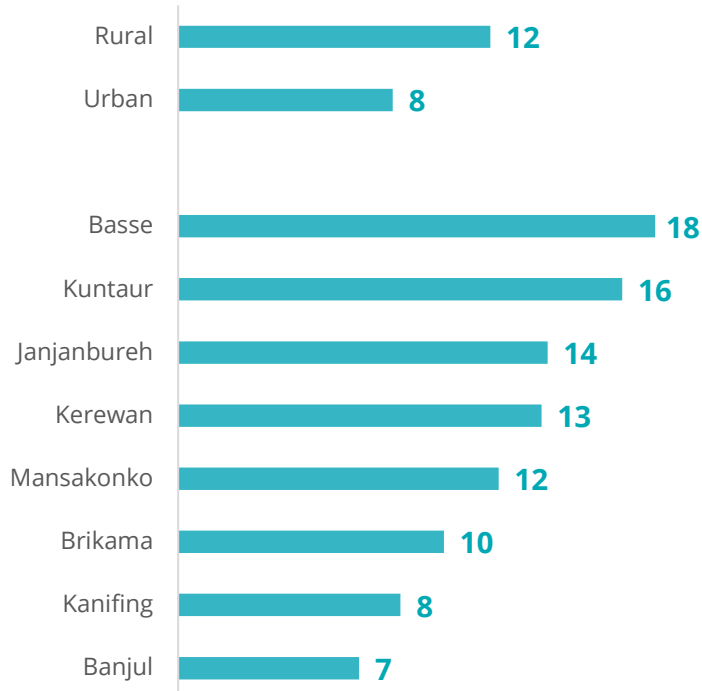
RESULTS

DEMOGRAPHICS OF THE RESPONDENTS

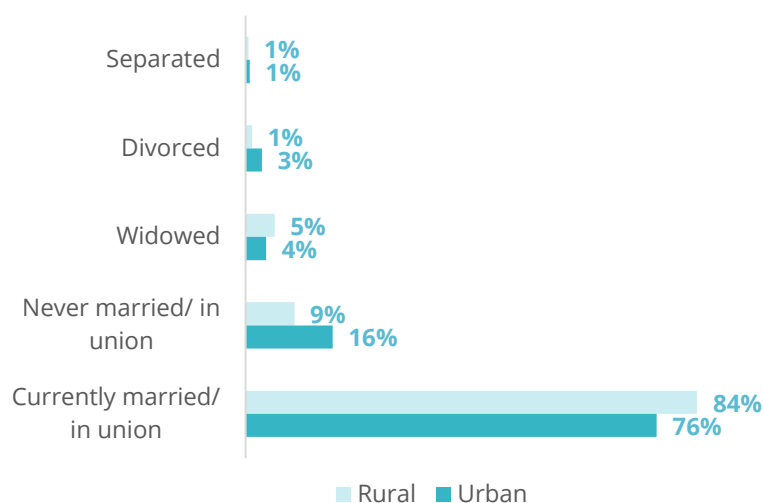
Sex of HH head



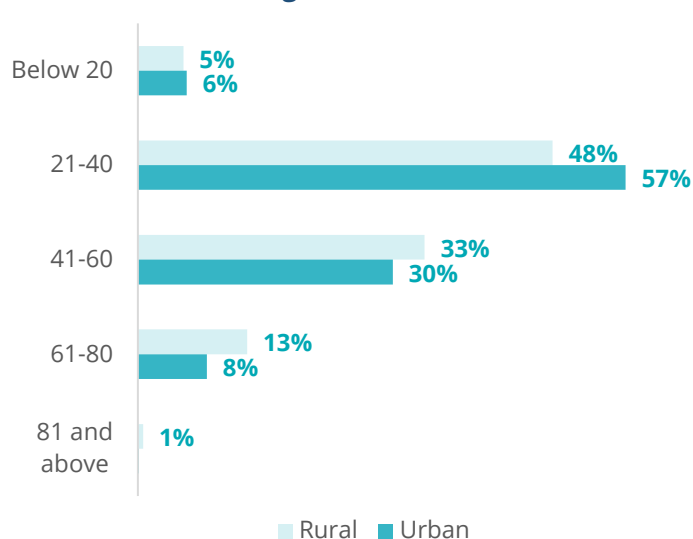
HH size



Marital status of HH head



Age of the HH head



FOOD SECURITY | Overview

Food security is evaluated through the Consolidated Approach for the Reporting Indicators of Food Security (CARI)⁵, which estimates the number of food insecure households in a target population and identifies the profile of the food insecure population.

Overall, more than a quarter of Gambians (27 percent of the population) are food insecure, which translates into **more than 646, 800 people**. Among these, only 2 percent are severely food insecure, meaning that they face extreme food consumption gaps or extreme loss of livelihood assets.

There has been an important increase in the food insecurity rate over the past year from 13 percent in 2021 (1.8 percent severe food insecure and 11.6 percent moderately food insecure) to 26 percent (precisely 24.8 and 1.6 percent), translating into an additional 317,600 food insecure people⁶.

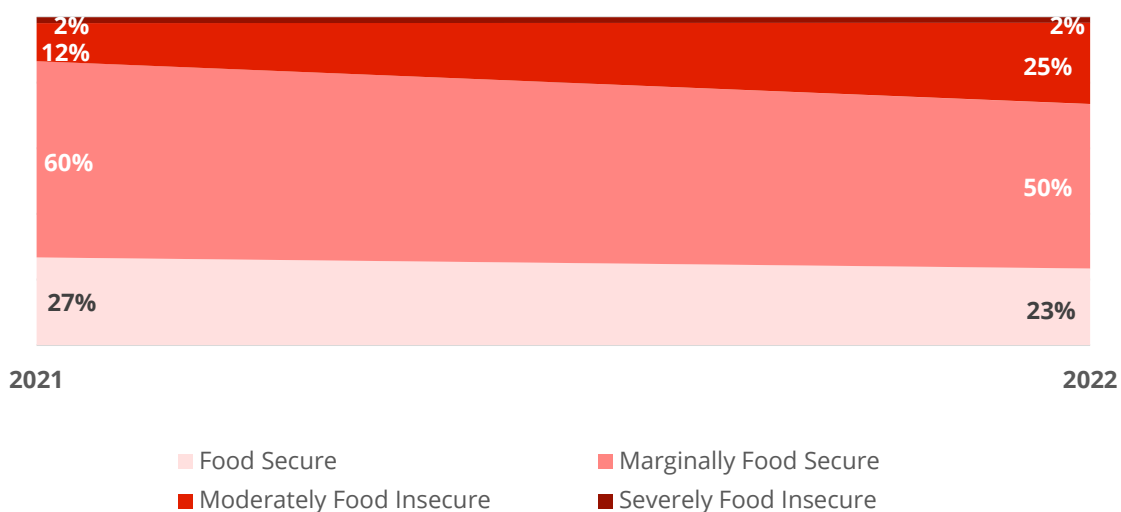
		Indicators	FOOD SECURE	MARGINALLY FOOD SECURE	MODERATELY FOOD INSECURE	SEVERELY FOOD INSECURE
Current Status	Food consumption	<i>FCS and rCSI</i>	<i>Acceptable</i>	<i>Acceptable and rCSI>=4</i>	<i>Borderline</i>	<i>Poor</i>
			43 %	32%	22%	2%
Coping Capacity	Economic Vulnerability	Food Expenditure Share (%)	<50% 33%	50-65% 30%	65-75% 17%	>75% 20%
	Livelihood Coping Strategies	Livelihood coping strategies	<i>No coping</i> 39%	<i>Stress</i> 45%	<i>Crisis</i> 7%	<i>Emergency</i> 9%
	CARI		23%	50%	25%	2%
PREVALENCE OF FOOD INSECURE HOUSEHOLDS					26%	

Results show differences among the rural and urban areas, with the first being more affected by food insecurity: 30 percent of households in rural areas face food insecurity, compared to only 8 percent in urban areas.

The situation has deteriorated since 2021, when at that time only 14 percent of the population were food insecure (moderately and severely).

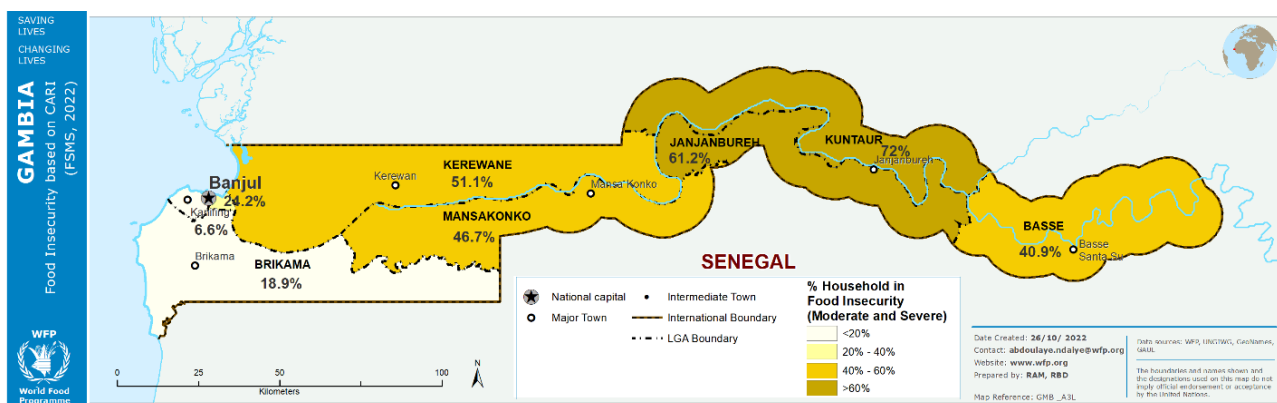
⁵ For more information about the CARI: https://docs.wfp.org/api/documents/WFP-0000134704/download/?_ga=2.101099009.1006407555.1669321409-269022193.1665661978

⁶ The CFSVA in 2021 found that about 329,200 people were food insecure.



