



REPUBLIC OF GHANA



ANNUAL HOUSEHOLD INCOME AND
EXPENDITURE SURVEY (AHIES)



GHANA ANNUAL HOUSEHOLD INCOME AND EXPENDITURE SURVEY

Quarter 4 2022 Food Insecurity Report



GHANA STATISTICAL SERVICE
OCTOBER 2023

**GHANA ANNUAL HOUSEHOLD INCOME AND
EXPENDITURE SURVEY**

**QUARTER 4 2022
FOOD INSECURITY
REPORT**

**GHANA STATISTICAL SERVICE
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GHANA ANNUAL HOUSEHOLD INCOME AND EXPENDITURE SURVEY PUBLICATIONS

1	Quarterly Household Labour Force Report
2	Quarterly Multidimensional Poverty Report
3	Quarterly Food Insecurity Report
4	Biannual Monetary Poverty Report
5	GDP by Expenditure Quarterly Newsletter
6	GDP by Expenditure Annual Bulletin
7	GDP by Expenditure Annual Newsletter
8	Regional GDP by Expenditure Annual Bulletin
9	Annual Household Labour Force Report
10	Annual Multidimensional Poverty Report
11	Annual Food Insecurity Report
12	Annual Monetary Poverty Report
13	Household Income and Expenditure Report
14	Poverty and Vulnerability Dynamics in Ghana
15	Technical Report

FOREWORD

The Annual Household Income and Expenditure Survey (AHIES) is the first nationally representative high-frequency household panel survey in Ghana. The AHIES is being conducted to obtain quarterly and annual data on household final consumption expenditure and a wide scope of demographic, economic and welfare variables. Data obtained include statistics on labour, food insecurity, multi-dimensional poverty and health status for research, policy, and planning.

The 2022 AHIES report on Food Insecurity presents statistics on prevalence of moderate or severe and severe food insecurity for the first, second and third quarters. The prevalence of food insecurity is assessed across different demographic, social, economic and health characteristics, among which are sex, age, level of education, employment status, and child health outcomes. These statistics are disaggregated by region, and type of locality.

This publication targets Government Ministries, Departments, and Agencies (MDAs); Metropolitan, Municipal and District Assemblies (MMDAs); Development Partners; Civil Society Organisations (CSOs); Private Sector; Researchers and Academia; and the general public. It provides much-needed data to inform the implementation and monitoring of a wide range of national programmes such as the Coordinated Programme of Economic and Social Development Policies, 2017-2024: An Agenda for Jobs: Creating Prosperity and Equal Opportunity for All which aims to implement interventions to ensure food insecurity and promote good nutrition; the Global Food Security Strategy Country Plan that aims to reduce poverty, hunger, and malnutrition as required by the Global Food Security Act of 2016; and the National Nutrition Policy (2016) framework whose aims include prioritising nutrition and generating interest and demand for adequate food and nutrition security in the country.

The evidence shared in this report is expected to shape discussion on the policy intervention on Planting for Food and Jobs, which was initiated by the Ministry of Food and Agriculture in 2017 as well as aid the Ministry of Gender, Children and Social Protection to identify vulnerable populations for the delivery of targeted interventions. Thus, the report will provide data to guide decision-making and resource allocation to ensure that all households in Ghana have regular access to safe, nutritious, and adequate food.

Finally, the disaggregated statistics presented will support the monitoring of progress towards SDG 2 (achieve zero hunger by 2030) and SDG 10 (reduce inequality within and among countries).

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ABBREVIATIONS AND ACRONYMS

AHIES	Annual Household Income and Expenditure Survey
CAPI	Computer-Assisted Personal Interview
CFSVA	Comprehensive Food Security and Vulnerability Analysis
CPI	Consumer Price Index
DQMT	Data Quality Management Teams
EA	Enumeration Areas
FAO	Food and Agriculture Organisation
FIES	Food Insecurity Experience Scale
GDP	Gross Domestic Product
GFSS	Global Food Security Strategy
GLSS	Ghana Living Standards Surveys
HFCE	Household Final Consumption Expenditure
HISWA	Harmonising and Improving Statistics in West Africa
IBES	Integrated Business Establishment Survey
IDA	International Development Association
IT	Information Technology
MOFA	Ministry of Food and Agriculture
PES	Post Enumeration Survey
PFJ	Planting for Food and Jobs
PHC	Population and Housing Census
PIT	Project Implementation Team

1. OVERVIEW OF 2022 ANNUAL HOUSEHOLD INCOME AND EXPENDITURE SURVEY

1.1. Introduction

The Government of Ghana has committed itself to the development of an equitable society as espoused in development policies such as the Coordinated Programme of Economic and Social Development Policies, 2017-2024: An Agenda for Jobs: Creating Prosperity and Equal Opportunity for All; Agenda 2063: The Africa We Want; and Transforming Our World: the 2030 Agenda for Sustainable Development. All these bold national and international initiatives are meant to ensure that “nobody is left behind”. In response to the need for data to support the design, implementation, and monitoring of these international and national policies, the Ghana Statistical Service (GSS) is rolling out the Annual Household Income and Expenditure Survey (AHIES).

The commonality between AHIES and the Coordinated Programme of Economic and Social Development Policies is the identification of the same areas of challenges facing Ghana's national development. These are economic (trends in economic growth and income, structure of the economy, poverty, and inequality) and social (child and family welfare, education and training, employment and decent work, and disability and development).

AHIES further responds to 10 out of the 17 Sustainable Development Goals (SDGs 1 to 10) and will generate disaggregated data for reporting on 23 targets under these goals. Specifically, the primary rationale of AHIES, which is to improve the measurement of Gross Domestic Product (GDP), aligns with SDG 8 (Decent Work and Economic Growth). Indeed, an improvement in the measurement of GDP will enhance the tracking of 20 SDG indicators which use economic performance of indicators. Pathways of using AHIES to improve the measurement of GDP include the use of “near-real” time data to capture Household Final Consumption Expenditure (HFCE) instead of using estimates and generating quarterly and sub-national estimates for GDP.

Currently, data for estimating HFCE is obtained from the Ghana Living Standards Surveys (GLSS), which in the past 24 years have been conducted in an interval of every 5 to 8 years. This means that during the inter-GLSS survey periods the HFCE is estimated as a residual term in the computation of GDP by the expenditure approach (GDP_E). This implies that the reliability of the estimates is compromised relative to changes in contemporary consumption expenditure patterns given the time lapse and the irregularity in the inter-GLSS periods. Further to this, each GLSS sampling design is based on the thematic focus which varies across different surveys and, therefore, does not allow for derivation of sub-national GDP because the sample at the regional level is not representative for capturing household expenditure for the computation of GDP.

Other focal areas of AHIES are revision of the weights for the computation of Consumer Price Index (CPI) based on HFCE and provision of high-frequency estimates for poverty,

employment, and food insecurity. In total, AHIES has 12 thematic areas and 4,087 analysable questions, including a list of items.

The 2022 AHIES is the first in a series that will regularly provide representative panel data at the national and regional levels on expenditure, income and living conditions of households and individuals. Data collection for AHIES is quarterly and over the three-year period of January 2022 to December 2024, with the sample for the second year (2023) nested in the conduct of the Ghana Living Standards Survey Eight (GLSS-8). The panel data makes it possible to understand labour mobility, and transitions in and out of poverty and food insecurity to guide the design of targeted interventions. The sub-national statistics will inform resource allocation to reduce spatial inequalities in development. The survey is collecting data on 10,800 households in 600 enumeration areas (EA).

1.2. Objectives of AHIES

The primary objective of AHIES is to establish a longitudinal system for the collection of economic, demographic and social data to improve the measurement of GDP for the monitoring of national development. The secondary objectives are to:

- i. Provide baseline data for the estimation of household consumption expenditure on a regular basis at regional and national levels;
- ii. Provide information for updating the country's National Accounts;
- iii. Obtain data for updating the basket of consumer goods and services for rebasing Consumer Price Index; and
- iv. Provide quarterly and annual data on a wide range of socio-economic and demographic variables (e.g., labour force, food insecurity, employment, income).

1.3. Expected Outcomes of AHIES

The expected outcomes of AHIES are to be able to:

1. Measure monetary and non-monetary poverty;
2. Compute food insecurity;
3. Estimate labour statistics;
4. Identify labour transitions, poverty and food insecurity transitions; and
5. Identify households and individuals burdened with multiple socio-economic challenges (triple burdened households and individuals).

1.4. Legal Framework for AHIES

The Ghana Statistical Service derives its legal authority from the Statistical Service Act, 2019 (Act 1003), that mandates the Service to provide quality, relevant, accurate, and timely statistical information for the purpose of national development. Further, Section 37(1) of Act 1003 mandates the Service to conduct other censuses and surveys as may

be directed by the Governing Board. It is in line with this mandate that GSS has initiated the Annual Household Income and Expenditure Survey (AHIES), with the first conducted in 2022.

1.5. AHIES Organisational Structure

The AHIES National Project Director is the Government Statistician, assisted by the Deputy Government Statistician as Deputy National Director. The National Project Director presided over a Project Technical Committee (PTC) which was headed by a Project Technical Director who served as the Coordinator. The PTC provided strategic oversight, with the Coordinator being responsible for the day-to-day operations. The Coordinator presided over a Project Implementing Team (PIT) based at the GSS head office.

The PIT provided technical assistance in all aspects of project implementation including design of instruments and training materials; recruitment and training; monitoring of field activities; data analysis and report writing. Regional Statisticians, who assisted with the implementation of the project in their regions reported directly to the Coordinator. For the field data collection, a supervisor oversaw a team comprising five interviewers and a driver responsible for the team's transportation.

1.6. Finance and Logistics

The main source of funding for the 2022 AHIES is the Harmonising and Improving Statistics in West Africa (HISWA) Project (P169265), an International Development Association (IDA) package provided by the World Bank. The budget for the 2022 AHIES is six million three hundred and seventeen thousand, eight hundred and thirty-eight United States Dollars (US\$6,317,838).

The G-money Electronic Payment System (G-money) was used to facilitate the transfer of payment to field officers. The System was used because it was found to be prompt and of lower cost relative to other modes of payments.

The acquisition, storage, and deployment of logistics for training and fieldwork were coordinated by the GSS Procurement Unit, the Stores and the Project Implementation Team. The Procurement Unit was also responsible for immediately replacing defective items, which led to the smooth implementation of the survey.

1.7. Publicity, Education and Advocacy

To encourage selected respondents to actively participate in the survey, AHIES utilised the Integrated Marketing Communications approach which selects the communication style based on the demographics of the respondents. This involved the use of media house engagement, F&Q flyers, and use of community communication centres.

