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NISR
NATIONAL INSTITUTE OF STATISTICS OF RWANDA

RWANDA FOOD BALANCE SHEETS

2023-2024

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1 FOREWORD

In the framework of producing regular and high-quality food and nutrition security statistics, the National Institute of Statistics of Rwanda (NISR) has released the 2023-2024 Food Balance Sheets (FBS) report. This report provides a comprehensive overview of Rwanda's food supply and utilization patterns and supports the country's efforts in tracking food security and nutritional outcomes.

The report provides a detailed overview of the country's food supply and utilization patterns, including the amount of food available for human consumption, estimates of per capita Dietary Energy Supply (DES) as well as the intake of proteins, fats, minerals, and vitamins for the year 2023 and 2024. Moreover, the FBS plays a vital role in monitoring progress towards the Sustainable Development Goals (SDGs), particularly indicators such as the Prevalence of Undernourishment (PoU) which measures the share of the population unable to meet the minimum dietary energy requirement and the Food Loss Index (FLI), which tracks change in food loss across the supply chain.

The analysis in the report is based on three core components: (i) domestic availability of food from production, imports, and stock changes; (ii) domestic utilization, including food consumption, feed, seed, processing, exports, and other non-food uses; and (iii) per capita food supply in kilograms per person per year, including caloric, protein, and fat content. In addition, the FBS provides key indicators such as the Food Import Dependency Ratio (IDR) and the Food Self-Sufficiency Ratio (SSR).

This report is a valuable resource for a wide range of users, including researchers, students, policymakers, government institutions, and the public. I encourage all stakeholders to make full use of the insights provided to support informed decision-making.

The 2024 FBS has been compiled, referring to the technical support provided during the 2023 FBS compilation by the African Development Bank (AfDB), the East African Community (EAC), In this report, new micronutrients minerals and vitamins were introduced, with valuable technical support from nutrition experts at MINAGRI and RBC. NISR expresses its sincere gratitude for their guidance and contributions.

Special thanks go to the dedicated NISR staff and all contributing partners for their work in data collection, analysis, validation, and report preparation. Their continued efforts are vital to producing quality data that guide national food security policy and planning.

MURENZI Ivan

Director General, NISR

2 INTRODUCTION

2.1 Overview of Food Balance Sheets (FBS)

The Food Balance Sheet (FBS) is a national statistical framework that provides a comprehensive overview of a country's food supply and utilization over a specific reference period. It presents detailed information on the quantity and types of food available for human consumption, capturing all potential sources of supply and various uses of each food item.

The total supply of a particular food product is calculated as the sum of domestic production and imports, adjusted for changes in stocks (i.e., stock increases are subtracted, and stock withdrawals are added). This can be expressed as:

Total Supply = Product + Imports – Stock variation

The total utilization of a given food product includes the amount of food exported, food lost along the supply chain, amount of food taken as livestock feed, amount used for seed, food consumed by tourists, food used for processing, food consumed by households, food for industrial use, and residual uses.

Total Utilization = Exports + Feed + Seed + Loss + Food processing + Food +Tourist food + Industrial use + Residual and other uses

The quantities allocated to all sources of total supply must be equal to those allocated to various utilization categories. The balancing of total supply and total utilization of food consumption is known as Supply Utilization Accounts (SUAs).

Food Balance Sheets (FBS) are crucial in assessing countries' resilience vis-à-vis the food security of their populations. By analyzing Dietary Energy Requirements and Dietary Energy Supply, estimates on the undernourished population can be derived. This is key for evidence-based planning and monitoring the progress towards achievement of SDG Target 2.1 ("By 2030, to end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round").

The availability of complete and up-to-date FBS statistics allows the measurement of self-sufficiency in food production (ratio of domestic production to domestic demand) and a country's import dependency (determined by the ratio of imports to domestic demand). These metrics, produced at both the commodity and aggregate levels, constitute very useful pieces of information for decision-makers in the agricultural sector, allowing them to assess the food supply and orient public and private investments more effectively.