The LGAs who cope with the highest rates of food insecurity are Kuntaur, Janjanbureh and Kerewan, more than half of the population are food insecure.

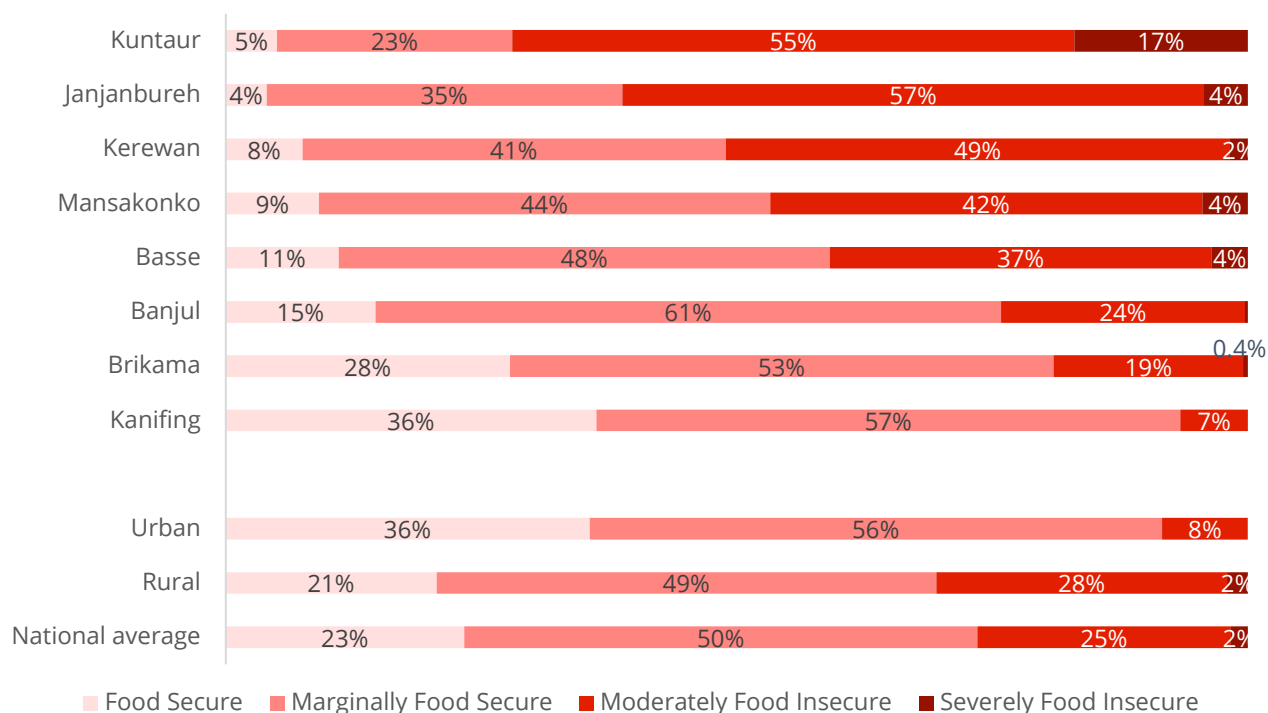
Map 2: Percentage of food insecure population (moderately + severely) by LGA



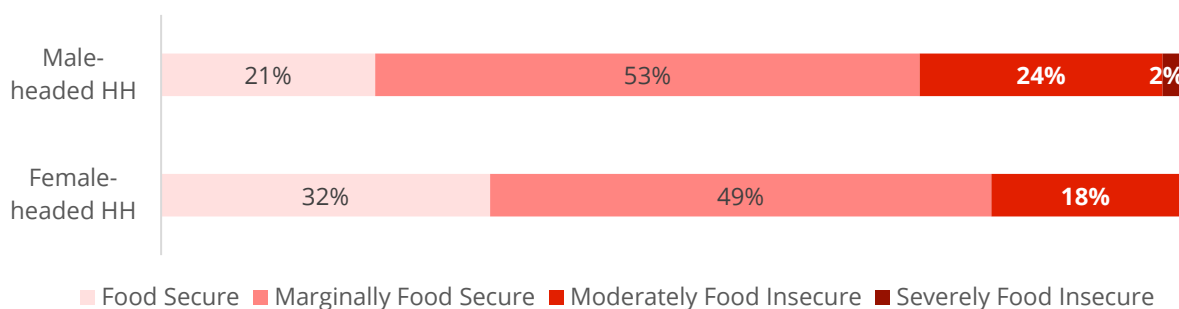
Kuntaur stands out as the most vulnerable LGA, where food insecurity reaches 72 percent – of which 17 percent is severe food insecurity. Only one year ago it was at 24 percent⁷.

⁷ Source: State of Food Security in The Gambia, CFSVA 2021.

In Janjanbureh food insecurity has also more than doubled in a year's time, passing from 30 percent in 2021 to 61 percent in 2022.



When it comes to the gender of the household heads, results show that female-headed households tend to be more food secure (32 percent) compared to male-headed households (21 percent). This represents a change compared to the previous year, where the prevalence of food insecurity was higher in female-headed households (15 percent) compared to male-headed households (13 percent)⁸.



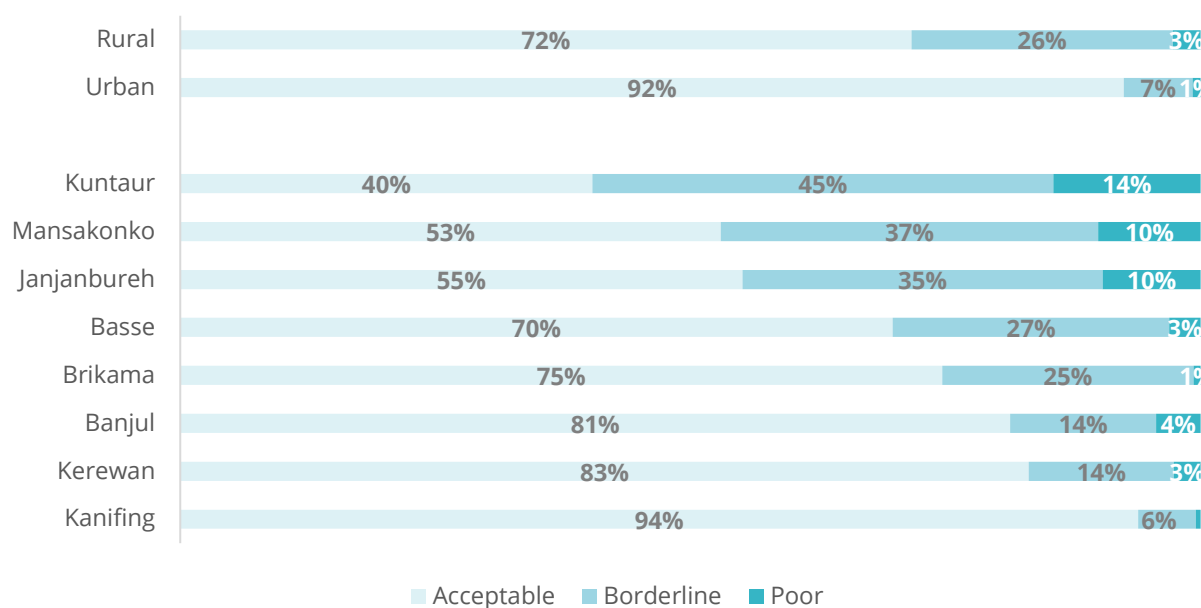
⁸ Source: State of Food Security in The Gambia, CFSVA 2021.

FOOD SECURITY | Food Consumption

At national level, one out of every four households (25 percent) reported an inadequate food consumption, either poor or borderline. This means households are not consuming staples, vegetables and oils every day, and rarely consuming food rich in animal proteins (meat, fish, or dairy products).