For the community-level engagements, team supervisors scheduled advance meetings with local opinion leaders to officially inform them about the objectives of AHIES and secure their acceptance of the field officers in their communities. Opinion leaders were also sensitised on the objectives of the project to obtain the cooperation of the

community members. Interviewers were also trained to be able to communicate the objectives and relevance of AHIES to respondents at the household level.

These strategies were adopted with the aim of reducing the non-response rate and promoting respondents' cooperation and active participation.

1.8. Instruments and Procedures

AHIES utilised one composite questionnaire with the following modules: demographic characteristics, migration, education, health, economic activity, household food insecurity, housing, household income and expenditure, non-farm enterprise, asset ownership, remittances, and mortality. As an E-Survey, a Computer Assisted Personal Interviewing (CAPI) questionnaire was produced. However, for training purposes, a Paper Assisted Personal Interviewing (PAPI) copy was also produced. A field officers' manual was also produced for both training and the field work.

1.9. Information Technology (IT)

1.9.1. IT Operations

The AHIES, being an E-Survey, demanded the full deployment of technology in all aspects of implementation: use of interactive maps, CAPI, asset management, data transmission and storage, data quality management, data processing, and data monitoring. Electronic data capture required use of tablets programmed with the Computer Assisted Personal Interview (CAPI) application.

1.9.2. Tablets Provisioning

Tablets provisioning involved the testing and the uploading of all required content materials for the survey onto the tablets. The provisioning process involved four stages. The first involved an inventory of all tablets for the survey. The second stage, pre-provisioning, involved the basic configuration such as the resetting of dates and times, checking for the required specifications and validating functionality. The third stage involved the actual provisioning of the tablets by uploading the requisite content which were the questionnaire, Field Officer's Manual, Supervisory Area (SA) and Enumeration Area (EA) maps. The final post-provisioning stage was for the labelling, preparation and distribution of tablets to field officers.

1.9.3. Assets Retrieval

After fieldwork for the year is completed, all tablets and accessories will be retrieved from field officers and transported back to the head office. There, checks will be conducted to document whether all the tablets, with the specific labels that were deployed have been retrieved.

1.10. Preparation

The AHIES utilised both analogue and interactive maps for field officers to identify, locate and travel within their assigned enumeration areas. The maps, with their attached

descriptive forms, provided information on localities, geographical boundaries, and other notable landmarks.

1.11. Recruitment, Training and Deployment of Teams

1.11.1. Recruitment

Qualified applicants were drawn from the Enumerators' Bureau as well as seasoned field officers including those who took part in GLSS/IBES/PHC2021/PES. The Enumerators' Bureau is a database of certified and experienced field officers who have participated in censuses and surveys organised by GSS. The initial screening, which was done electronically, considered educational qualifications (minimum qualification of a Higher National Diploma), previous experience with data collection, districts or locality of residence, and local language(s) spoken by applicants. During the shortlisting stage, gender dimension was considered. Shortlisted applicants were invited for online interviews to further assess their suitability for the role. At least 20% of those recruited were females. The best candidates during the training were appointed as supervisors.

1.11.2. Training

There were two levels of trainings; one for the pre-test exercise and the other for the main field data collection. Training of field officers for the main field work was implemented in three phases comprising virtual and face-to-face sessions. An initial two-day virtual training was organised to introduce trainees to the survey and the economic activity module, with emphasis on occupation and industry classifications. This was followed by a 17-day face-to-face training, then a two-day virtual refresher training for only selected field officers. In addition, an orientation programme was organised for supervisors and team drivers before they were deployed to the field. Facilitators for the training consisted of GSS staff and subject experts.

The training involved PowerPoint presentations, discussion of the questionnaires, mock interviews, translation of questions into local languages and field practice. The AHIES Field Officers' Manual was used to guide the training.

As part of the training, a paper-based questionnaire was used for the first pre-test to assess whether the questions were comprehensible, responses were exhaustive and clear, and questions in each module flowed in a logical manner. Pre-testing of the questionnaire using Computer Assisted Personal Interviewing (CAPI) followed with data quality management guidelines to evaluate coverage and validation of real-time data from the field officers.

The pre-tests enabled the PIT to fine-tune the interviewing procedures and determine the duration of an average interview to estimate the recommended number of interviews to be completed daily by each interviewer in order to minimise respondent fatigue and to ensure data quality.

The interviewers were also educated on the Statistical Service Act (Act 1003), the legal responsibilities of field officers and the sanctions for violating any of the stipulations of the Act.

There were four assessments to evaluate trainees comprising written assessments, field practice and observations.

Overall, 291 trainees were invited and trained for the data collection. Trainees were divided into five classes with four facilitators per class and a maximum of 60 trainees in a class.

At the end of the training, 200 interviewers, 40 supervisors and six data quality monitors were selected based on performance on class assessments (50%), field practice (30%) and class participation (20%).

1.12. Deployment of Teams

The selected 240 field officers were grouped into 40 teams, each comprising five interviewers, a supervisor and in addition, a driver and these teams were deployed to the field. Each team was assigned 15 clusters to complete in 33 days for each cycle. Field officers who needed to travel across water bodies were provided life jackets.

Two IT Support Officers and six Data Quality Monitors were assigned to assist all the teams for real-time data quality monitoring. Additionally, each team had a field monitor who reported on adherence to data quality procedures.

In adherence to the dictates of Act 1003, all field officers took an Oath of Secrecy to protect the confidentiality of respondents before the start of the field work.

1.13. Data Quality Management

The use of CAPI and tablets was the first data quality control mechanism. The CAPI allowed internal consistency checks and daily syncing of data for daily review and feedback during data collection by the data quality management teams (DQMTs) at HQ. In addition, the DQMT checked the data for errors, inconsistencies, missing values and duplicates. Where any challenge was identified, it was reported to the supervisor who was expected to investigate and effect the necessary correction.

1.14. Data Transmission and Storage

Dual approaches were utilised for transmission and storage of data.

First, interviewers transmitted data collected daily to their supervisors via Bluetooth (horizontal approach) and to the GSS central server via internet (vertical approach). Second, supervisors transmitted data received from their interviewers to the central server at HQ via the internet. This was done to ensure back-up of data.

1.15. Assurance, Monitoring and Evaluation

Quality assurance, monitoring and evaluation were integrated into every aspect of the AHIES. The structure consisted of the national monitoring team at the apex and comprised management and staff of GSS, and constituted the national monitoring team. Next was the PIT. To ensure effective monitoring and evaluation, each PIT member was assigned two to four teams to monitor for the identification and resolution of challenges in a timely manner. This was followed by the regional monitoring team, led by the Regional Statistician, which supervised activities in their areas of jurisdiction. At the enumeration level were the field monitors who ensured effective data collection, reviewed daily work, investigated identified challenges and were responsible for effecting changes where the need arose.

2. FOOD INSECURITY REPORT BACKGROUND INFORMATION

Food security, an indicator that measures access to sufficient, safe, and nutritious food, is an important correlate of socio-economic development and also considered as a human rights issue. The Universal Declaration of Human Rights includes access to adequate food under the right to a standard of living adequate for the health and well-being of oneself and one's family. The importance of adequate food is reflected in Sustainable Development Goal 2, which aims to end hunger, achieve food security, improve nutrition, and promote sustainable agriculture with a focus on vulnerable populations. The absence of food security is often an indicator of poverty and inequality, and under those conditions, food is less likely to be available, accessible, and adequate to already disadvantaged populations. Food security is also one factor contributing to a nation's human capital development through its positive influence on health outcomes, labour force productivity and earnings.

Over the years, food security has been threatened by conflict, climate change and population growth. Recently, the COVID-19 pandemic has further threatened the food security of millions of people globally. Unemployment, income losses and fluctuations, and surges in food prices worldwide have significantly reduced access to food for those affected. The UN Zero Hunger Challenge, an invitation to action in our food systems, has called for a paradigm shift in food security policy agenda in order to address some of these challenges.

Ghana has likewise prioritised food security with the Coordinated Programme of Economic and Social Development Policies, 2017-2024: An Agenda for Jobs: Creating Prosperity and Equal Opportunity for All, which outlines interventions to ensure food security and promote good nutrition while the Planting for Food and Jobs programme includes the promotion of food security among its aims. Also, the Global Food Security Strategy (GFSS) Country Plan for Ghana, 2018-2022, serves as an all-encompassing framework for combined food security and nutrition programming. The plan aims to reduce poverty, hunger, and malnutrition through agriculture-led growth, resilience, and nutrition.

Survey data on food security in Ghana have been collected intermittently since 1987 using the Ghana Living Standards Survey (GLSS), which is conducted every five years. In addition, two Comprehensive Food Security and Vulnerability Analysis surveys (CFSVA) were conducted in 2009 and 2020. The CFSVA surveys used household dietary intake assessment indicators such as the Food Consumption Scores, to measure food security. The seventh round of the GLSS incorporated the Food Insecurity Experience Scale (FIES), an experience-based metric of food insecurity that measured the severity of food insecurity based on people's responses to questions about constraints on their ability to access adequate food.

As safeguarding food security has become more imperative in the post-pandemic era and other events leading to economic shocks and surging food prices, there is a

heightened need for reliable and high-frequency data on food security. The 2022 Annual Household Income and Expenditure Survey (AHIES) provides unique panel data over two periods to measure the prevalence of food insecurity and observe the transition from one level of food security to the other.

FIES, the food insecurity estimates in this report, is a self-reported experience-based measure of constraints in obtaining adequate food within a three-month period. The food insecurity estimates using the FIES differ from the Comprehensive Food Security and Vulnerability Analysis (CFSVA), which is based on dietary diversity, frequency of consumption and relative nutritional importance of food groups in the past seven days.

This report presents statistics on the prevalence of moderate or severe food insecurity, which directly measures SDG indicator 2.1.2 using the FIES. The statistics are disaggregated by sex, age of household head, type of locality, level of education, occupation, employment status, employment sector, and anthropometric status, poverty status and region.

3. DEFINITION OF CONCEPTS

3.1. Moderate Food Insecurity

People experiencing moderate levels of food insecurity will typically eat low quality diets and might have been forced, at times, to also reduce the quantity of food they would normally eat due to lack of money or other resources during a three-month period.

3.2. Severe Food Insecurity

People facing severe food insecurity would have run out of food, experienced hunger and, at the most extreme, gone for days without eating. Severe food insecurity is characterized by feeling hungry but not eating, or not eating for an entire day, due to lack of money or other resources.

3.3. Food Insecurity Indicators

Based on the FIES questions, two FIES-based indicators are mainly used for national and global monitoring purposes. The first indicator is an estimate of the sum of the moderately food insecure and the severely food insecure segments of the population, and the second indicator is the segment of the population that are severely food insecure. The two indicators are denoted as follows:

- i. ***FImod + sev*** : The proportion of the population experiencing moderate or severe food insecurity (SDG indicator 2.1.2).
- ii. ***Flsev***: The proportion of the population experiencing severe food insecurity.