In addition, FBS data are necessary for deriving indicators that assess the quality of nutrition, dietary composition evolution over time, and the Food Loss Index (SDG 12.3), which aims to reduce food losses across the supply chain. Timely and comprehensive FBS data are thus crucial for evidence-based planning, policy formulation, and monitoring progress toward sustainable and resilient food systems.

2.2 Data sources

The most important part of the required basic data for SUA/FBS compilation is available within NISR and the Ministry of Agriculture and Animal Resources (MINAGRI). Especially, the following were the sources of data used:

- **Surveys and Census**: For Crop production, Seeds and seed rates from the Seasonal Agricultural Survey (SAS), Anthropometric data from Demographic and Health Surveys (DHS), Population data from Rwanda Housing and Population Census (RHPC) and Commodity prices from Consumer Price Index (CPI).
- **National accounts:** For Processed commodities, Livestock production, Stock variations, Food ratios, Feed and feed ratios, Fisheries and Gross Domestic Product (GDP).
- **Administrative data sources:** For Trade data (imports and exports), Livestock numbers, Loss and loss ratios (from MINAGRI).
- **FAO:** For Technical conversion factors (Nutritional values, Extraction rates, and Loss ratios for some commodities) and coefficient variation.

This report presents the main findings for the year 2024 concerning the key indicators generated. A comprehensive description of the methodology/approach and data sources can be found in the main report for the period 2017-2021[1].

2.3 Key Findings

This section presents the results of FBS, focusing on food supply in terms of kilograms per capita per year, dietary energy supply (DES), and supply of proteins and fats. It also includes the availability of vitamins and minerals. These indicators are calculated by multiplying the available quantity of each commodity by its nutrient content (calories, proteins, fats, minerals, and vitamins). In addition, a comparison is done between domestic supply and the quantities produced locally or imported to assess Rwanda's self-sufficient for its food needs. Furthermore, the chapter discusses the Food Loss Index (FLI), which tracks food losses across the supply chain, as well as the estimates of the Prevalence of Undernourishment (PoU).

The 2024 Rwanda Food Balance Sheet highlights important progress in food and nutrition indicators. The average Dietary Energy Supply (DES) increased to 2,329 kilocalories per person per day, from 2,290 in 2023, with 98.3 % of the energy coming from plant-based foods such as cereals and starchy roots. However, the contribution of animal products remains low, at only 40.3 Kcal per person, reflecting limited dietary diversity and a carbohydrate-dominant diet.

Rwanda maintains a relatively high degree of food self-sufficiency; however, domestic consumption continues to depend heavily on imports, with 56.0 % of both plant- and animal-based food products sourced externally.

1 https://www.statistics.gov.rw/publication/2018

This marks a growing reliance on imports compared with previous years. Although the Self-Sufficiency Ratio remained relatively stable, it saw a slight decline from 79.8 % in 2023 to 79.2 % in 2024, indicating that local production does not fully meet national food demand.

In 2024, the Food Loss Index (FLI) showed positive trends, decreasing to 85.9 in 2024 from 86.1 in 2023, equivalent to 4.30 % food loss rate, down from 5 % in 2017, indicating continuous improvements in reducing post-harvest losses along the food supply chain. Furthermore, the Prevalence of Undernourishment (PoU) decreased to 31.3 % of the population, or about 4.3 million people, down from 32.7 % in 2023. This reflects continued progress in improving food access and reducing chronic undernourishment in the country.

3 PRESENTATION OF FBS RESULTS

3.1 Food Supply per capita per year (Kg)

The FBS results provide information on food supplies available for human consumption, which is used to estimate the average amount of food available that an individual consumes in a year. Data on per capita food supplies are important for projecting future demands for food within the country.

3.1.1 Vegetal products

In regards of vegetal products, the data in table 1 show that per capita per year food availability is primarily driven by starchy roots (258.2 kgs), fruits (99.0 kgs), and cereals (87.3 kgs) representing 43%, 17% and 15% of all vegetal products, respectively. Starchy roots comprise sweet potatoes, cassava and Irish potatoes, while fruits mainly dominated by banana. Cereals are led by maize, rice, sorghum, wheat and their derived products. When compared to previous year, food supply has slightly increased for most of major plant-based groups, except for starchy roots and pulses, which experienced a small decline.