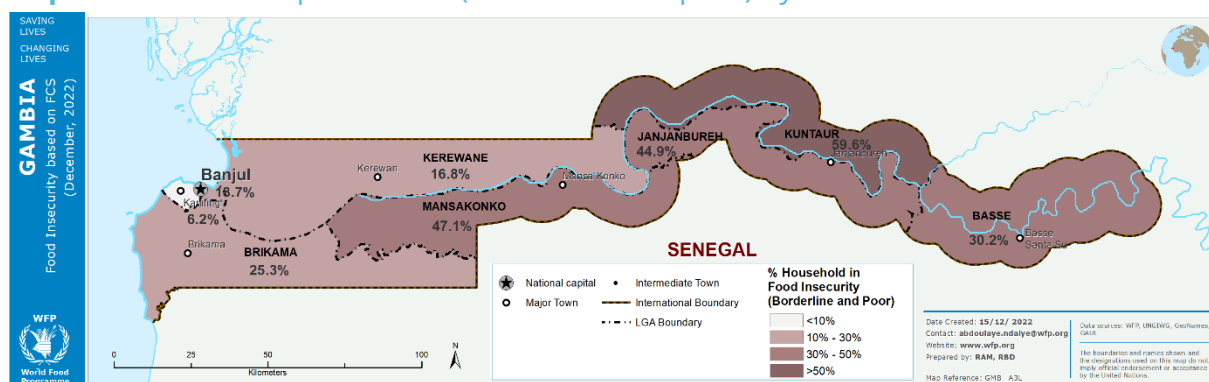
The inadequate food consumption is more frequent in rural areas compared to urban ones (respectively 28 percent and 8 percent).

Inadequate food consumption is more frequent in Kuntaur (59 percent), Mansakonko (47 percent) and Janjanbureh (45 percent).

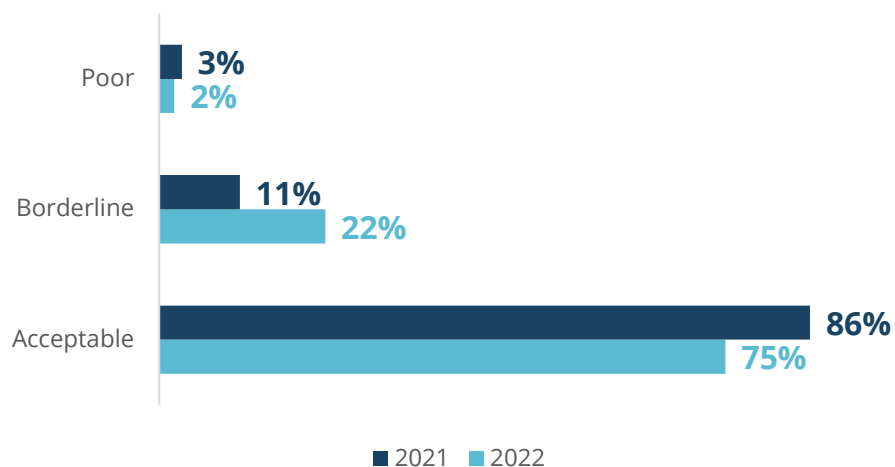


No significant differences are found in the food consumption pattern of households according to whether there is a female or male head.

Map 3: Food Consumption Score (borderline and poor) by LGA



Trend of the HHS' food consumption



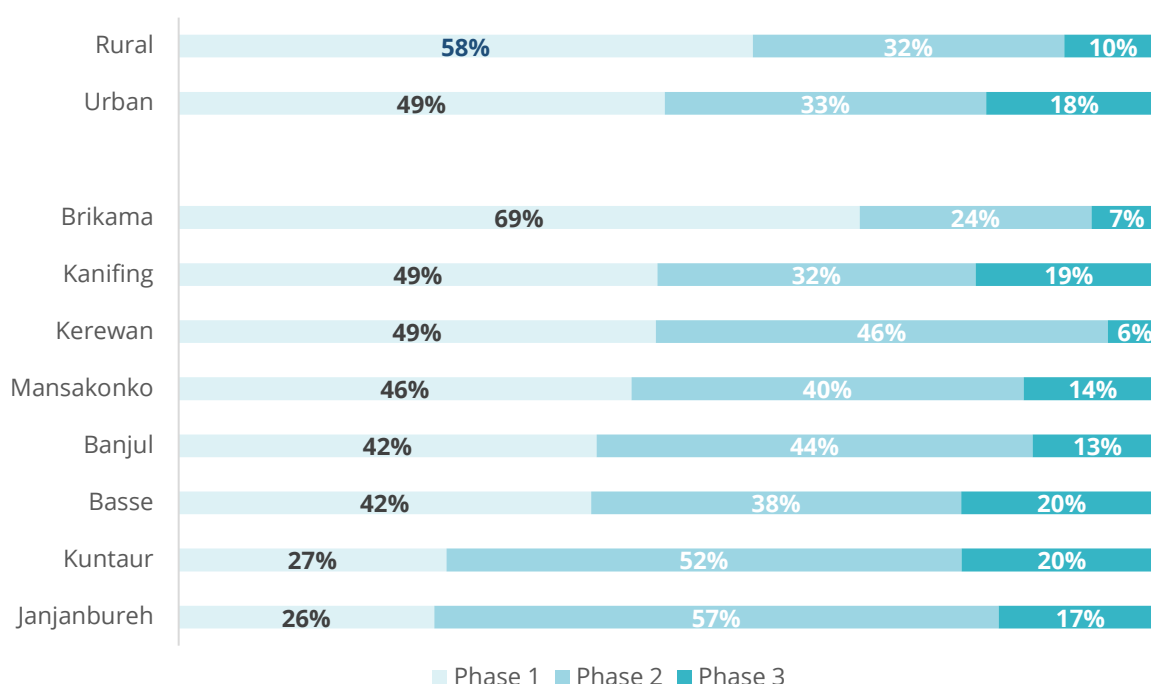
A comparison with 2021 data shows that the share of households with an acceptable food consumption has decreased from 86 to 75 percent. That is to say, more households are now characterised by a borderline consumption (from 11 to 22 percent).

FOOD SECURITY | Food Strategies to meet Consumption (reduced-Coping Strategy Index)

The adoption of food strategies to meet consumption is measured through the reduced Coping Strategy Index, (r-CSI) which measures the severity and frequency of strategies adopted. The higher the score, the more frequent and/or more extreme these behaviours are. In this context, the five food insecurity phases (Minimal, Stressed, Crisis, Emergency, and catastrophe/Famine) of the Integrated Food Security Phase Classification/Cadre Harmonise (IPC/CH) was adopted to classify households.

At national level only 2 percent of households resort to frequent and extreme behaviours such as reduce number of meals eaten in a day that compromise their food consumption. However, the rest of the population compromise their food consumption by relying on less preferred and less expensive foods or by borrowing food/relying on help from friends or relatives.

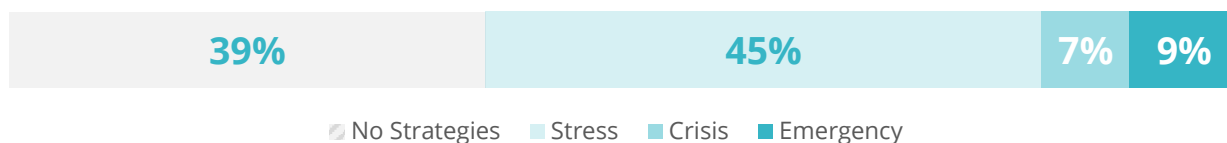
Findings show that 32 percent of the households used medium coping strategies (between 4 and 18), while 11 percent of the households rely on high coping strategies (19 and above). Households with high coping strategies live in Basse, Kuntaur, Kanifing and Janjanbureh LGAs (respectively 20, 20, 19, and 17 percent).



FOOD SECURITY | Livelihood Coping Strategies

As a response to a lack of resources to cover food needs, households resort to strategies that affect their livelihood, following the degree of severity.