4. HIGHLIGHTS OF RESULTS

4.1. SCOPE

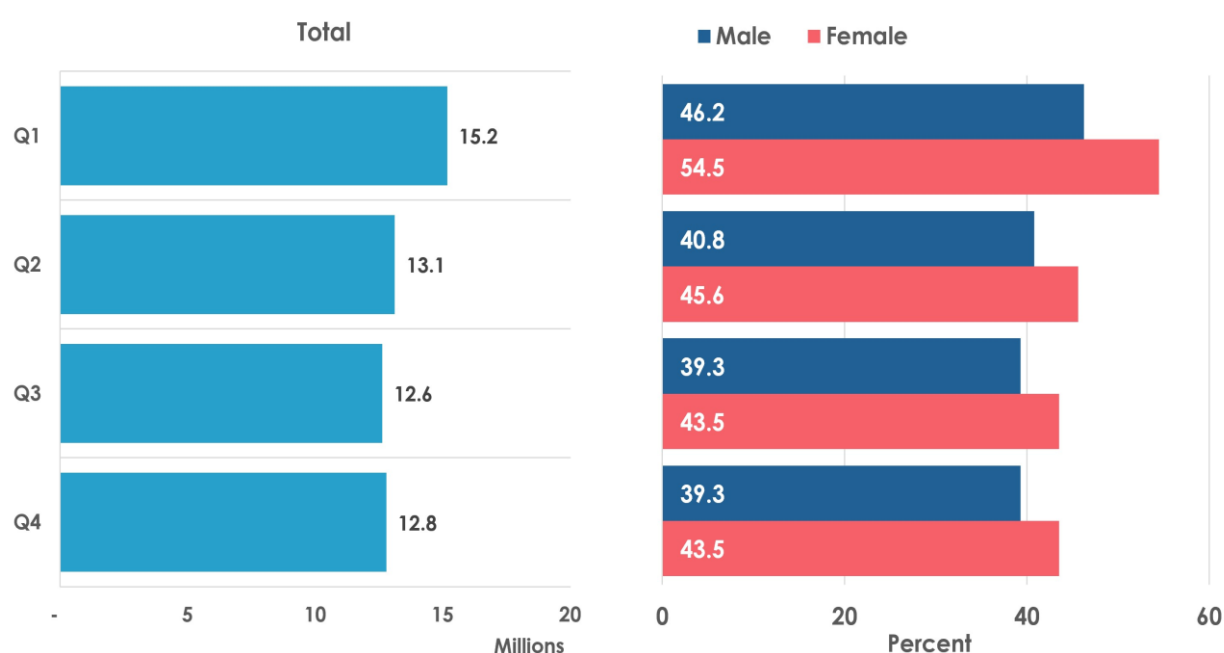
In light of the broader policy needs and the food insecurity statistics identified and defined in the preceding sections, this section provides the highlights of the Food Insecurity Report for 2022 Quarters 1 – 4. The highlights cover the food insecurity and severe food insecurity prevalence. In addition, the statistics on food insecurity transitions across the four quarters have been highlighted.

The statistics highlighted in this section are at both the aggregate and disaggregated levels. It is important to note that the statistics presented in this report are not seasonally adjusted. No attempt has been made to eliminate the influence of seasonal fluctuations on the food insecurity prevalence. Thus, users are encouraged to take cognizance of the fact that the food insecurity statistics presented here may contain seasonal swings.

The population that was food insecure increased by about 155,000 persons between Q3 and Q4.

About 12.8 million persons were food insecure in the fourth quarter which is about 855,000 less than the average number of persons in the first three quarters of 2022.

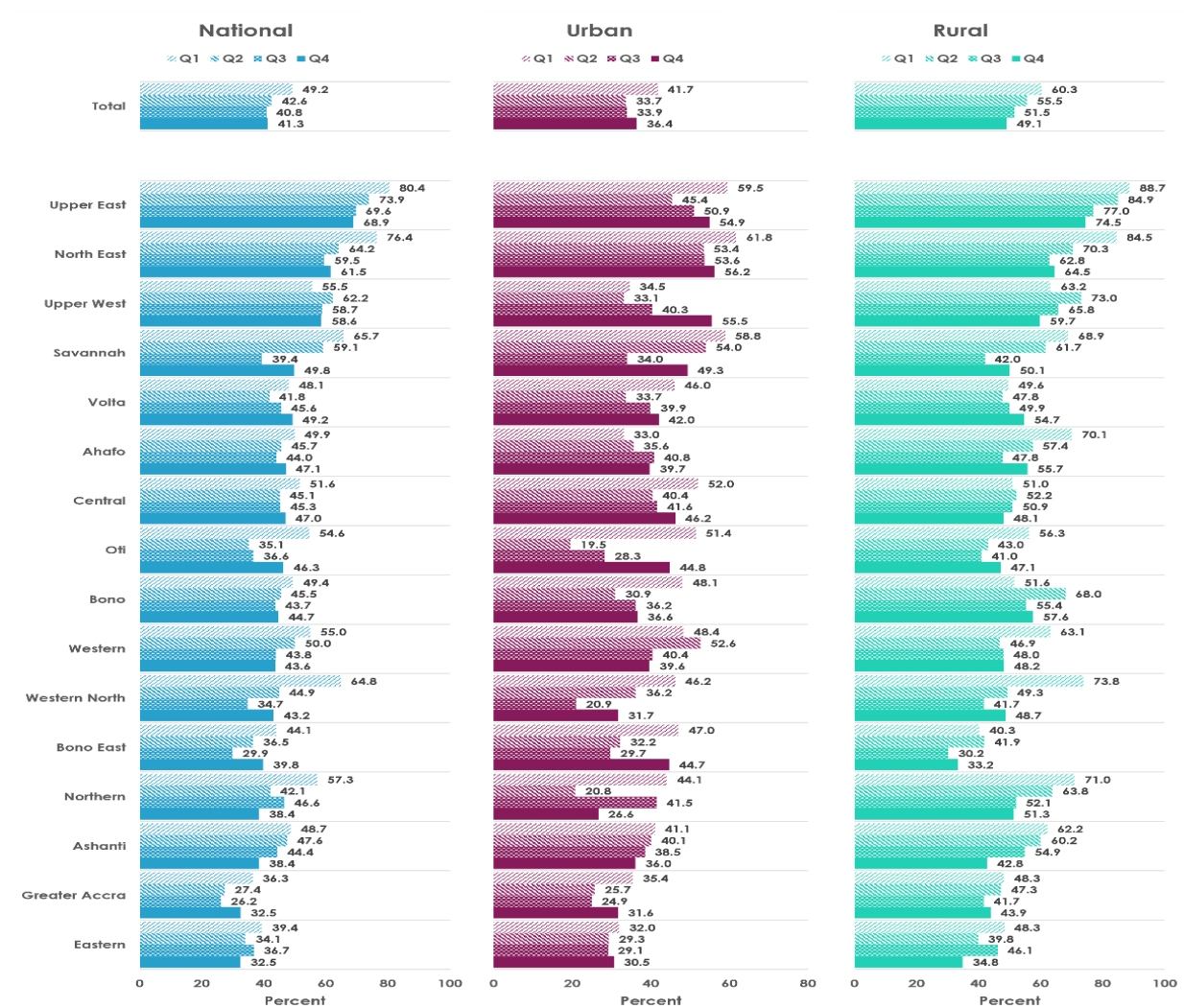
FIGURE 4.1: PREVALENCE OF FOOD INSECURITY BY TYPE OF LOCALITY



Upper East and North East regions recorded the highest prevalence of food insecurity in each of the four quarters.

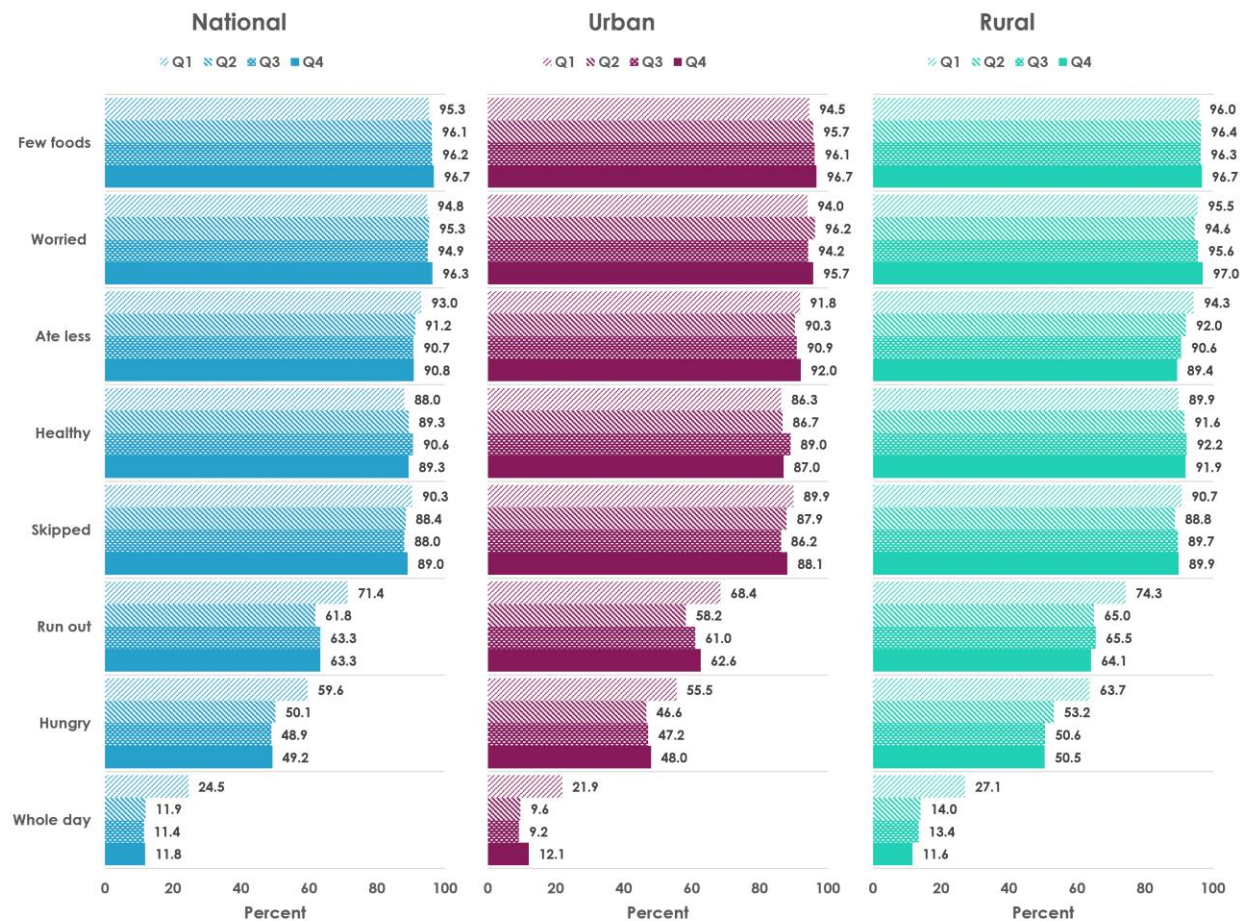
In Q4, the prevalence of food insecurity in Upper East (68.9%) was more than twice that of Greater Accra (32.5%), the region with the least prevalence; a pattern that is observed across all quarters.