Table 1: Food supply per capita per year (Kg), per group of vegetal products

Vegetal groups	2019	2020	2021	2022	2023	2024	Contribution
Starchy roots	258.5	252.7	255.4	263.2	262.0	258.2	43%
Fruits (excluding wine)	80.8	87.3	90.6	93.6	96.7	99.0	17%
Cereals (excl. beer)	74.3	80.4	76.3	82.2	83.2	87.3	15%
Vegetables	44.2	47.6	48.0	27.6	29.9	30.9	5%
Alcoholic beverages	39.4	41.9	43.5	44.5	47.8	48.8	8%
Pulses	31.8	29.9	32.3	28.8	31.2	30.9	5%
Sugar & Sweeteners	9.2	10.4	12.5	12.7	13.9	15.0	3%
Stimulants	9.0	9.4	9.8	12.2	11.3	11.3	2%
Oil crops	6.0	6.2	6.0	6.7	6.9	6.5	1%
Vegetable oils	5.5	5.2	5.2	5.7	5.6	5.7	1%
Sugar crops	0.9	0.9	0.9	1.5	1.3	1.4	0%
Spices	0.7	0.6	1.1	0.9	0.9	0.9	0%

Source: NISR, FBS 2024

3.1.2 Animal products

In regards to animal products, table 2 displays the yearly per capita availability for human consumption in Rwanda and the contribution of different products within animal products. Milk and related products (excluding butter) have an average of 9.2 kgs (63%), followed by meat at 2.5 kgs (22%), fish and seafood at 2.0 kgs (12 %), and animal fats at 1.1 kgs (6%) per capita per year. The 2024 data indicate a decrease in annual availability of animal fats, fish, and seafood, whereas milk and meat availability have increased compared to last year's estimates.

Table 2: Food supply per capita per year (Kg), by group of animal products

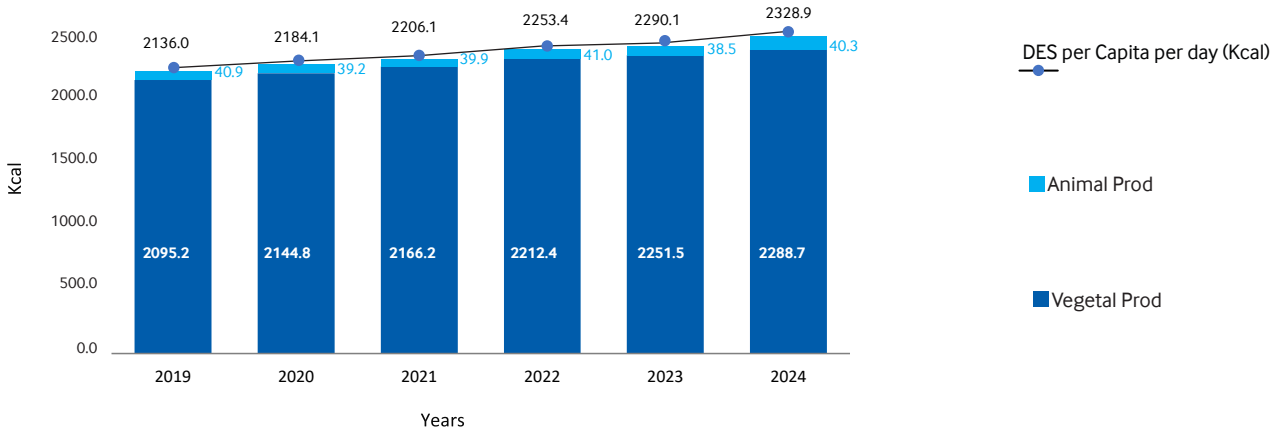
Main animal groups	2019	2020	2021	2022	2023	2024	Contribution
Meat	3.4	3.3	3.2	2.9	2.6	2.5	15%
Offal	0.6	0.5	0.5	0.5	0.4	0.4	2%
Animal fats	0.1	0.1	0.1	7.6	2.9	1.1	6%
Milk - Excluding Butter	7.8	8.1	7.9	8.9	8.5	10.9	63%
Eggs	0.3	0.4	0.4	0.4	0.2	0.2	1%
Fish & sea food	1.8	1.5	1.5	1.6	2.1	2.0	12%