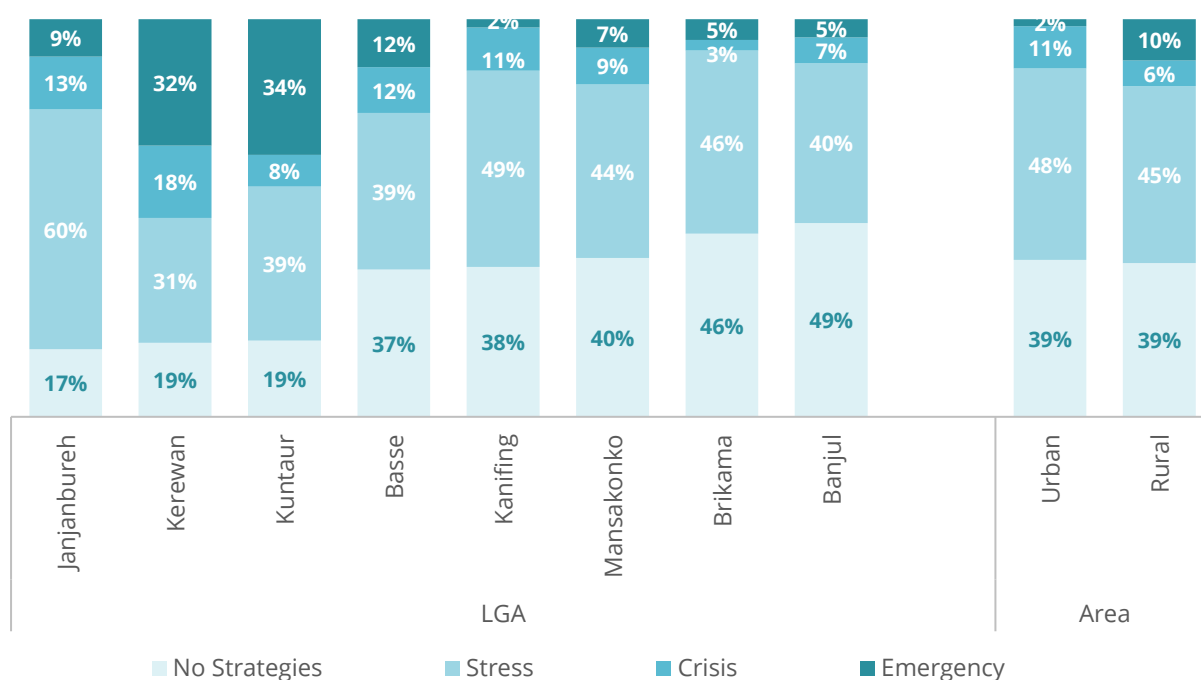
Sixty (60percent) of interviewed households have modified behaviours in an attempt to meet food needs during the 30 days before the survey. They have often (45 percent) resorted to stress strategies such as Sold household assets/goods (radio, furniture, refrigerator, television, jewellery etc.) due to lack of money , but also to crisis strategies (i.e



Consumed seed stocks that were to be saved for the next season due to lack of food) in 7 percent of cases and emergency ones (i.e Sold last female animals due to lack of food) in 9 percent of cases.

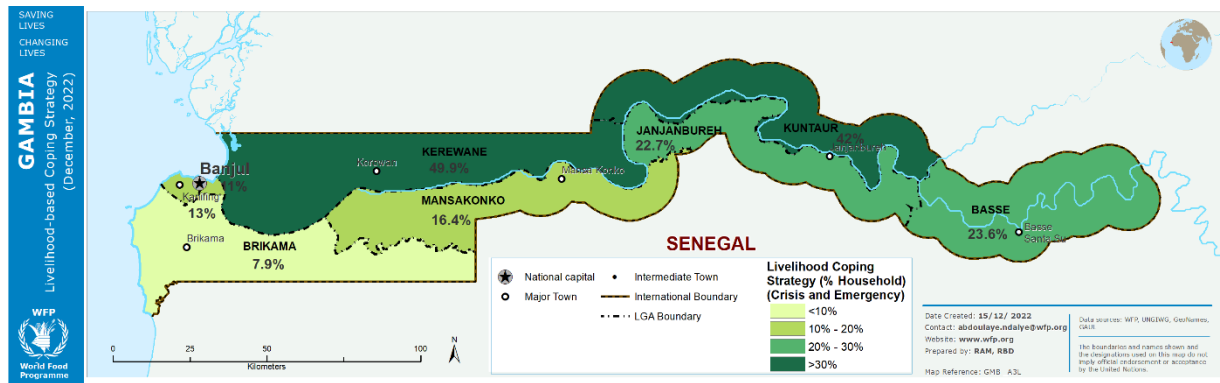
Results by area show a higher frequency of the most detrimental behaviours in rural areas (10 percent) compared to urban ones (2 percent).

Results show important differences among the LGAs: households in Kerewan and Kuntaur have resorted to emergency strategies to meet their food needs at an alarming frequency (32 percent and 34 percent respectively). Adoption of crisis strategies in Kerewan is also very frequent (18 percent).



Considering the different variables of coping strategies, borrowing money to cover food needs due to lack of money is the most frequent strategy used by 36.9 percent followed by spending savings due to lack of food employed by 31.8 percent of the interviewed households. The lowest case is related to the households who sold their house or land due to lack of money representing 0.6 percent.

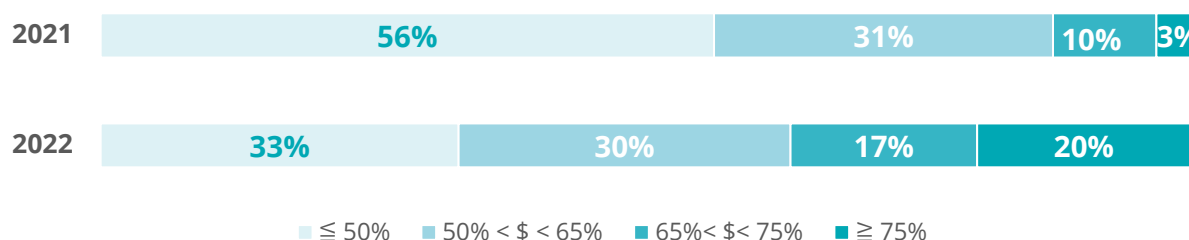
Map: Percentage of respondents having to adopted a livelihood coping strategy by LGA



FOOD SECURITY | Food Expenditure Share

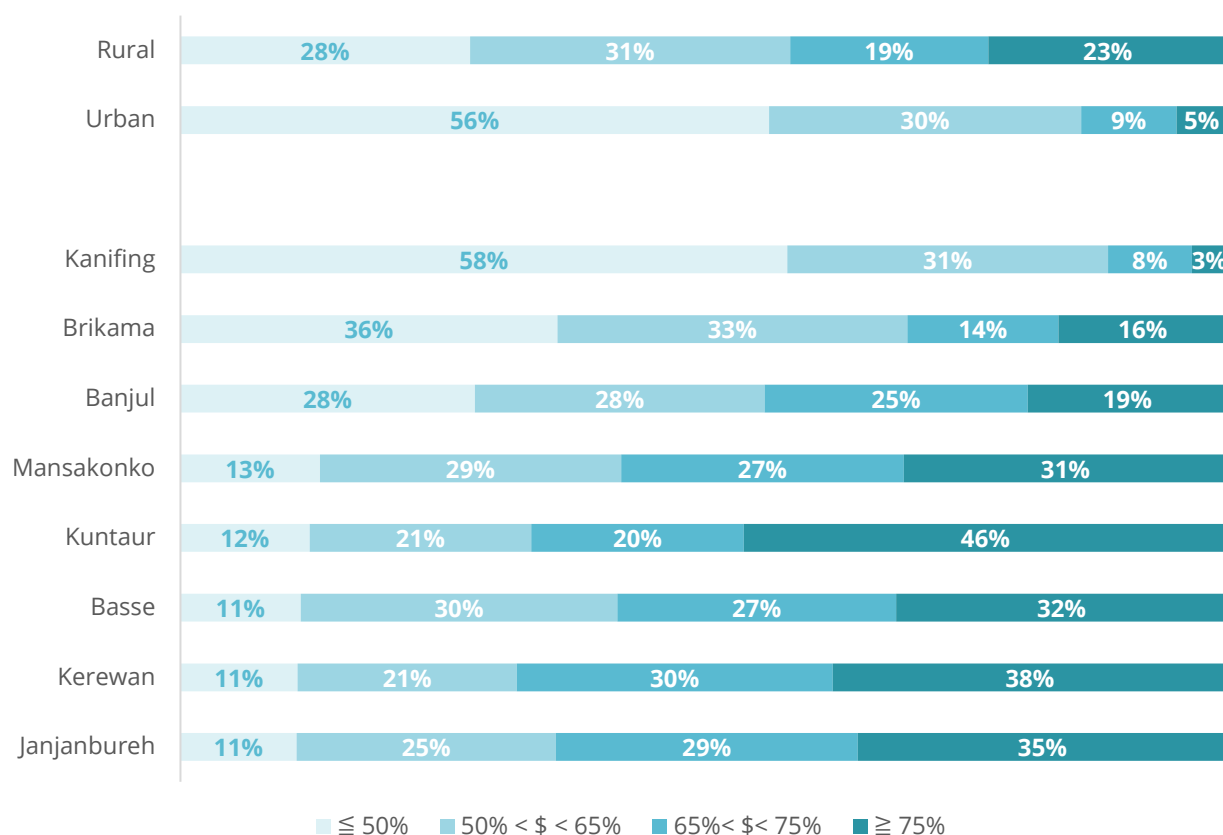
Food expenditure represents less than half of total household monthly expenditures for one third of households (33 percent). Compared to 2021, households are reporting a higher food expenditure share (FES).

Trend of the Food Expenditure Share



Food expenses are proportionally more important in rural areas: they represent more than half of total monthly expenditures for 72 percent of rural households compared to 44 percent of urban ones.

The LGAs with the highest frequency of FES (above 75 percent) are Kuntaur (46 percent of households), Kerewan (38 percent) and Janjanbureh (35 percent).