FIGURE 4.2: PREVALENCE OF FOOD INSECURITY BY REGION AND TYPE OF LOCALITY



Contrary to an increase in the prevalence of food insecure households between Q3 and Q4, the number of households with persons who are unable to eat healthy and nutritious food reduced from 90.6 percent in Q3 to 89.3 percent in Q4.

FIGURE 4.3: SHARES OF FOOD INSECURE HOUSEHOLDS ACROSS FIES DOMAINS BY TYPE OF LOCALITY

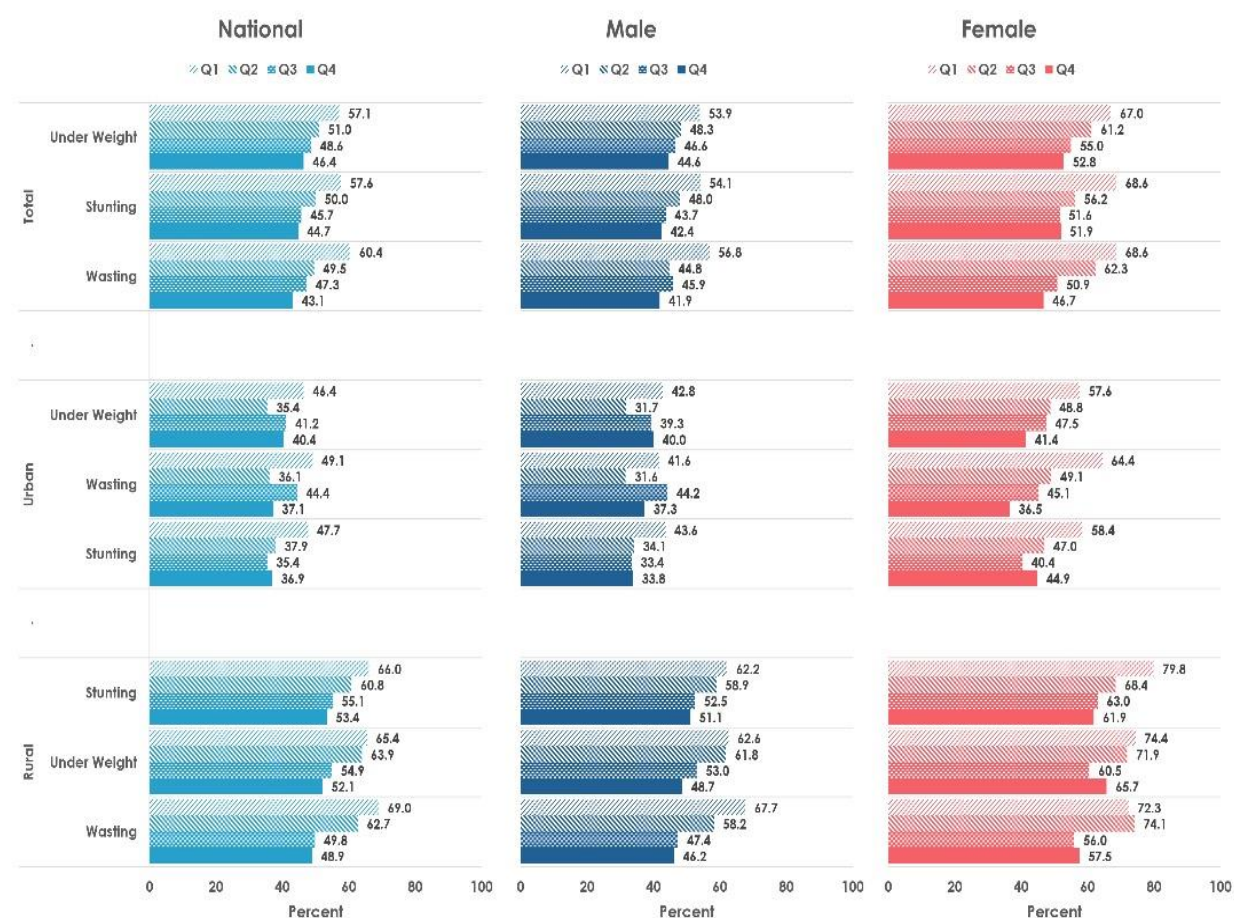


About half of households with poor child health outcomes are food insecure across all quarters.

Households with underweight children (46.4%) have the highest prevalence of food insecurity followed by households with stunted children (44.7%) and then households with wasting children (43.1%).

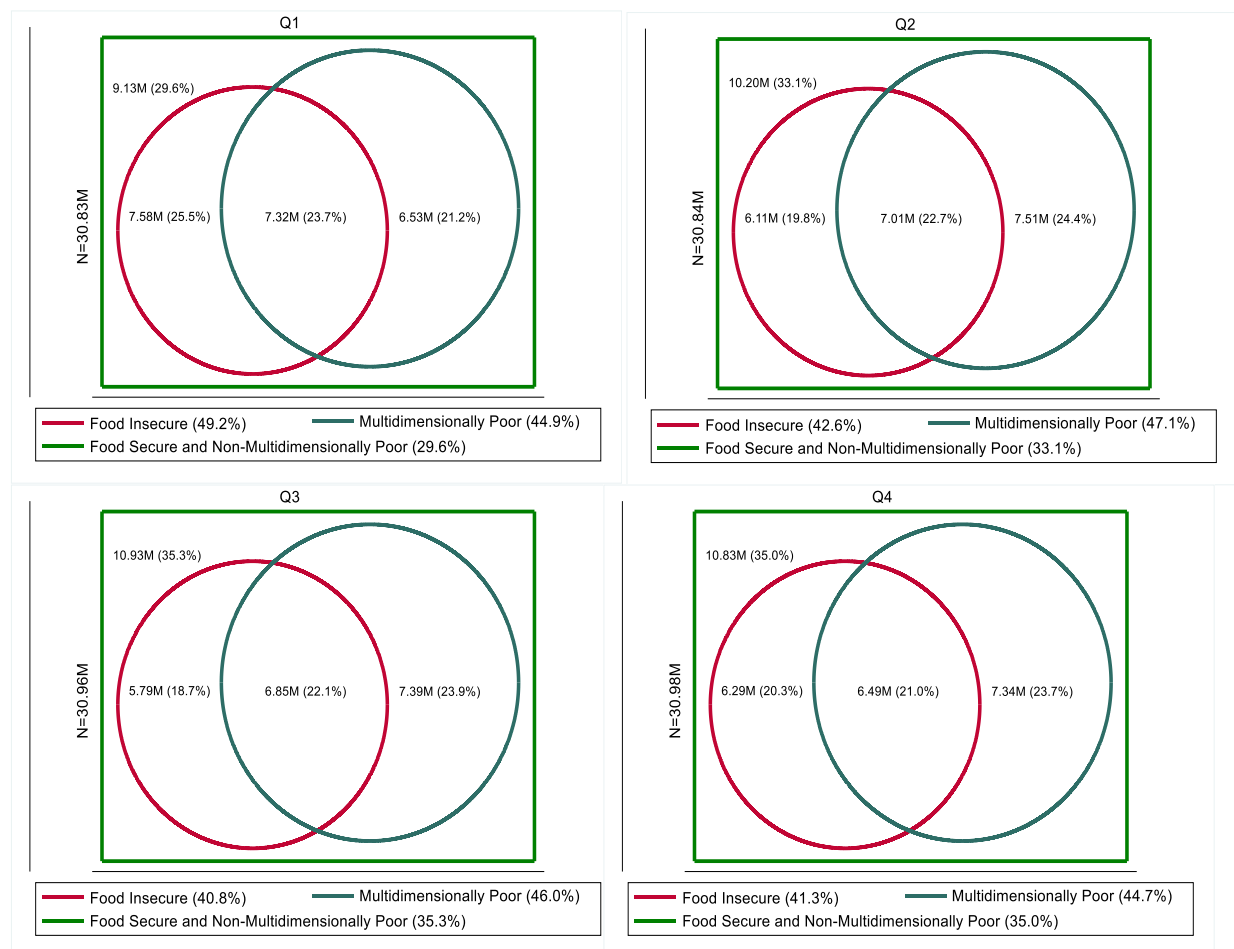
Food insecurity among households with poor child health outcomes is more profound in the rural areas.

FIGURE 4.4: HOUSEHOLDS FOOD INSECURITY BY CHILD HEALTH OUTCOME STATUS.



Persons who were food insecure and multidimensionally poor decreased by 360,000 from 6.9 million in Q3 to 6.5 million in Q4