Source: NISR, FBS 2024

3.2 Dietary Energy Supply (DES) per capita per day (Kcal)

The Dietary Energy Supply Kcal/cap/day is a national indicator that serves as an estimate of the number of calories available for human consumption from foods. The findings in Figure 1 show a total estimated supply of 2,328.9 Kcal/cap/day in 2024 which is slightly higher than 2,290 Kcal/cap/day supply for the year 2023.

Figure 1: Dietary Energy Supply per Capita per Day (Kcal)



Source: NISR, FBS 2024

The FBS results indicate that the dietary energy supply per capita per day is predominantly derived from vegetal (plant-based) sources, with vegetal products providing 2,288.7 Kcal/cap/day equivalent to 98.2 % of the total calories. The highest contributions come from cereals (706.9 Kcal/cap/day) and starchy roots (649.3 Kcal/cap/day). In contrast, animal products contribute relatively little to daily energy intake, with a total of 40.2 Kcal/cap/day, with milk, meat, and fish emerging as the primary sources of calories in this category. This indicates a diet heavily reliant on staple plant-based foods, with limited consumption of animal-source foods, which may have implications for dietary diversity and overall nutritional quality (Table 3).

Table 3: Dietary Energy Supply per Capita per Day (Kcal) by commodity group

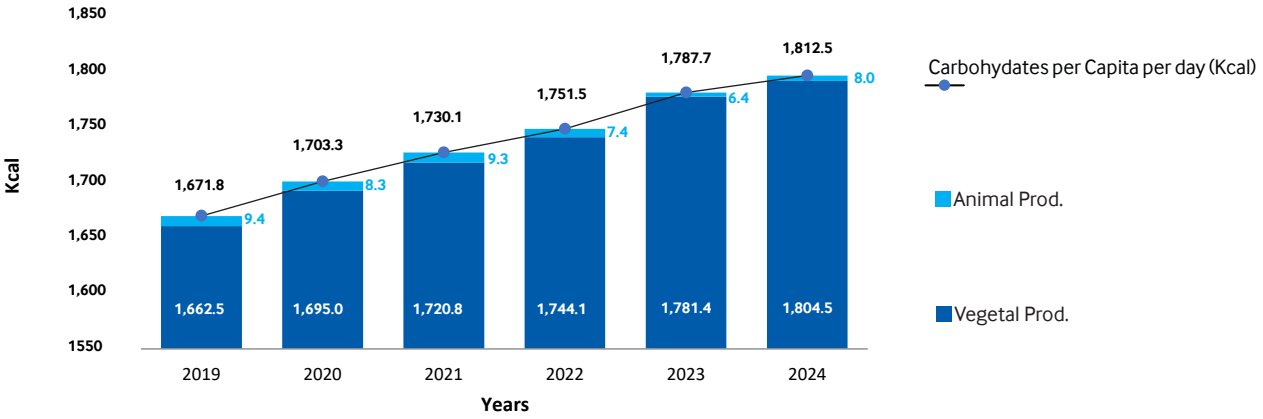
Main Vegetal commodity groups		Main Animal Products	
Cereals (excl. beer)	707.0	Milk - Excluding Butter	18.0
Starchy roots	649.1	Meat	12.0
Pulses	284.6	Fish & sea food	6.3
Fruits (Excluding Wine)	189.7	Eggs	1.0
Sugar & Sweeteners	144.8		
Vegetable oils	136.8		
Alcoholic beverages	63.9		
Oil crops	60.9		
Vegetables	22.0		
Stimulants	13.0		
Spices	8.0		

Source: NISR, FBS 2024

3.2.1 Daily per capita supply of calories from carbohydrates (Kcal)

In 2024, the average per capita daily calories from carbohydrates were 1,812.5 kcal from 1,787.7 in 2023, plant-based products were the main contributor to the carbohydrates supply, accounting for 99.5 % of the total daily per capita calories' intake, while animal products contributed only about 8 kcal per person per day.