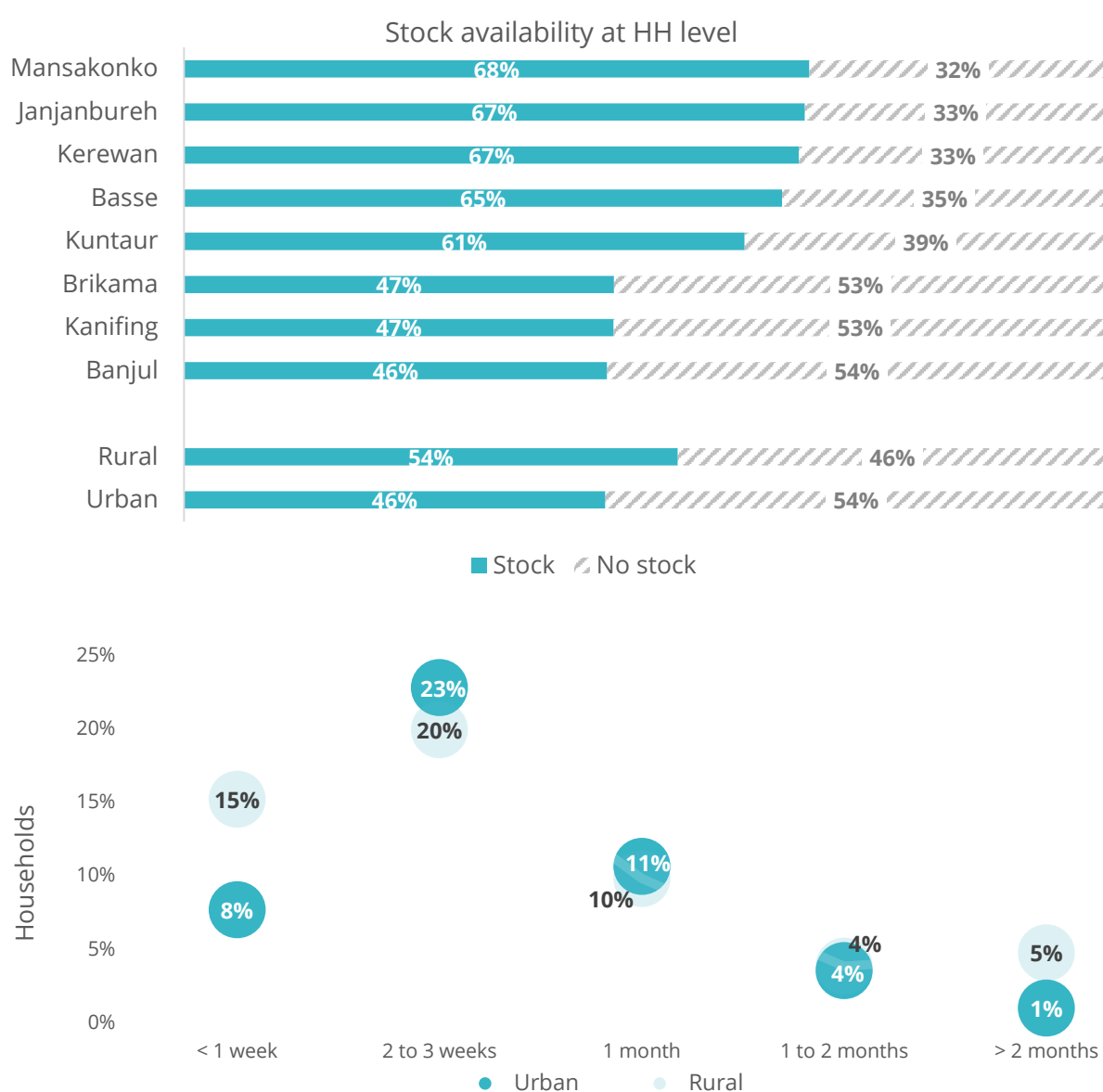


FOOD SECURITY | Food stock

To determine the food stock available at the household level, the following question was asked to the head of household. “Does your household currently have a food stock and if so, how long could this stock last?”.

Data were collected at the time of the harvest of maize and other crops (millet, maize, groundnut, sorghum, paddy rice). Therefore, consumption of these foods had not yet started, and globally food stock was available only for about half of the population (52 percent).

In Mansakonko, Janjanbureh, Kerewan and Basse LGAs, only between 32 and 35 percent of the households had a food stock at the time of the survey.



Food stocks frequently last between two and three weeks. It is important to note that 15 percent of rural households and 8 percent of urban ones have a food stock that can last less than a week.

In the LGAs of Basse, Janjanbureh, Mansakonko and Kerewan, stocks that last less than a week are more frequent compared to the other LGAs.

LIVELIHOOD | Sources of Income

Sources of income depend largely on the type of area and on the LGA.

In rural areas, particularly in Kuntaur, Janjanbureh, Basse, Kerewan and Mansakonko, households rely largely on the sale of cash crops -such as groundnut- as the main source of income. The sale of the agricultural production (including garden products) constitutes the main source of income for households in all LGAs, but particularly in Banjul and Kanifing.

Entrepreneurship and business activities are typical sources of income for households in Banjul, Kanifing, Brikama and Mansakonko (between 14 and 18 percent of the cases).

	Sale of cash crop	Sale of production (incl. garden prod.)	Agricultural hired labour	Non agriculture wage labour	Self-employed services	Self-employed (shopkeeper,	Street vendor	Salaried employment	Public employment	Business	Remittances
BANJUL	-	-		6%	10%	11%	13%	8%	15%	18%	6%
KANIFING	-	1%	1%	4%	20%	8%	9%	13%	13%	16%	6%
BRIKAMA	2%	3%	1%	9%	18%	9%	9%	6%	12%	16%	8%
MANSAKONKO	22%	8%	-	6%	7%	5%	3%	6%	11%	14%	7%
KEREWAN	28%	8%	11%	4%	10%	8%	6%	2%	6%	3%	-
BASSE	46%	14%	-	7%	8%	3%	2%	2%	6%	6%	2%
JANJANBUREH	48%	8%	-	6%	7%	5%	2%	2%	7%	5%	4%
KUNTAUR	63%	9%	1%	2%	5%	3%	2%	-	5%	3%	1%
URBAN		1%	1%	4%	20%	8%	9%	14%	12%	17%	6%
RURAL	15%	5%	2%	7%	14%	7%	7%	4%	11%	12%	6%

This table represents the most important sources of income as reported by households⁹.

⁹ Sources of income with a frequency of less than 3 percent in all LGAs not represented.

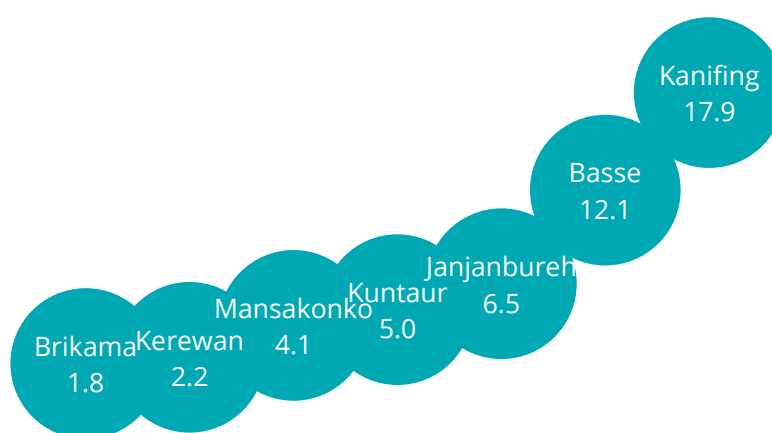
LIVELIHOOD | Agriculture

Access. Access to land for agricultural purposes largely depends on the LGA. Households in Banjul and Kanifing rarely have access to land, given these are mainly urban areas. In rural areas, 88 percent of households had some members involved in agricultural labour of any kind, demonstrating how this sector is pivotal for the economy of the country and for households' livelihood.

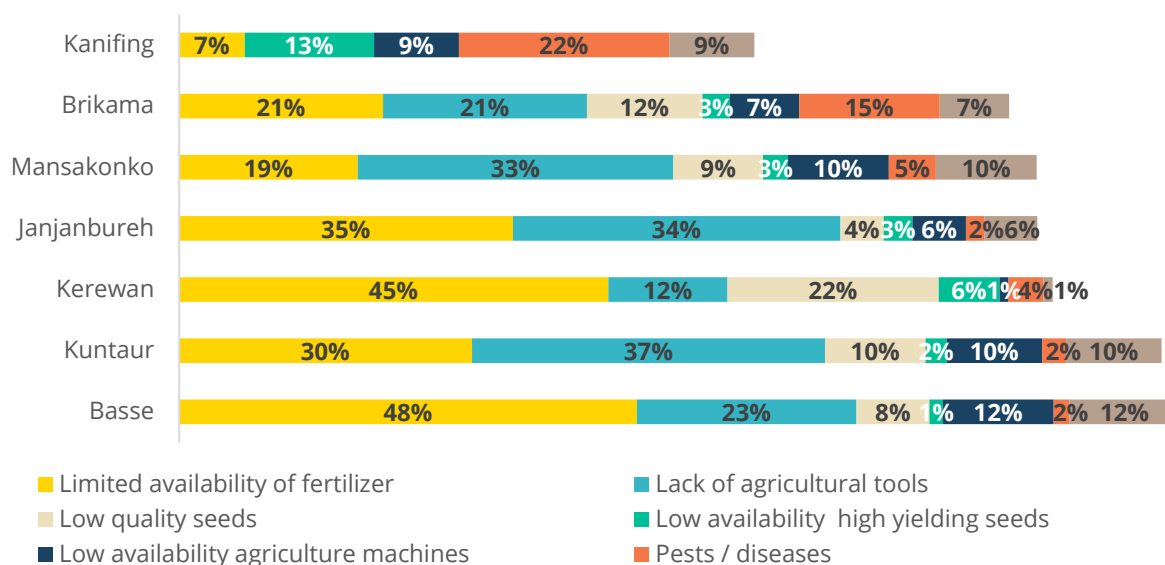
When a household has access to a parcel of agricultural land, the average size varies between 1,8 acres in Brikama and 17,9 acres in Kanifing.