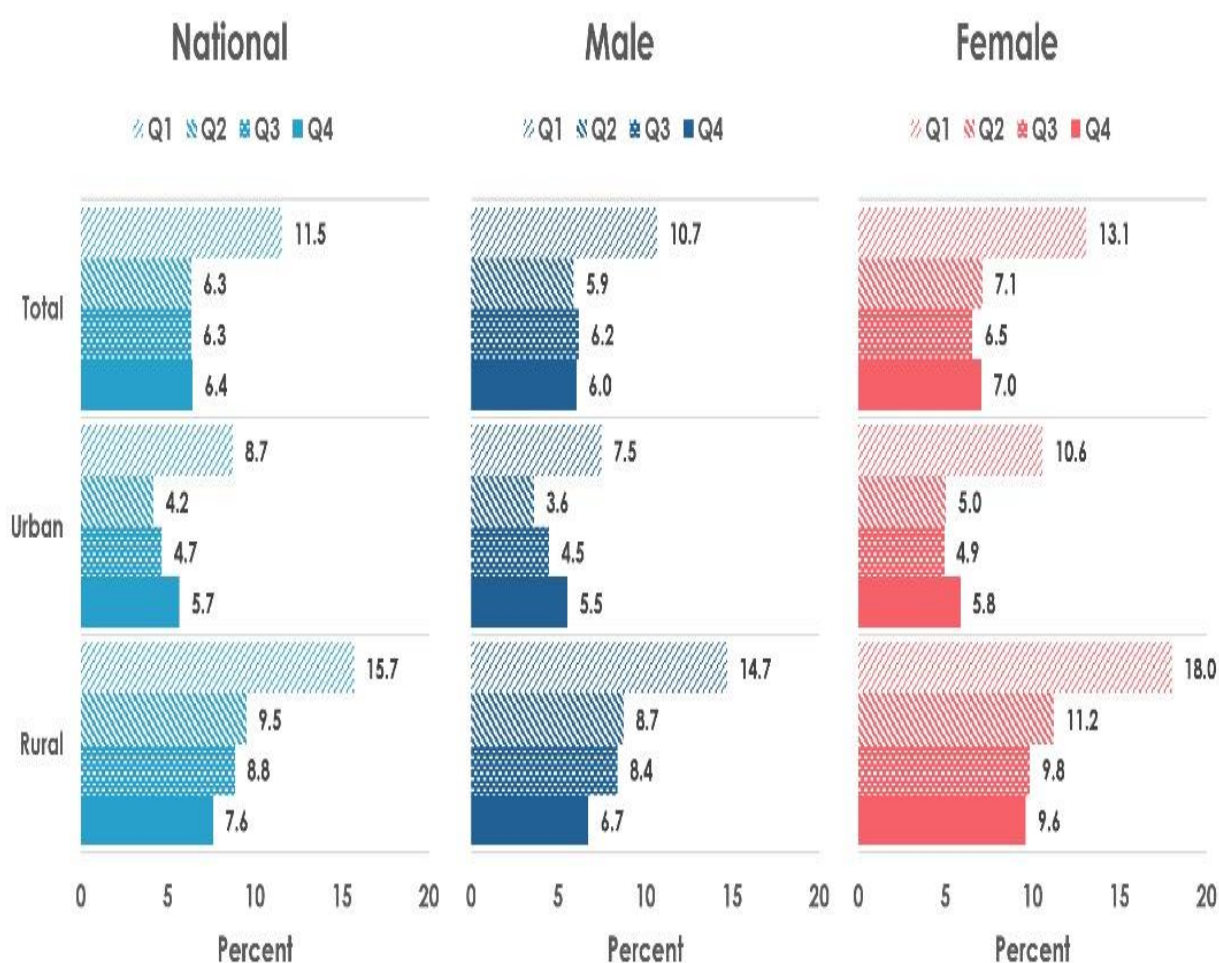
FIGURE 4.5: NUMBER OF PERSONS THAT ARE FOOD INSECURE AND MULTIDIMENSIONALLY POOR



Prevalence of severe food insecurity declined by almost half between Q1 (11.5%) and Q4 (6.4%).

Male-headed households recorded a decline in severe food insecurity from 6.2 percent in Q3 to 6.0 percent in Q4 compared to an increase in female-headed households from 6.5 percent in Q3 to 7.0 percent in Q4.

FIGURE 4.6: PREVALENCE OF SEVERE FOOD INSECURITY BY TYPE OF LOCALITY AND SEX OF HOUSEHOLD HEAD



5. MAIN TABLES

TABLE 5.1: NATIONAL AND REGIONAL ESTIMATES OF FOOD INSECURITY PREVALENCE BY TYPE OF LOCALITY AND SEX OF HOUSEHOLD HEAD

Region	Quarter 1									Quarter 2									Quarter 3									Quarter 4								
	Urban			Rural			National			Urban			Rural			National			Urban			Rural			National			Urban			Rural			National		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Total	37.0	48.7	41.7	57.9	65.8	60.3	46.2	54.5	49.2	30.8	38.0	33.7	53.3	60.7	55.5	40.8	45.6	42.6	31.1	37.9	33.9	50.0	54.8	51.5	39.3	43.5	40.8	33.8	40.2	36.4	46.9	54.1	49.1	39.4	44.7	41.3
Western	44.5	54.2	48.4	57.2	77.0	63.1	50.7	62.9	55.0	50.5	55.8	52.6	46.1	48.7	46.9	48.3	53.1	50.0	39.0	42.6	40.4	45.9	53.2	48.0	42.4	46.6	43.8	35.7	45.7	39.6	44.0	58.6	48.2	39.8	50.7	43.6
Central	47.6	57.3	52.0	46.3	57.6	51.0	47.1	57.4	51.6	35.1	46.8	40.4	46.0	61.0	52.2	39.6	52.1	45.1	37.3	46.7	41.6	47.2	55.8	50.9	41.3	50.2	45.3	41.9	51.6	46.2	43.1	55.2	48.1	42.4	52.9	47.0
Greater Accra	29.5	45.3	35.4	46.7	51.2	48.3	30.9	45.8	36.3	24.1	28.5	25.7	44.4	52.9	47.3	25.8	30.3	27.4	23.9	26.7	24.9	39.5	45.7	41.7	25.1	28.0	26.2	30.1	34.1	31.6	38.3	54.2	43.9	30.7	35.5	32.5
Volta	43.6	48.1	46.0	49.7	49.6	49.6	47.4	48.9	48.1	34.9	32.7	33.7	44.0	52.7	47.8	40.7	42.9	41.8	36.0	43.0	39.9	44.3	57.2	49.9	41.2	50.2	45.6	39.6	43.9	42.0	52.0	58.2	54.7	47.4	51.2	49.2
Eastern	24.7	41.9	32.0	43.4	55.4	48.3	33.3	47.9	39.4	25.0	35.1	29.3	32.6	50.0	39.8	28.6	41.7	34.1	23.4	36.6	29.1	45.4	47.2	46.1	33.5	41.2	36.7	27.2	35.2	30.5	28.9	43.5	34.8	28.0	38.9	32.5
Ashanti	36.8	46.6	41.1	55.1	77.5	62.2	44.3	55.6	48.7	38.0	42.7	40.1	54.5	72.9	60.2	45.1	51.4	47.6	36.1	41.6	38.5	53.5	58.0	54.9	43.1	46.4	44.4	34.7	37.8	36.0	39.8	49.2	42.8	36.7	41.1	38.4
Western North	41.2	52.4	46.2	72.5	78.7	73.8	64.6	65.4	64.8	32.2	41.3	36.2	47.1	57.1	49.3	43.2	49.2	44.9	16.2	26.8	20.9	42.7	37.8	41.7	35.8	32.1	34.7	27.9	36.3	31.7	49.0	47.9	48.7	43.7	42.0	43.2
Ahafo	33.4	32.7	33.0	70.0	70.2	70.1	54.0	42.8	49.9	33.6	37.6	35.6	55.3	65.1	57.4	45.9	45.2	45.7	34.0	48.0	40.8	46.4	52.8	47.8	41.0	49.3	44.0	41.2	38.1	39.7	58.2	46.9	55.7	50.8	40.5	47.1
Bono	39.3	55.5	48.1	43.2	66.4	51.6	41.1	58.8	49.4	23.8	37.1	30.9	63.9	75.5	68.0	42.7	48.7	45.5	29.9	41.8	36.2	50.6	63.8	55.4	39.5	48.4	43.7	30.9	41.5	36.6	54.9	62.2	57.6	42.1	47.8	44.7
Bono East	44.9	50.5	47.0	37.4	54.5	40.3	41.0	51.5	44.1	26.9	40.8	32.2	42.2	40.3	41.9	34.8	40.6	36.5	25.7	36.0	29.7	29.3	34.8	30.2	27.5	35.7	29.9	40.7	50.9	44.7	32.0	40.0	33.2	36.3	48.4	39.8
Oti	49.3	61.1	51.4	52.7	71.8	56.3	51.5	68.3	54.6	19.4	20.1	19.5	41.5	49.5	43.0	34.0	39.8	35.1	26.6	36.1	28.3	40.5	43.1	41.0	35.7	40.8	36.6	41.9	58.9	44.8	46.2	51.3	47.1	44.7	53.8	46.3
Northern	41.8	51.0	44.1	70.8	72.7	71.0	57.3	57.1	57.3	20.2	22.5	20.8	64.8	55.4	63.8	44.3	31.8	42.1	40.6	44.5	41.5	52.2	50.5	52.1	46.7	46.1	46.6	24.3	33.9	26.6	50.7	56.9	51.3	38.1	40.2	38.4
Savannah	54.8	71.0	58.8	67.3	75.4	68.9	63.5	73.8	65.7	52.5	58.5	54.0	57.7	77.9	61.7	56.0	70.5	59.1	31.4	42.1	34.0	39.3	52.6	42.0	36.9	48.9	39.4	48.2	52.9	49.3	48.9	54.7	50.1	48.7	54.0	49.8
North East	60.3	65.5	61.8	84.5	84.4	84.5	76.8	74.7	76.4	52.5	55.5	53.4	70.1	71.9	70.3	64.4	63.4	64.2	52.7	56.0	53.6	62.2	66.2	62.8	59.1	60.9	59.5	53.7	62.6	56.2	64.4	65.0	64.5	61.0	63.7	61.5
Upper East	57.2	64.9	59.5	88.3	89.7	88.7	79.9	81.8	80.4	40.2	58.1	45.4	84.8	85.2	84.9	72.9	76.7	73.9	46.9	60.7	50.9	78.3	73.2	77.0	69.7	69.2	69.6	53.6	57.8	54.9	72.7	80.0	74.5	67.6	72.7	68.9
Upper West	30.5	44.5	34.5	59.5	73.0	63.2	51.8	65.1	55.5	31.4	37.5	33.1	73.8	71.3	73.0	62.2	62.0	62.2	37.8	46.6	40.3	65.5	66.5	65.8	57.9	61.0	58.7	49.9	69.7	55.5	60.2	58.4	59.7	57.5	61.6	58.6

TABLE 5.2: PREVALENCE OF MODERATE FOOD INSECURITY OF LEVEL OF EDUCATION BY TYPE OF LOCALITY AND SEX

Educational Level	Quarter 1									Quarter 2								
	Urban			Rural			National			Urban			Rural			National		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Total	37	48.7	41.7	57.9	65.8	60.3	46.2	54.5	49.2	30.8	38	33.7	53.3	60.7	55.5	40.8	45.6	42.6
No Education	51.4	60.2	56.6	67.6	73.7	69.8	63	66.7	64.6	41.6	48.9	46	64.2	66.5	65	58	57.5	57.8
Basic	42.9	50	46.1	57.2	65	59.6	49.7	55.1	51.8	36	40.1	37.8	52.4	60.6	54.9	43.8	46.9	45
Secondary	36.2	42.2	38.2	51.5	51.1	51.4	40.6	43.5	41.4	30.1	30.7	30.3	45.4	49.5	46.1	34.6	33.3	34.2
Post secondary	18.7	29.7	23	30	50.6	34.1	21.5	32	25.2	17.6	22.2	19.3	29.8	44.2	32.6	20.7	25	22.1
Tertiary	18	26.5	19.6	32.3	8.8	28	20.7	23.2	21.1	14.9	11.8	14.3	27.3	13.4	24.7	17.2	12.1	16.3
Educational Level	Quarter 3									Quarter 4								
	Urban			Rural			National			Urban			Rural			National		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Total	31.1	37.9	33.9	50	54.8	51.5	39.3	43.5	40.8	33.8	40.2	36.4	46.9	54.1	49.1	39.4	44.7	41.3
No Education	40.2	51.7	47.2	55.7	63.4	58.5	51.4	57.4	54.1	43.9	48.3	46.4	56.8	61	58.3	52.6	54.2	53.3
Basic	38.1	39.3	38.6	50.7	53.8	51.6	44	44.1	44	40.1	40.9	40.5	46	52.6	48	42.8	44.6	43.5
Secondary	28	30.6	28.9	47.8	40.7	46.6	33.6	31.9	33.1	31.8	35.9	33.1	36.7	42.6	37.8	33.1	36.9	34.2
Post secondary	22.2	17.5	20.4	35.2	17.4	31.6	25.3	17.5	22.5	28.2	34.7	31.4	34	35	34.4	30.2	34.8	32.3
Tertiary	14.5	13.1	14.2	22.4	6.5	19.4	15.9	11.9	15.1	14.6	20.3	15.7	26.7	13.9	24.9	16.7	19.5	17.2