Figure 2: Per capita daily supply of carbohydrates



Source: NISR, FBS 2024

Table 4: Contribution of vegetal and animal groups to supply of carbohydrates (Kcal)

Main vegetal products		Main animal products	
Starchy roots	639.8	Milk - Excluding Butter	8.7
Cereals (excl. beer)	583.3	Fish & sea food	4.9
Pulses	275.3	Animal fats	2.7
Fruits (Excluding Wine)	180.4	Offals	1.0
Sugar & Sweeteners	144.8	Eggs	1.0
Alcoholic beverages	63.9		
Oil crops	23.8		
Vegetables	22.0		
Stimulants	13.0		
Spices	8.0		
Sugar crops	1.0		

Source: NISR, FBS 2024

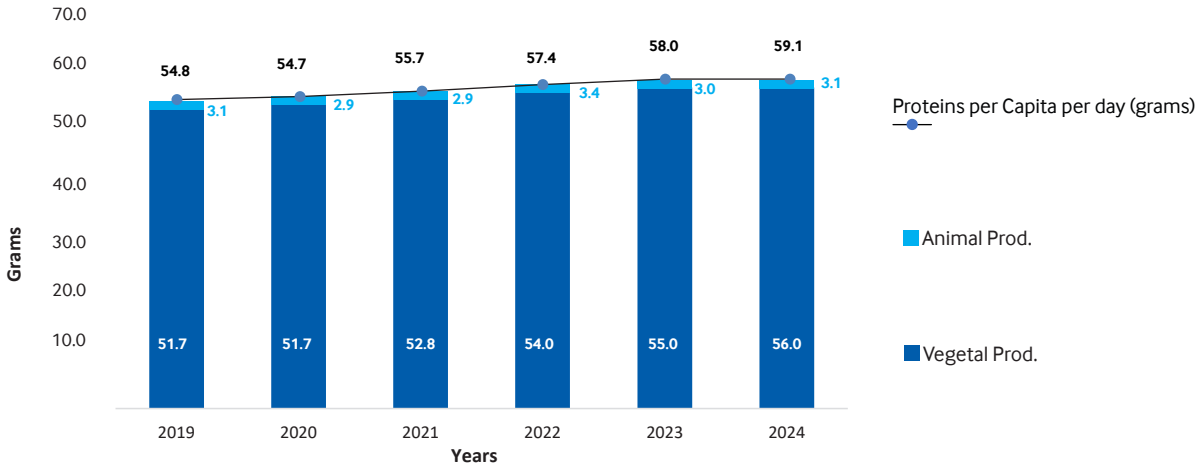
The main sources of carbohydrate supply from vegetal sources are starchy roots and cereals (excluding beer), providing 639.8 Kcal and 583.3 Kcal per capita per day, respectively. These two food groups constitute the backbone of carbohydrate intake, reflecting a substantial dependence on staple crops, particularly cassava, sweet potatoes, maize, and rice, to meet energy requirements.

Regarding animal-source foods, their contribution to carbohydrate supply is minimal. Milk products, excluding butter, provide only 8.7 Kcal, while fish & sea food contribute 4.9 Kcal per capita per day.

3.2.2 Daily per capita supply of proteins (grams)

In 2024, Rwanda's per capita daily protein supply averaged 59.1 grams, this is a 2 % increase when compared to daily supply of proteins for 2023. More proteins were predominantly sourced from plant products at about 94.8 %.

Figure 3: Per capita daily supply of proteins



Source: NISR, FBS 2024

Table 5: Contribution of vegetal and animal groups to supply of proteins (grams)

Main vegetal products		Main animal products	
Cereals (excl. beer)	19.3	Meat	1.0
Starchy roots	7.7	Milk - Excluding Butter	1.0
Pulses	18.4	Fish & sea food	1.1
Oil crops	3.9		
Vegetables	1.0		
Fruits (Excluding Wine)	2.9		
Stimulants	2.9		