Size of parcels. In most cases, households own the parcels, either with a deed or without. Renting is rare, except in Banjul, where it is apparently the only option. Squatter agreements are also sporadic. Results per LGA are provided in Annex 2.

Size of agricultural parcels (acre)



Challenges. Households report problems of limited availability of fertilizers, lack of agricultural tools and of low quality of seeds as the main challenges in the agriculture sector. Findings are corroborated by the prices of fertilizers that have gone up since the beginning of the war Ukraine in February 2022 and led to a shortage of these inputs.



CHALLENGES | Causes of Food Insecurity

More than one third of households (36 percent) have experienced at least one challenge in access to food in the six months prior to the survey.

The most recurrent reason hindering food access is its

high cost: applying to 28 percent of cases at national level and 30 percent of cases in the rural areas. In Kerewan, Mansakonko, Basse and Janjanbureh LGAs, more than four out of five households reported this as the main problem.

Households reported they had faced mainly loss of employment in Urban areas a reduced income in rural areas, particularly in Brikama and Basse LGAs (respectively affecting 25 and 23 percent of the households). Heavy rains and floods were particularly experienced in the urban areas: Banjul (33 percent), Kanifing (32 percent) and Brikama (28 percent). Insecurity is felt in Kanifing by 9 percent of households, who face robberies and neighbouring disputes.

Major challenges experienced by the households in the past 6 months



	High food prices	Employment loss/ Reduced income	Sickness of HH member	Death of HH member	Heavy rains/ Floods	House damaged	Debts	Insecurity/ Conflict
KEREWAN	56%	3%	6%	5%	8%	1%	13%	-
MANSAKONKO	55%	13%	10%	3%	1%	7%	-	-
BASSE	46%	23%	9%	2%	-	7%	1%	-
JANJANBUREH	42%	8%	20%	17%	3%	6%	-	-
KUNTAUR	36%	6%	15%	15%	4%	11%	3%	-
BANJUL	30%	14%	9%	6%	33%	-	-	2%
KANIFING	20%	19%	10%	1%	32%	3%	-	9%
BRIKAMA	18%	25%	11%	3%	28%	4%	1%	-
URBAN	22%	21%	10%	1%	30%	3%	-	8%
RURAL	30%	18%	11%	5%	18%	5%	2%	1%

CONCLUSIONS

The country has been facing increased food insecurity since 2021. Since then, the rate of food insecurity has doubled, from 13 to 26 percent. This translates into additional 317,700 food insecure people.

People are facing the effects of increased inflation: high food and agricultural inputs prices and a consequent lack of purchasing power. The soaring prices of chemical fertilizers made farmers particularly vulnerable to the price crisis.

This has increased the FES since 2021 and pushed households to detrimental livelihood coping strategies, such as Begging and/or scavenging (asked strangers for money/food) due to lack of food to meet their most pressing needs. Food consumption has also worsened since 2021 and pushed households to reduce meals portion sizes.

Gambians have seen their purchasing power reduced because of mounting inflation and increased food costs and agricultural inputs costs coupled with frequent job losses.

Households in the LGAs of Kerewan, Mansakonko, Kuntaur and Janjanbureh have systematically shown a higher vulnerability compared to those living in other LGAs, calling for attention and intervention.

Households still rely on the agricultural sector as a major income source. However, access to land is not granted for all; the size of a parcel is limited in Brikama and Kerewan (1.8 and 2.2 acres on average). Owners of a parcel frequently do not have a deed, which may pose a risk of access in case of land dispute.

RECOMMENDATIONS

1. To protect farmers from lack of quality seed, high dependency on chemical fertilizers and their price fluctuation, and thus protect household access to food, it is recommended to increase investments in sustainable agricultural systems. This can be done through community-based resilience-building support that promote farmers knowledge and practice on resilient farming techniques, crop rotations, natural fertilizers production, and agroforestry systems.
2. To support growth of the agricultural sector it is recommended to increase the opportunities in the trade sector, facilitate commercialization, and organize the farmers in cooperatives.
3. To protect the most vulnerable population and help them to cover their essential needs it is recommended to expand the social protection system through a range of social safety net interventions and strengthen the social protection system.

ACRONYMS

CARI	Consolidated Approach for Reporting Indicators of Food Security
CFSVA	Comprehensive Food Security and Vulnerability Assessment
EA	Enumeration Area
FCS	Food Consumption Score
FES	Food expenditure Share
GDP	Gross Domestic Product
LGA	Local Government Area
r-CSI	reduced-Coping Strategy Index
WB	World Bank
WFP	World Food Programme

ANNEXES

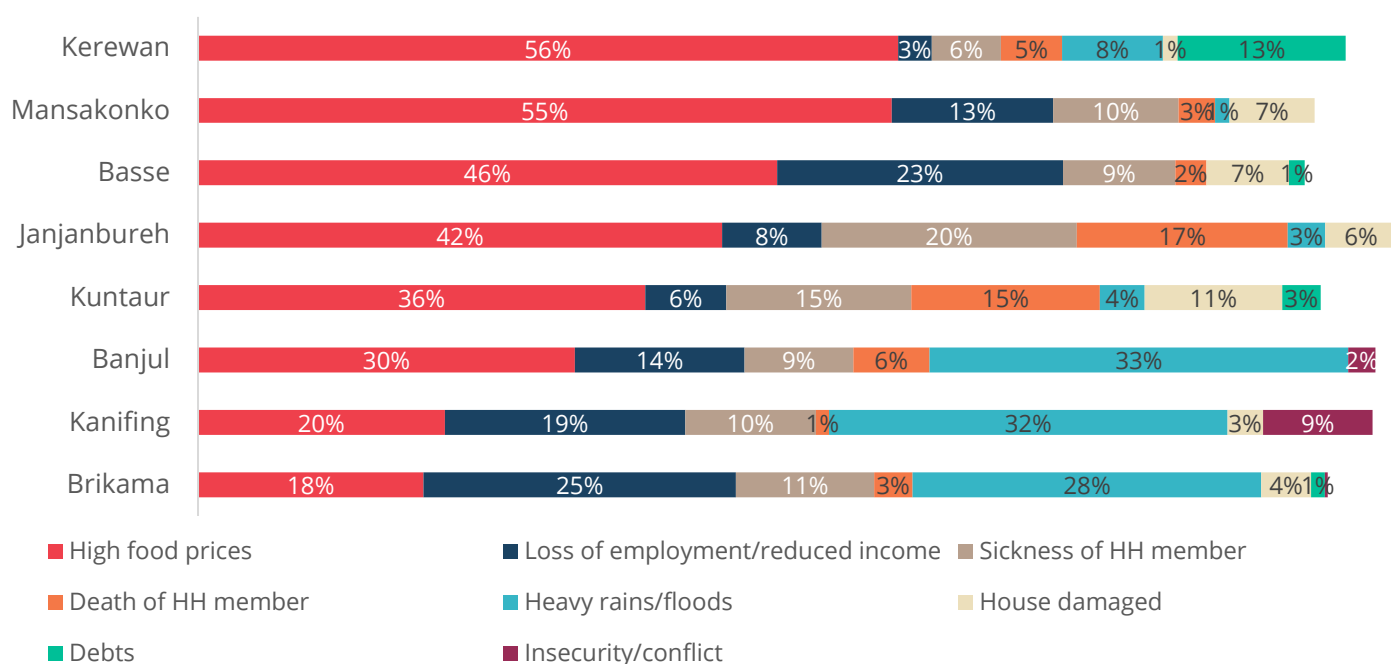
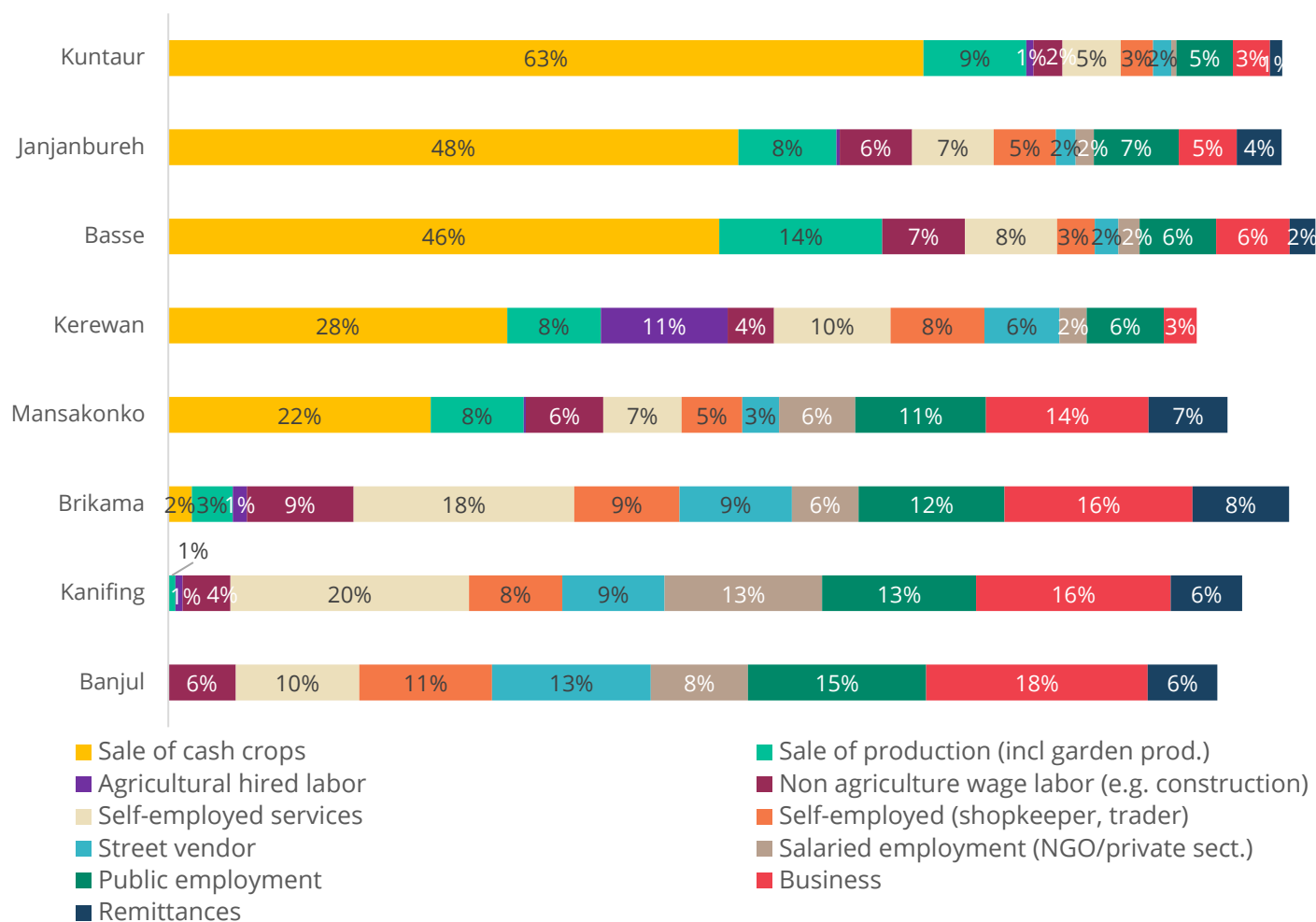
ANNEX 1 | CARI consoles in Urban and Rural areas