TABLE 5.3: PREVALENCE OF FOOD INSECURITY BY AGE, TYPE OF LOCALITY AND SEX

Region	Quarter 1									Quarter 2								
	Urban			Rural			National			Urban			Rural			National		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
15-35	40.3	47.3	42.9	58.5	72.0	61.6	48.4	54.5	50.3	31.4	38.7	34.2	55.0	59.8	56.2	42.0	44.9	42.9
36-59	36.9	50.1	41.9	57.0	63.4	58.9	45.5	54.7	48.7	31.4	36.8	33.5	52.7	60.6	55.1	40.6	45.0	42.2
60+	31.9	47.4	39.6	59.6	66.0	62.0	45.1	54.1	49.1	27.6	39.6	33.6	52.6	61.4	55.9	39.6	47.5	43.1
Total	37.0	48.7	41.7	57.9	65.8	60.3	46.2	54.5	49.2	30.8	38.0	33.7	53.3	60.7	55.5	40.8	45.6	42.6
Region	Quarter 3									Quarter 4								
	Urban			Rural			National			Urban			Rural			National		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
15-35	32.6	38.3	34.8	50.9	53.2	51.4	40.6	42.5	41.2	34.6	40.9	36.9	46.5	57.1	49.0	39.7	45.5	41.6
36-59	31.2	36.8	33.3	49.1	53.5	50.4	38.8	42.4	40.0	34.2	40.0	36.4	46.6	55.1	49.1	39.3	44.9	41.3
60+	28.4	40.0	34.2	51.3	58.4	54.1	39.1	46.5	42.4	31.6	39.9	35.7	48.2	50.4	49.0	39.2	43.5	41.1
Total	31.1	37.9	33.9	50.0	54.8	51.5	39.3	43.5	40.8	33.8	40.2	36.4	46.9	54.1	49.1	39.4	44.7	41.3

TABLE 5.4: PREVALENCE OF FOOD INSECURITY BY MAIN OCCUPATION, TYPE OF LOCALITY AND SEX

Main occupation	Quarter 1									Quarter 2									Quarter 3									Quarter 4								
	Urban			Rural			National			Urban			Rural			National			Urban			Rural			National			Urban			Rural			National		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Other occupations	12.9	0.0	12.8	11.7		11.7	12.9	0.0	12.7	12.9	0.0	12.8	11.7		11.7	12.9	0.0	12.7	12.9	0.0	12.8	11.7		11.7	12.9	0.0	12.7	12.9	0.0	12.8	11.7		11.7	12.9	0.0	12.7
Managers	10.4	21.3	12.9	25.8	35.3	29.1	13.3	25.4	16.4	10.4	21.3	12.9	25.8	35.3	29.1	13.3	25.4	16.4	10.4	21.3	12.9	25.8	35.3	29.1	13.3	25.4	16.4	10.4	21.3	12.9	25.8	35.3	29.1	13.3	25.4	16.4
Professionals	16.4	22.0	17.8	29.2	18.1	27.2	19.3	21.4	19.8	16.4	22.0	17.8	29.2	18.1	27.2	19.3	21.4	19.8	16.4	22.0	17.8	29.2	18.1	27.2	19.3	21.4	19.8	16.4	22.0	17.8	29.2	18.1	27.2	19.3	21.4	19.8
Technicians and associate professor	16.1	28.7	16.8	28.3	44.9	31.3	18.0	35.7	19.3	16.1	28.7	16.8	28.3	44.9	31.3	18.0	35.7	19.3	16.1	28.7	16.8	28.3	44.9	31.3	18.0	35.7	19.3	16.1	28.7	16.8	28.3	44.9	31.3	18.0	35.7	19.3
Clerical support workers	31.1	26.9	30.1	38.3	47.5	39.7	32.1	28.8	31.4	31.1	26.9	30.1	38.3	47.5	39.7	32.1	28.8	31.4	31.1	26.9	30.1	38.3	47.5	39.7	32.1	28.8	31.4	31.1	26.9	30.1	38.3	47.5	39.7	32.1	28.8	31.4
Service and sales workers	30.6	39.2	36.4	46.0	49.4	48.5	32.9	41.2	38.6	30.6	39.2	36.4	46.0	49.4	48.5	32.9	41.2	38.6	30.6	39.2	36.4	46.0	49.4	48.5	32.9	41.2	38.6	30.6	39.2	36.4	46.0	49.4	48.5	32.9	41.2	38.6
Skilled agricultural, forestry	44.0	50.9	46.0	54.3	63.2	56.3	51.8	59.3	53.6	44.0	50.9	46.0	54.3	63.2	56.3	51.8	59.3	53.6	44.0	50.9	46.0	54.3	63.2	56.3	51.8	59.3	53.6	44.0	50.9	46.0	54.3	63.2	56.3	51.8	59.3	53.6
Craft and related trades work	38.1	42.9	39.4	49.7	57.7	52.3	40.8	47.0	42.5	38.1	42.9	39.4	49.7	57.7	52.3	40.8	47.0	42.5	38.1	42.9	39.4	49.7	57.7	52.3	40.8	47.0	42.5	38.1	42.9	39.4	49.7	57.7	52.3	40.8	47.0	42.5
Plant and machine operators	31.3	36.2	31.4	42.2	50.3	42.3	34.6	39.8	34.7	31.3	36.2	31.4	42.2	50.3	42.3	34.6	39.8	34.7	31.3	36.2	31.4	42.2	50.3	42.3	34.6	39.8	34.7	31.3	36.2	31.4	42.2	50.3	42.3	34.6	39.8	34.7
Elementary occupations	45.5	47.7	46.4	58.6	64.0	60.3	49.9	51.9	50.6	45.5	47.7	46.4	58.6	64.0	60.3	49.9	51.9	50.6	45.5	47.7	46.4	58.6	64.0	60.3	49.9	51.9	50.6	45.5	47.7	46.4	58.6	64.0	60.3	49.9	51.9	50.6
Total	33.3	40.5	36.0	51.5	57.5	53.1	41.5	46.3	43.1	33.3	40.5	36.0	51.5	57.5	53.1	41.5	46.3	43.1	33.3	40.5	36.0	51.5	57.5	53.1	41.5	46.3	43.1	33.3	40.5	36.0	51.5	57.5	53.1	41.5	46.3	43.1

TABLE 5.5: PREVALENCE FOOD INSECURITY BY EMPLOYMENT STATUS LOCALITY, SEX AND REGION

	Quarter 1												Quarter 2						Quarter 3						Quarter 4											
	Urban			Rural			National			Urban			Rural			National			Urban			Rural			National			Urban			Rural			National		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total			
Employment Sector	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total			
Employee	28.7	47.0	32.8	47.2	44.5	46.7	32.9	46.5	35.8	25.3	31.5	26.6	44.5	51.4	45.6	29.7	35.1	30.8	22.1	30.0	23.8	37.8	33.1	37.1	25.4	30.4	26.4	27.7	38.1	29.7	35.7	51.4	38.1	29.5	40.4	31.4
Self-employed without employee	42.1	49.7	45.8	59.1	62.9	60.2	52.0	54.6	53.0	33.3	36.9	35.1	54.2	58.4	55.4	45.9	45.0	45.5	39.2	39.6	39.4	50.8	55.1	52.1	46.1	45.5	45.9	41.7	39.5	40.6	48.9	54.4	50.5	46.1	45.1	45.7
Self-employed with employees	28.5	32.6	29.7	53.1	66.2	55.3	38.5	40.9	39.1	22.6	24.8	23.2	44.6	52.8	46.3	30.3	31.8	30.7	18.4	18.1	18.3	46.0	47.3	46.3	27.6	25.9	27.2	21.6	24.1	22.3	42.5	45.7	43.3	28.6	30.5	29.1
Casual worker	62.7	62.3	62.6	55.6	79.1	59.8	60.2	67.3	61.7	58.2	54.8	57.4	47.1	68.4	49.6	53.9	57.8	54.7	51.1	33.3	47.1	49.8	58.4	51.1	50.7	39.7	48.5	49.2	52.5	49.7	45.4	59.1	48.1	48.0	55.3	49.1
Contributing family worker	44.6	50.3	46.9	71.0	84.3	76.0	60.7	70.2	64.4	33.9	41.5	38.2	48.5	75.9	61.8	42.5	58.8	51.0	25.8	53.5	39.3	44.7	70.4	55.7	35.9	61.6	47.7	36.8	44.8	40.6	59.3	57.4	58.6	48.9	50.0	49.3
Paid apprentice	48.4	81.5	52.0	46.5	46.5	47.7	81.5	50.2	49.0	47.5	48.7	19.6	19.6	45.2	47.5	45.7	42.5	81.3	51.2	52.8	3.5	44.7	45.1	66.4	49.6	44.4	33.2	44.2	43.1	3.5	36.7	44.1	11.5	42.4		
Unpaid apprentice	31.0	86.6	73.1	97.4	0.0	68.5	54.0	80.8	72.4	93.1	44.3	56.5	0.0	0.0	0.0	57.6	39.3	45.2	91.7	55.5	78.7	64.5	46.8	49.5	89.7	51.7	71.4	45.9	64.1	57.3	33.3	51.2	44.7	42.9	61.0	54.3
Domestic worker	70.4	43.2	49.6	95.0	97.2	96.5	76.2	52.0	58.1	35.5	3.5	24.7	99.5	51.9	68.1	63.0	39.4	50.5	37.7	70.1	58.7	99.5	99.5	60.1	70.1	65.5	62.6	44.2	50.4	40.3	45.4	43.6	58.0	44.4	49.1	
Other	38.6	97.4	39.5	27.1	27.1	36.8	97.4	37.6	40.4	51.8	46.2	69.3	76.5	71.7	58.5	63.1	60.4	44.9	33.2	43.1	34.8	34.8	42.6	33.2	41.4	14.2	0.0	12.7	98.3	11.7	73.5	17.5	1.4	15.7		
Total	36.6	48.4	41.0	56.9	62.7	58.4	45.7	53.1	48.1	30.8	36.6	33.1	52.9	59.9	54.8	41.0	44.7	42.3	31.0	36.8	33.1	48.6	53.8	50.0	38.7	42.5	40.0	34.4	39.5	36.3	46.8	53.9	48.8	39.9	44.4	41.4