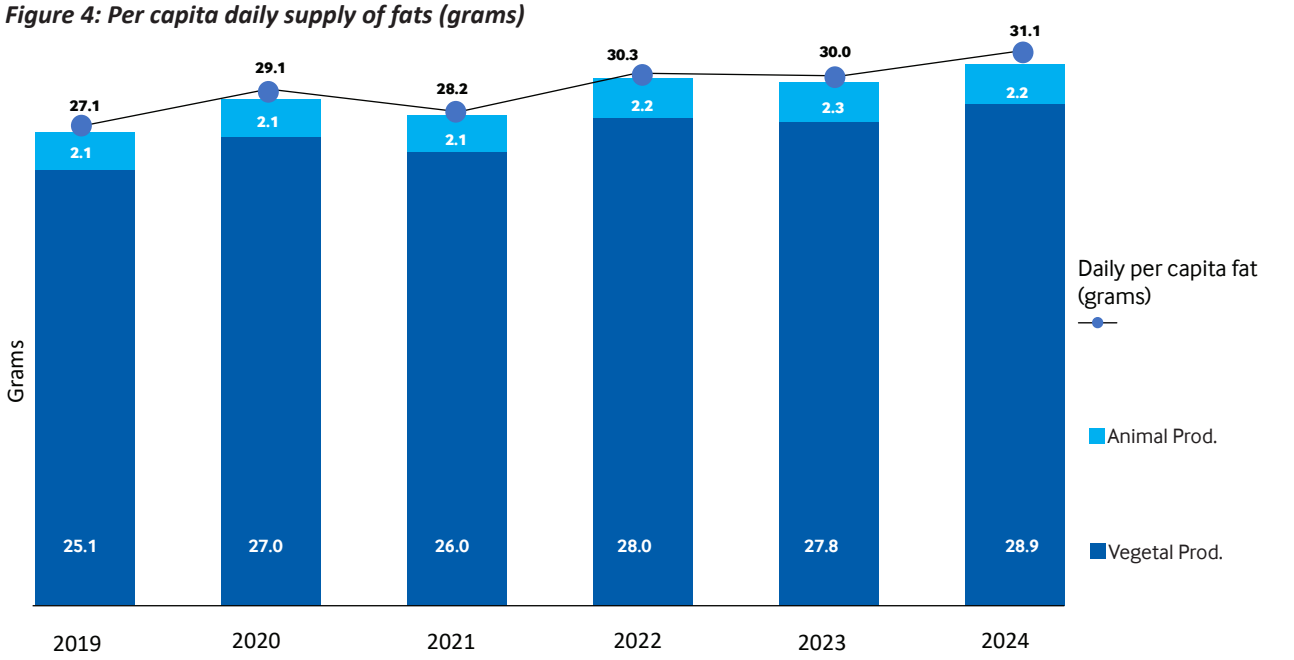
Source: NISR, FBS 2024

In 2024, cereals (19.3 g) and pulses (18.4 g) were the main sources of per capita daily protein from plant-based foods. In contrast, the contribution of animal-based protein remained very low, reflecting its limited availability for consumption within the country.

3.2.3 Daily per capita fats (grams)

In 2024, the average per capita daily fat intake in Rwanda was 31.1 grams, a slight increase of 4 % when compared to 2023. Plant-based products were the main contributor to fat supply, accounting for 93 % of the total daily per capita fat intake. Vegetable oils (16.5 grams) and cereals (5.2 grams) stood out as the primary sources of dietary fats among various plant-based products

Figure 4: Per capita daily supply of fats (grams)



Source: NISR, FBS 2024

Table 6: Contribution of vegetal and animal groups to supply of fats (grams)

Main vegetal products		Main animal products	
Cereals (excl. beer)	5.2	Meat	1.0
Starchy roots	1.0	Milk - Excluding Butter	1.0
Pulses	1.0	Fish & sea food	0.2
Oil crops	4.1		
Vegetable oils	16.5		
Fruits (Excluding Wine)	1.1		