URBAN			Indicators	FOOD SECURE	MARGINALLY FOOD SECURE	MODERATELY FOOD INSECURE	SEVERELY FOOD INSECURE
Current Status	Food consumption	FCS and rCSI	Acceptable	Acceptable and rCSI>=4	Borderline	Poor	
			81%	74%	91%	94%	
Coping Capacity	Economic Vulnerability	Food Expenditure Share (%)	<50% 56%	50-65% 30%	65-75% 9%	>75% 5%	
	Livelihood Coping Strategies	Livelihood coping strategies	No coping 39%	Stress 45%	Crisis 7%	Emergency 9%	
	CARI		39%	48%	11%	2%	
PREVALENCE OF FOOD INSECURE URBAN HOUSEHOLDS						10%	

RURAL			Indicators	FOOD SECURE	MARGINALLY FOOD SECURE	MODERATELY FOOD INSECURE	SEVERELY FOOD INSECURE
Current Status	Food consumption	FCS and rCSI	Acceptable	Acceptable and rCSI>=4	Borderline	Poor	
			19%	26%	5%	6%	
Coping Capacity	Economic Vulnerability	Food Expenditure Share (%)	<50% 28%	50-65% 31%	65-75% 19%	>75% 23%	
	Livelihood Coping Strategies	Livelihood coping strategies	No coping 39%	Stress 45%	Crisis 7%	Emergency 9%	
	CARI		39%	45%	6%	10%	
PREVALENCE OF FOOD INSECURE RURAL HOUSEHOLDS						29%	