TABLE 5.6: PREVALENCE OF MODERATE FOOD INSECURITY OF EMPLOYMENT SECTOR BY TYPE OF LOCALITY AND SEX

Employment Sector	Quarter 1									Quarter 2									Quarter 3									Quarter 4								
	Urban			Rural			National			Urban			Rural			National			Urban			Rural			National			Urban			Rural			National		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total			
Public (Government)	21.9	33.8	24.6	36.2	24.8	33.7	25.2	31.9	26.7	13.1	14.0	13.3	33.7	32.3	33.4	17.7	17.4	17.7	18.8	22.8	19.6	28.9	16.5	26.4	20.7	21.7	20.9	17.0	26.8	19.1	26.4	27.2	26.5	19.0	26.9	20.7
Semi-public/Parastatals	18.9	3.0	14.5	56.5		56.5	27.1	3.0	21.7	38.1	0.0	37.4	33.2	0.0	14.0	38.1	0.0	36.7	4.2	1.3	3.6	0.0		0.0	4.0	1.3	3.5	33.2	99.8	40.1	0.0		0.0	31.4	99.8	38.1
Private Formal	27.9	54.8	32.5	49.1	45.7	48.5	31.3	53.4	35.0	20.9	34.4	24.0	40.8	67.9	45.5	24.9	39.6	28.1	23.1	28.7	24.2	39.2	44.2	39.8	26.2	30.3	26.9	25.6	39.3	28.1	37.4	46.5	38.8	27.6	40.3	29.9
Private Informal	42.3	49.1	45.2	58.5	64.8	60.2	50.8	54.6	52.1	36.4	38.5	37.3	54.4	60.6	56.2	45.9	46.6	46.2	36.0	38.9	37.2	51.3	55.0	52.4	43.9	44.8	44.3	39.1	40.3	39.6	48.0	54.7	49.9	43.6	45.5	44.3
Local NGO/CSO	88.3		88.3		38.4	38.4	88.3	38.4	46.1	3.2		3.2	99.5		99.5	51.4		51.4	9.4	62.0	22.7	48.8		48.8	25.6	62.0	31.6	88.1	88.3	88.1			88.1	88.3	88.1	
International NGO/CSO	9.4		9.4	22.5	0.0	9.4	10.8	0.0	9.4	2.2		2.2		0.0	0.0	2.2	0.0	1.7	0.0		0.0		3.5	3.5	0.0	3.5	2.7	3.5		3.5			3.5		3.5	
Religious Organization (Local)	6.9	98.5	26.9	0.0		0.0	6.2	98.5	24.5	29.2		29.2	26.6		26.6	28.8		28.8	36.4	14.0	28.5	57.3		57.3	45.4	14.0	37.9	5.3		5.3	98.0		98.0	21.8		21.8
Religious Organizational (Inte	3.7	3.5	3.6	25.1		25.1	14.5	3.5	10.0	37.2	0.0	17.5	0.0		0.0	29.8	0.0	15.7	0.4		0.4			0.4		0.4	0.0	0.0	0.0			0.0	0.0	0.0	0.0	
International Organization	0.0		0.0			0.0		0.0		97.4		97.4			97.4		97.4		33.2		33.2			33.2		33.2	97.4		97.4				97.4		97.4	
Total	36.6	48.4	41.0	56.9	62.7	58.4	45.7	53.1	48.1	30.9	36.6	33.1	52.9	59.9	54.8	41.0	44.7	42.3	31.2	37.2	33.5	49.9	53.8	51.0	39.6	42.9	40.7	34.4	39.5	36.3	46.8	53.9	48.8	39.9	44.4	41.4

TABLE 5.7: SHARES OF FOOD INSECURE HOUSEHOLDS ACROSS FIES DOMAINS

Domains	Q1			Q2			Q3			Q4		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Worried	94.0	95.5	94.8	96.2	94.6	95.3	94.2	95.6	94.9	95.7	97.0	96.3
Healthy	86.3	89.9	88.0	86.7	91.6	89.3	89.0	92.2	90.6	87.0	91.9	89.3
Few foods	94.5	96.0	95.3	95.7	96.4	96.1	96.1	96.3	96.2	96.7	96.7	96.7
Skipped	89.9	90.7	90.3	87.9	88.8	88.4	86.2	89.7	88.0	88.1	89.9	89.0
Ate less	91.8	94.3	93.0	90.3	92.0	91.2	90.9	90.6	90.7	92.0	89.4	90.8
Run out	68.4	74.3	71.4	58.2	65.0	61.8	61.0	65.5	63.3	62.6	64.1	63.3
Hungry	55.5	63.7	59.6	46.6	53.2	50.1	47.2	50.6	48.9	48.0	50.5	49.2
Whole day	21.9	27.1	24.5	9.6	14.0	11.9	9.2	13.4	11.4	12.1	11.6	11.8

TABLE 5.8: PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY BY HOUSEHOLD COMPOSITION

Region	Q1					Q2					Q3					Q4				
	National	Adult	Elderly Only	Child Only	Both Child and Elderly	National	Adult	Elderly Only	Child Only	Both Child and Elderly	National	Adult	Elderly Only	Child Only	Both Child and Elderly	National	Adult	Elderly Only	Child Only	Both Child and Elderly
Western	47.8	67.6	53.9	61.5	55.0	37.5	53.9	50.5	57.8	50.0	37.5	51.7	42.7	52.1	43.8	35.1	41.1	43.4	54.0	43.6
Central	49.6	46.4	53.6	47.9	51.6	36.3	52.0	45.2	46.8	45.1	38.3	45.3	46.4	45.7	45.3	43.0	43.6	48.2	46.8	47.0
Greater Accra	32.5	32.1	37.4	39.1	36.3	26.3	20.9	29.5	24.6	27.4	18.7	15.3	30.1	25.6	26.2	26.2	27.9	33.9	37.3	32.5
Volta	48.9	43.1	47.9	50.6	48.1	43.3	41.3	39.4	47.3	41.8	41.5	40.8	45.6	49.6	45.6	38.8	42.6	49.0	57.9	49.2
Eastern	32.9	32.7	41.5	39.7	39.4	34.2	34.4	34.0	34.2	34.1	27.7	33.3	36.1	44.5	36.7	29.4	27.3	33.0	34.6	32.5
Ashanti	46.7	37.5	49.9	50.8	48.7	30.6	41.5	52.9	43.6	47.6	32.5	37.4	46.0	50.3	44.4	31.9	34.9	39.6	40.5	38.4
Western North	53.8	55.6	65.8	71.0	64.8	35.7	34.2	46.1	49.4	44.9	31.3	29.3	34.3	40.9	34.7	36.0	39.2	42.5	52.8	43.2
Ahafo	33.3	34.7	54.4	49.9	49.9	41.0	29.7	47.9	46.1	45.7	27.1	28.6	50.3	38.4	44.0	43.7	32.2	50.7	41.4	47.1
Bono	32.4	49.2	50.4	53.2	49.4	33.8	43.1	44.5	52.2	45.5	27.7	36.8	45.6	46.7	43.7	38.0	39.4	48.2	41.0	44.7
Bono East	32.2	23.9	43.4	55.0	44.1	26.3	35.7	36.5	42.0	36.5	26.9	19.6	30.6	31.1	29.9	33.5	35.8	40.7	40.8	39.8
Oti	57.3	47.9	52.1	60.4	54.6	19.5	47.0	33.6	37.2	35.1	60.4	40.5	35.8	34.0	36.6	66.0	45.6	43.9	48.3	46.3
Northern	44.6	78.5	56.6	57.6	57.3	30.4	42.6	43.6	40.3	42.1	44.9	39.7	48.1	44.2	46.6	23.7	40.1	38.2	41.6	38.4
Savannah	54.4	37.9	66.5	69.9	65.7	44.6	65.1	60.6	58.1	59.1	40.3	41.5	37.5	43.4	39.4	42.6	54.0	47.6	55.8	49.8
North East	63.7	69.5	77.1	76.5	76.4	42.1	50.9	63.3	69.1	64.2	35.1	79.8	59.3	61.5	59.5	44.8	62.2	59.2	68.3	61.5
Upper East	74.5	76.4	77.8	86.3	80.4	54.0	67.1	71.1	82.1	73.9	61.3	79.1	67.7	72.7	69.6	46.3	55.2	67.8	75.9	68.9
Upper West	35.8	75.8	55.0	58.2	55.5	30.6	59.0	64.1	66.6	62.2	45.3	68.7	57.4	63.6	58.7	61.3	61.6	59.4	55.7	58.6
Total	41.5	42.7	50.1	53.4	49.2	32.4	38.3	43.9	45.8	42.6	30.5	34.7	42.0	45.5	40.8	33.1	35.8	42.0	46.0	41.3

TABLE 5.9: REGIONAL DISTRIBUTION OF FOOD INSECURITY BY CHILD HEALTH OUTCOME STATUS

Region	Q1			Q2			Q3			Q4		
	Stunting	Under Weight	Wasting	Stunting	Under Weight	Wasting	Stunting	Under Weight	Wasting	Stunting	Under Weight	Wasting
Western	55.1	64.1	60.0	54.9	64.2	45.5	40.7	41.5	32.5	47.5	38.5	37.0
Central	62.4	56.1	44.7	48.4	50.2	57.2	53.8	52.0	54.5	53.6	53.5	43.7
Greater Accra	47.4	35.9	56.5	37.8	24.8	26.1	30.5	48.5	41.7	26.9	37.3	18.8
Volta	39.8	34.8	48.3	44.6	49.9	49.4	44.4	44.7	48.9	60.4	56.9	66.5
Eastern	46.5	35.4	35.3	42.2	40.6	44.9	37.5	38.6	45.4	35.6	42.9	37.4
Ashanti	57.3	64.2	71.2	50.8	55.5	59.8	45.9	53.3	50.9	37.9	38.1	46.0
Western North	76.4	83.4	78.4	52.5	66.8	58.4	45.2	44.8	33.7	46.8	45.5	45.1
Ahafo	59.9	72.3	76.3	55.0	57.0	73.0	61.1	60.1	68.6	54.4	61.1	57.5
Bono	54.2	60.6	77.6	48.8	54.6	47.9	52.2	56.5	60.7	48.1	44.3	53.1
Bono East	49.9	47.9	63.5	42.4	40.0	31.0	26.1	21.0	28.2	41.4	36.8	25.2
Oti	56.1	55.3	69.2	36.2	45.4	38.9	44.4	38.3	30.4	51.9	48.0	67.5
Northern	56.1	56.6	53.6	43.9	45.1	35.7	47.5	46.8	41.7	38.4	41.2	38.7
Savannah	75.8	79.6	64.5	50.3	45.8	31.6	33.4	36.6	45.6	50.9	56.3	62.0
North East	71.8	68.9	69.8	64.9	63.9	71.9	58.8	55.8	53.5	61.5	63.2	46.4
Upper East	80.5	79.6	75.3	78.1	73.2	76.3	70.0	71.1	65.5	78.3	70.2	68.0
Upper West	62.7	63.2	59.5	75.5	80.3	58.2	62.9	58.8	49.8	70.4	67.5	63.7
Total	57.6	57.1	60.4	50.0	51.0	49.5	45.7	48.6	47.3	44.7	46.4	43.1