Source: NISR, FBS 2024

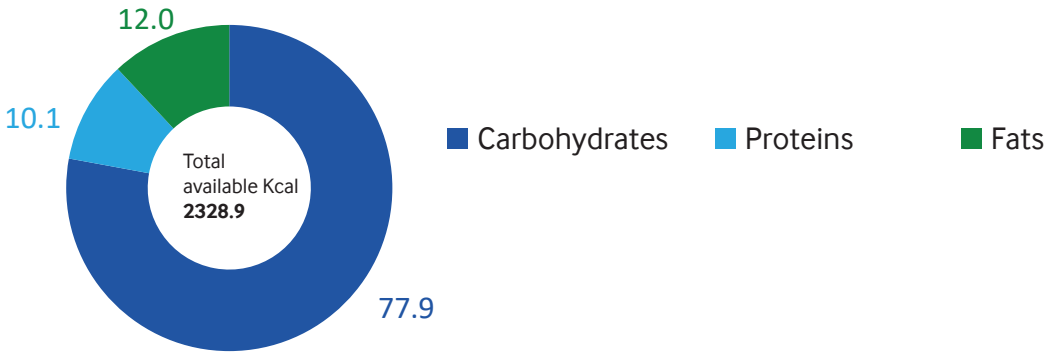
3.3 Macronutrient Distribution

Based on the Dietary Reference Intakes (DRIs) established by the Institute of Medicine (USA) in 2006[2], the Acceptable Macronutrient Distribution Range (AMDR) defines the proportion of total energy intake that should be derived from carbohydrates, proteins, and fats. These ranges are designed to ensure adequate intake of essential nutrients while reducing the risk of chronic diseases. Consequently, for a healthy and balanced diet, the energy contributions from macronutrients within the Dietary Energy Supply (DES) should align with the recommended AMDR, which varies according to age, population size, and other demographic factors.

2 Institute of Medicine. 2006. Dietary Reference Intakes: The Essential Guide to Nutrient Requirements. Washington, DC: The National Academies Press. https://doi.org/10.17226/11537.

Applying this framework to the Rwandan context, Table 7 presents both the acceptable macronutrient ranges and the actual contributions of carbohydrates, proteins, and fats to the total DES[3]. The data show that carbohydrates account for 77.8 % of the total energy supply, a figure exceeding the acceptable range of 45–65 %. This indicates an overreliance on carbohydrate-rich foods. Protein contributes 10.1 %, which falls within the recommended range of 9.6–32 %, suggesting an adequate dietary protein supply. However, fats contribute only 12.0 %, which is below the acceptable range of 22.6–35.4 %. This deficit highlights a potential insufficiency in dietary fat availability and intake.

Figure 5: Available calories



Source: NISR, FBS 2024

Table 7: Acceptable macronutrient distribution range and their contribution

Indicator	Carbohydrates		Proteins		Fats		Total
	min	max	Min	max	min	max	
Accepted average ranges (%)	45.0	65.0	9.6	32.0	22.6	35.4	
Available Kcal		1812.5		236.3		280.1	2,328.9
Macronutrient contribution (%)		77.8		10.1		12.0	100

Source: NISR, FBS 2024

3 The amounts of available carbohydrates, proteins, and fats were calculated by first converting proteins and fats into calories. To do this, the total grams of protein were multiplied by 4 (1 gram of proteins=1Kcal), and the total grams of fat were multiplied by 9(1gram of fats=9Kcal) (Source: FAO, https://www.fao.org/4/y5022e/y5022e04.htm#bm4.5). These values were then added together, and the sum was subtracted from the total available daily energy supply (DES) to find the amount of carbohydrates. Afterward, the percentage contribution of each component (carbohydrates, proteins, and fats) was calculated and compared to the recommended ranges for a balanced diet.

4 DAILY PER CAPITA OF MINERALS AND VITAMINS

For the first time, the 2024 Food Balance Sheets (FBS) incorporate two new micronutrients, minerals and vitamins. This enhancement provides a more comprehensive picture of the nutritional value of Rwanda's food supply and strengthens the use of FBS for nutrition analysis and policy guidance.

Dietary adequacy was evaluated against average recommended intake levels derived from the Dietary Reference Intakes (DRIs) established by the Institute of Medicine, United States of America, in 2006.