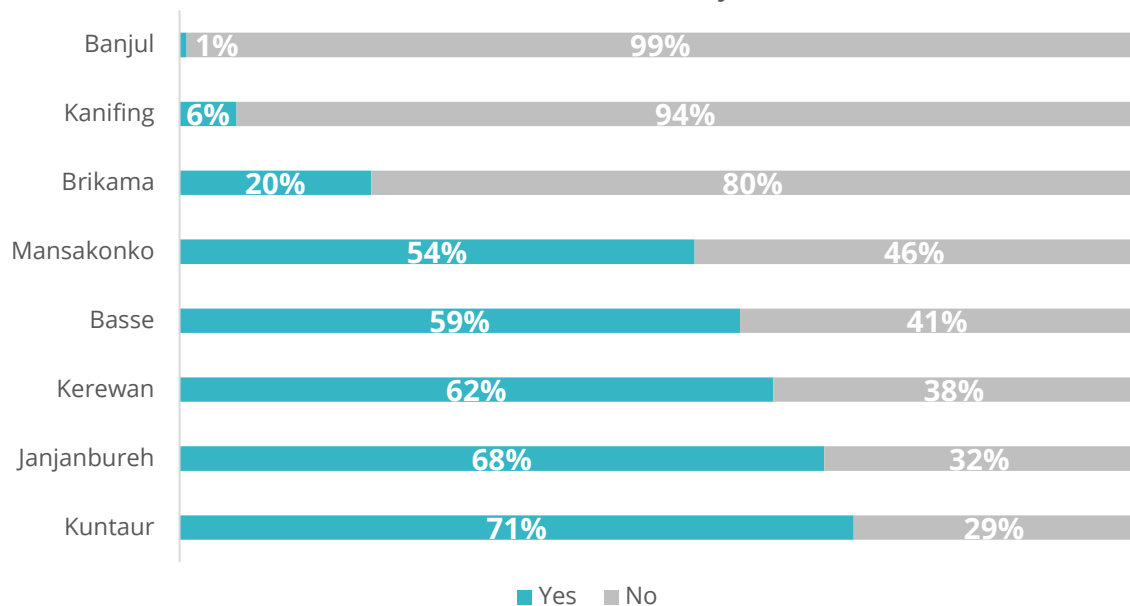
ANNEX 2 | Additional Charts

Households' income generating activities by LGA

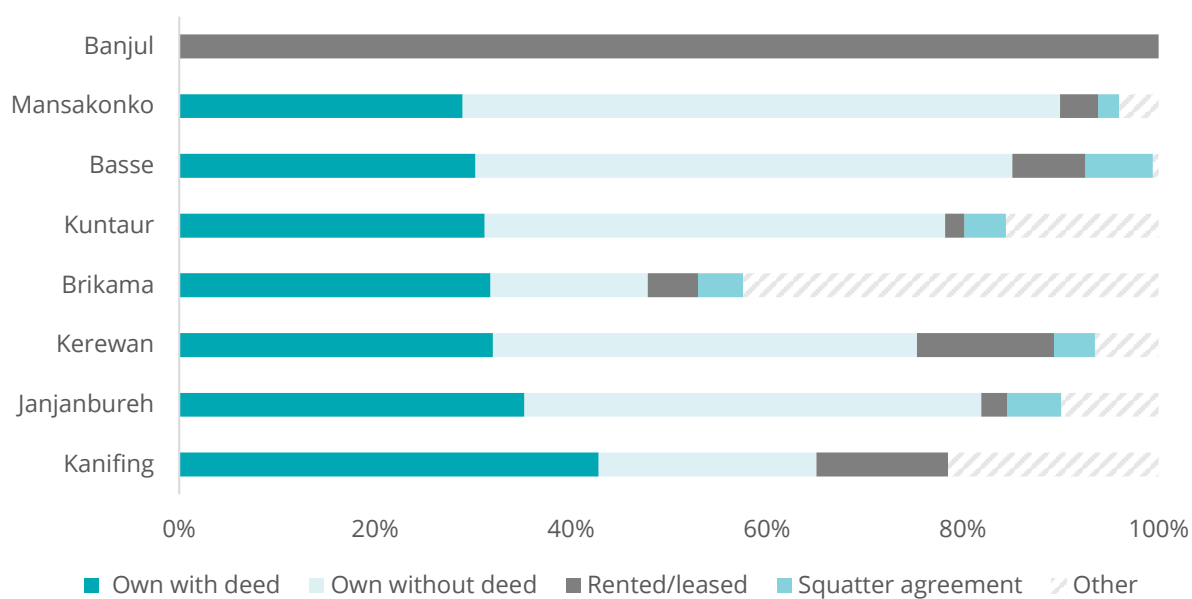


Households level shocks by LGA

HH with access to farm land by LGA



Land access status



ANNEX 3 | Survey Methodology

The 2022 Gambia Food Security Survey sample is a stratified cluster sample selected in two stages to meet the objectives. In the primary stage, enumeration areas (EAs) were selected from the sampling frame (obtained from the Gambia Bureau of Statistics) with a stratified probability proportional to size selection. The size of the EA/cluster is the number of households residing in the EA recorded in the updated 2013 Gambia Population and Housing Census frame. Given that the country is administratively divided into eight Local Government Areas (LGAs), stratification was achieved by separating every LGA into urban and rural areas. Therefore, the eight LGAs were stratified into 14 sampling strata since Banjul and Kanifing have no rural areas. Samples were selected independently in each stratum, with a predetermined number of EAs to be selected. Further, implicit stratification was achieved at each of the lower administrative unit levels by sorting the sampling frame according to districts and wards within each sampling stratum.

1.1 Sample Size

The sample to be used was drawn using stratified random sampling to randomly select the final subjects disproportionately from the different strata. The sample size was determined using the formula by Cochran (1963) that is used to find a representative sample for proportions for a large population. The formula is defined by:

$$n_0 = \frac{z^2 pq}{e^2} \times deff$$

where n_0 is the sample size in terms of children, z is the probability value associated with the 95% confidence interval ($z = 1.96$), e is the desired level of precision, p is the estimated proportion (in this study, p is the proportion of stunting), and q is $1 - p$. The size is adjusted for nonresponse.

1.2 Sample size conversion

The resulting expected number of children obtained from above is to be converted since it is the number of households not number of children per cluster, which will be targeted. To convert the number of children found for the sample size into a number of households, the formula was:

$$N_{hh} = \frac{N_{children}}{(Avg\ HH\ Size \times \% \text{ of under } 5 \times 0.9)}$$

Where N_{hh} is sample size in terms of households, $N_{children}$ is the sample size in terms of children, Avg HH size is the average household size, % of under 5 is the proportion of under 5 years-old children in the population and 0.9 is the fraction of 6-59 months children within the under 5 age category. Consistent with the WFP Technical Guidance for the Joint Approach to Nutrition and Food Security Assessment as well as the SMART methodology, the sample size for each of the domains were computed as shown in Table 1. The estimated

prevalence of stunting as a malnutrition indicator was used and the conversions to total number of households was achieved at various precision levels for the domains. Overall, a sample size of 3,500 households was considered. In each cluster/EA, a fixed number of 20 households were randomly selected based on equal systematic strategy.

In Basse, for example, since 21.5% (Table 1) of children were estimated to be stunted, the sample size for this large population was calculated using the general formula as:

$$n_0 = \frac{(1.96)^2(0.215)(0.785)}{(0.04)^2}$$

A design effect of 1.5 and a nonresponse rate of 5% was assumed and used to adjust the sample. Thus, an estimated sample size of 640 children is acceptable for Basse. By conversion:

$$N_{hh} = \frac{640}{(13.5 \times 0.164 \times 0.9)}$$

After conversion, 320 households were considered for Basse (Table 2).

Table 1: Percentage of household members with no access to electricity in the household

LGA	Estimated prevalence of stunting ¹⁰	Deff	Desired precision (%)	Sample size in number of children	Mean size of household ¹¹	Proportion of under-5 children ¹²	Non-response rate (%)	Sample size in number of households
Banjul	10.3	1.0	10.0	37	6.4	1.8	5	360
Kanifing	11.7	1.1	4.0	287	8.5	18.2	5	220
Brikama	17.0	2.0	3.0	1,268	9.2	27.5	5	560
Mansakonko	17.8	1.0	4.0	370	9.0	6.5	5	700
Kerewan	23.1	1.1	4.0	494	11.9	15.0	5	320
Kuntaur	25.0	1.0	5.0	303	11.9	6.3	5	440
Janjanbureh	20.7	1.0	4.5	328	9.7	8.1	5	580
Basse	21.5	1.5	4.0	640	13.5	16.4	5	320
The Gambia				3,727				3,500

Table 2 shows the number of clusters/enumeration areas (EAs) and households in the frame from which the sample was drawn. Overall, out of the 175 selected clusters, 101 were rural.

¹⁰ These indicators were obtained from the CFSVA 2021.

¹¹ The average household sizes were obtained from the CFSVA 2021.

¹² The proportion of children under-5 in the country was from the MICS 2018.

Table 2: Distribution of EAs & households in The Gambia 2013 Census sampling frame & sample

LGA	Estimated prevalence of stunting	Number of clusters	Number of households per EA/Cluster	Census frame 2013 (adjusted in 2015/16)			GFSS Sample	
				Urban EAs	Rural EAs	Total	Urban EAs	Rural EAs
Banjul	10.3	18	20	74		74	18	
Kanifing	11.7	11	20	773		773	11	
Brikama	17.0	28	20	1,338	128	1,466	24	4
Mansakonko	17.8	35	20	32	172	204	5	30
Kerewan	23.1	16	20	106	387	493	3	13
Kuntaur	25.0	22	20	16	221	237	4	18
Janjanbureh	20.7	29	20	43	254	297	4	25
Basse	21.5	16	20	158	396	554	5	11
The Gambia		175		2,540	1,558	4,098	74	101

1.3 Selection of EAs/Clusters (First Sampling Stage)

The sample was selected using a stratified two-stage cluster design. The frame used for the first stage of the selection of EAs was based on an updated version of the 2013 Gambia Population and Housing Census frame. The census counts were updated in 2015-16 based on district-level projected counts from the 2015-16 Integrated Household Survey (IHS). The study area was stratified into its eight LGAs and sorted. In the first stage, within each LGA, EAs were randomly selected with the probability of selection proportional to the size of the EA. Overall, 175 clusters (Table 2) were selected for the study using SPSS version 25.

1.4 Selection of households (Second Sampling Stage)

After the selection of 175 EAs and before the main survey, a household listing operation was carried out in all selected EAs. Print out of cartographic maps and listing forms were issued to the listing team supervisors. The resulting lists of households served as the sampling frame for the selection of households in the second stage. In the second stage of selection, a fixed number of 20 households was selected in every sample cluster through equal probability systematic sampling. During data collection, the survey enumerators were asked to interview only the pre-selected households. To prevent bias, replacements and changes of the pre-selected households were not allowed. Overall, it was expected that a total of 3,500 households are to be interviewed for the survey (Table 1).

1.5 Weighting

The Food Security Sample was allocated disproportionally to the eight LGAs and urban rural. Therefore, to account for this non-proportional allocation of the sample to different LGAs and their urban and rural areas and the possible differences in response rates, sampling weights were computed to be used for the analysis of data to ensure the actual representativeness of the survey results at the national level as well as regional and urban rural. Since the sample is a two-stage stratified cluster sample, sampling weights were

calculated based on sampling probabilities separately for each sampling stage and for each cluster.

2. Research tools development

2.1 Survey Questionnaires

Structured questionnaires that validly capture all the relevant indicators for the Food Security Survey was developed and finalized for prior to data collection training.

2.2 Listing form

A household listing form was designed to facilitate the listing of all households in the selected enumeration area. The procedure used in listing the households in the EAs was thoroughly explained to the survey teams. In each selected enumeration areas, the team was first required to list all residential households in the area and collect the GPS.

2.3 Training of field staff

Overall, 12 teams consisting of 12 supervisors and 48 enumerators were recruited for the survey. Training for the fieldwork on the paper questionnaires and the computer assisted personal interviewing (CAPI) system (an electronic data capture system programmed on tablet computers) was conducted for 5 days in September 2022 and this include a one-day field pretest. The questionnaires were modified based on lessons learned from the field pretest. Fieldworkers were trained on all the modules, interviewing techniques and the contents of the questionnaires, and mock interviews between trainees to gain practice in asking questions were conducted. Although the training was conducted in English, enough time was devoted to reviewing the questionnaires in the most common local languages to discuss and agree upon the verbal translations.

2.4 Field work

Field data collection was carried out from 30 September to 14 October 2022 by 12 teams. Critically, fieldwork monitoring was effectively carried out as part of the survey. Field coordinators were continuously in the field visiting teams to closely monitor data collection and quality, review their work, identify any issues, and provide necessary feedback. In addition, the WFP coordination team also visited teams regularly to monitor their work, resolve any issues that arose, and provide support as needed. The GIS team also provide support on cluster and household identifications to ensure selected areas are visited.