TABLE 5.10: REGIONAL ESTIMATES OF SEVERE FOOD INSECURITY PREVALENCE SEX AND TYPE OF LOCALITY

Region	Quarter 1									Quarter 2									Quarter 3									Quarter 4								
	Urban			Rural			National			Urban			Rural			National			Urban			Rural			National			Urban			Rural			National		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Western	11.6	10.9	11.3	12.7	19.5	14.7	12.2	14.2	12.9	4.6	4.0	4.3	3.9	5.3	4.3	4.2	4.5	4.3	3.8	3.2	3.5	4.2	7.2	5.1	4.0	4.7	4.2	3.9	3.8	3.9	5.2	8.7	6.2	4.6	5.7	5.0
Central	7.8	11.2	9.4	5.6	10.9	7.8	6.9	11.1	8.7	2.9	6.0	4.3	4.2	9.5	6.4	3.5	7.3	5.1	5.2	6.1	5.6	7.8	10.1	8.8	6.3	7.6	6.9	4.7	6.0	5.3	3.2	8.6	5.4	4.1	7.0	5.4
Greater Accra	6.4	11.3	8.2	6.9	8.3	7.4	6.4	11.1	8.1	2.2	3.6	2.7	4.6	11.2	6.8	2.4	4.2	3.0	3.9	2.7	3.5	3.7	5.4	4.3	3.9	2.9	3.5	6.8	5.6	6.4	3.7	9.6	5.8	6.6	5.9	6.3
Volta	6.0	7.6	6.9	10.4	11.0	10.7	8.8	9.3	9.0	4.6	5.6	5.2	9.1	10.0	9.5	7.4	7.8	7.6	7.5	5.8	6.6	10.2	8.2	9.3	9.2	7.0	8.1	7.0	6.7	6.9	8.8	8.6	8.7	8.1	7.7	7.9
Eastern	3.1	5.5	4.1	6.0	15.2	9.7	4.4	9.8	6.7	3.9	4.5	4.2	5.1	10.3	7.2	4.5	7.1	5.6	1.6	3.2	2.3	6.5	7.2	6.8	3.9	5.0	4.3	3.1	5.3	4.0	3.1	6.8	4.6	3.1	6.0	4.3
Ashanti	6.8	10.8	8.5	12.5	26.5	16.9	9.2	15.4	11.6	5.2	7.1	6.0	7.3	16.7	10.2	6.1	9.9	7.6	4.2	6.0	5.0	8.5	12.7	9.8	6.0	7.9	6.7	5.9	7.5	6.6	5.3	10.9	7.1	5.6	8.5	6.8
Western North	4.6	11.0	7.5	14.1	17.1	14.7	11.7	14.0	12.4	4.5	4.1	4.3	7.2	11.2	8.0	6.5	7.6	6.8	0.9	2.9	1.8	8.1	5.4	7.5	6.2	4.1	5.6	2.9	3.2	3.1	9.4	7.9	9.1	7.8	5.5	7.1
Ahafo	4.2	4.7	4.5	14.5	14.3	14.4	10.0	7.3	9.0	2.8	2.9	2.9	7.0	7.5	7.1	5.2	4.1	4.8	3.8	9.2	6.4	5.6	3.6	5.2	4.8	7.7	5.9	3.0	2.6	2.8	7.8	3.2	6.8	5.7	2.8	4.7
Bono	3.9	11.7	8.1	7.4	11.1	8.7	5.5	11.5	8.4	1.8	4.7	3.4	4.4	6.9	5.3	3.0	5.4	4.1	2.2	5.8	4.1	7.3	6.0	6.9	4.6	5.9	5.2	2.5	3.0	2.8	6.3	8.1	7.0	4.2	4.6	4.4
Bono East	10.5	9.3	10.0	5.1	12.7	6.4	7.7	10.1	8.4	2.5	3.8	3.0	6.6	5.5	6.4	4.6	4.2	4.5	2.1	4.5	3.0	2.7	1.4	2.5	2.4	3.7	2.8	6.1	9.5	7.4	2.6	7.4	3.4	4.3	9.0	5.7
Oti	9.1	13.4	9.8	11.6	21.0	13.4	10.8	18.5	12.2	3.4	3.4	3.4	6.3	4.6	6.0	5.3	4.2	5.1	4.7	5.9	4.9	4.7	8.7	5.5	4.7	7.8	5.3	8.4	10.2	8.7	8.4	9.7	8.6	8.4	9.8	8.7
Northern	12.2	17.6	13.5	28.2	26.6	28.1	20.8	20.1	20.7	3.7	2.0	3.2	15.0	9.7	14.5	9.8	4.2	8.8	11.2	12.4	11.5	9.1	11.7	9.3	10.1	12.2	10.4	0.9	0.8	0.9	6.1	9.2	6.4	3.6	3.1	3.5
Savannah	22.0	28.1	23.5	23.0	24.2	23.3	22.7	25.6	23.3	10.2	13.5	11.0	4.2	11.4	5.6	6.1	12.2	7.4	3.1	7.5	4.2	6.5	10.5	7.3	5.5	9.4	6.3	7.9	10.0	8.4	10.1	14.2	10.9	9.4	12.5	10.1
North East	14.1	16.9	14.9	39.9	43.0	40.3	31.6	29.6	31.3	4.4	5.4	4.7	9.0	10.8	9.2	7.5	8.0	7.6	8.5	8.4	8.5	9.2	15.9	10.2	9.0	12.0	9.6	8.7	4.9	7.6	5.9	7.4	6.1	6.8	6.1	6.7
Upper East	15.7	19.2	16.7	31.7	28.0	30.8	27.4	25.2	26.8	8.8	15.3	10.7	24.6	22.5	24.1	20.3	20.3	20.3	6.2	12.0	7.9	16.5	18.5	17.0	13.7	16.4	14.4	8.2	7.1	7.9	14.6	20.2	16.0	12.9	15.9	13.7
Upper West	4.3	8.8	5.6	17.2	28.4	20.3	13.8	23.0	16.4	4.3	4.7	4.4	16.8	14.6	16.2	13.4	11.9	13.0	11.2	10.8	11.1	18.4	20.8	19.1	16.5	18.0	16.9	13.6	16.3	14.4	13.7	14.6	13.9	13.7	15.1	14.0
Total	7.5	10.6	8.7	14.7	18.0	15.7	10.7	13.1	11.5	3.6	5.0	4.2	8.7	11.2	9.5	5.9	7.1	6.3	4.5	4.9	4.7	8.4	9.8	8.8	6.2	6.5	6.3	5.5	5.8	5.7	6.7	9.6	7.6	6.0	7.0	6.4

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APPENDICES

A1: List of food insecurity indicators

1. Prevalence of food insecurity
2. Prevalence of food insecurity by region
3. Shares of food insecure households across FIES domains
4. Prevalence of food insecurity by sex of household head and locality
5. Prevalence of moderate or severe food insecurity by household composition
6. Prevalence of food insecurity by education level of household head
7. Food insecurity by main occupation
8. Comparison between food insecurity and non-monetary poverty
9. Prevalence of severe food insecurity
10. Prevalence of severe food insecurity by sex of household head

A2. Methodology

Computation of food insecurity prevalence by FIES

The FIES consists of eight questions regarding people's access to adequate food. The FIES questions refer to household experiences where a household member, preferably a responsible adult, shares household behaviour on deficient quality and quantity, besides anxiety and uncertainty about household food supply. The questions focus on self-reported food-related behaviours and experiences associated with increasing difficulties in accessing food due to resource constraints. The survey estimates food insecurity quarterly to capture periodic changes and intra-household food consumption.

The following eight questions were included in the questionnaire to estimate the FIES capturing the eight domains of difficulties in Table 1. During the last three (3) months, was there a time when, because of lack of money or other resources:

QUESTION ID	QUESTION	DIFFICULTY
1	You were worried you would not have enough food to eat?	WORRIED
2	You were unable to eat healthy and nutritious food?	HEALTHY
3	You ate only a few kinds of foods?	FEW FOODS
4	You had to skip a meal?	SKIPPED
5	You ate less than you thought you should?	ATE LESS
6	Your household ran out of food?	RUNOUT
7	You were hungry but did not eat?	HUNGRY
8	You went without eating for a whole day?	WHOLE DAY

These questions are binary ("yes"/ "no"), where responses are examined via one parameter using the Rasch model. The probability of answering "yes" to a FIES item is modelled as the logistic function of the distance along the scale between the severity of the respondent's condition and the severity of the item. The more severe a respondent's food insecurity status is, the higher the probability they will respond affirmatively. A respondent's raw score (value between zero and eight), the sum of affirmative responses given to the eight FIES questions, is computed. The raw score can be considered an ordinal measure of food insecurity severity, with lower raw scores corresponding to less severe food insecurity. The respondent parameter then provides an interval measure of the severity of food insecurity which gives the metric to produce indicators of food insecurity that are formally comparable across countries and contexts. Statistical validation was done to assess the quality of the FIES data collected by testing their consistency with the assumptions of the Rasch model.

The probability of being at least moderately or severely food insecure is given by the respondent's raw score, which belongs to a group within the food insecurity severity scale. This estimates the sum of the moderately food insecure and the severely food insecure segments of the population. The prevalence of food insecurity in the population is then given by the weighted sum of the raw score-specific probabilities. The weighted proportions of cases with each raw score in the population are used as weights. Thus, to calculate internationally comparable estimates of the prevalence of food insecurity, respondents must first be assigned to classes of food (in) security defined by standard thresholds set along the scale of severity.

A3 Targeted households

The AHIES targeted a total of 10,800 households from a nationwide, regional representation covering 600 enumeration areas. To achieve a balanced panel, 10,367 households recorded valid responses across the eight FIES questions across the three quarters was used in the analysis.

Note: FIES Domains are multiple response questions