Table 8 presents the estimated availability of key minerals and vitamins in Rwanda's national food supply, highlighting contributions from both plant-based and animal-derived products while comparing these values to the population's average daily requirements. The results show that for several micronutrients, including iron, magnesium, phosphorus, and vitamin A (RE[4]), vitamin B9 (folate), and vitamin C, the available dietary supply exceeds the recommended daily intakes. For example, iron availability is estimated at 15.4 milligrams per person per day, compared to a requirement of 11 milligrams. Similarly, vitamin B9 is available at 390.2 micrograms, surpassing the recommended 342.4 micrograms per day. However, the analysis reveals significant shortfalls in the availability of certain nutrients, particularly calcium. The current dietary supply provides only 243.5 milligrams per person per day, which falls substantially below the recommended daily intake of 1,008.8 milligrams, indicating a critical dietary gap.

Table 8: Minerals and vitamins availability and average recommended level (per capita per day)

Category	Element	Unit	Vegetal prod.	Animal prod.	Grand total	Average recommended / adequate level
Minerals	Calcium	mg	212.0	31.5	243.5	1,008.8
	Iron	mg	15.3	0.1	15.4	11.0
	Magnesium	mg	308.5	7.9	316.4	297.7
	Phosphorus	mg	882.3	40.1	922.4	786.8
	Potassium	mg	3,473.9	65.6	3,539.5	4,322.7
	Zinc	mg	6.2	0.2	6.4	8.0
	Copper	mg	2.0	0.0	2.0	0.8
	Sodium	mg	108.1	15.7	123.8	1,365.9
	Manganese	mg	15.2	0.0	15.2	1.8
Vitamins	Vitamin A RE	µg RE	787.1	15.0	802.1	681.9
	Vitamin B1/ Thiamine	mg	1.3	0.0	1.3	1.0
	Vitamin B2/ Riboflavin	mg	1.4	0.1	1.4	1.0
	Vitamin B3/ Niacin	mg	13.7	0.4	14.1	13.0
	Vitamin B5/ Pantothenic Acid	mg	4.4	0.1	4.5	4.3
	Vitamin B6	mg	2.8	0.0	2.8	1.1
	Vitamin B9/ Folate	µg	387.6	2.6	390.2	342.4
	Vitamin B12	µg	0.0	0.2	0.2	2.1
	Vitamin C	mg	147.0	0.1	147.1	63.5
	Vitamin D	µg	-	0.7	0.7	5.7
	Vitamin E	µg	13.0	0.1	13.1	12.8

Source: NISR, FBS 2024

Table 9 illustrates the daily intake of essential minerals from various food commodity groups. Among these, starchy roots emerge as the predominant source of calcium, providing 129.4 milligrams per person per day, followed by milk with 28.0 milligrams, and Cereals with 21.1 milligrams. While milk is recognized as a source of calcium, its low contribution reflects limited consumption levels within the Rwandan diet.

4 Retinol Equivalent (RE) is a measurement used to express the vitamin A activity of different types of compounds, including retinol (vitamin A itself), beta-carotene, and other provitamin A carotenoids. Since different forms of vitamin A have varying potencies, the retinol equivalent provides a standardized way to compare the activity of these compounds in the body.

Cereals constitute the primary source of both magnesium and phosphorus, supplying 188.3 mg and 353.0 mg, respectively, highlighting their fundamental role in the Rwandan diet as a staple food group. Starchy roots also make significant contributions to phosphorus intake (277.7 mg) and represent the foremost source of potassium, providing 1,718.2 mg per person per day, a value exceeding that of other food groups. Fruits, especially bananas and plantains, follow with 941.1 mg of potassium.

Regarding iron availability, starchy roots again demonstrate nutritional importance with 6.6 mg, followed by cereals with 5.1 mg. However, animal-derived products such as meat, milk, and fish contribute very minimally to most mineral intakes, underlining the limited role of animal-source foods in the average Rwandan diet.

Table 9: Contribution of the main Commodity group in minerals

Commodity group	Calcium	Iron	Magnesium	Phosphorus	Potassium	Zinc	Copper	Sodium	Manganese
	mg	mg	mg	mg	mg	mg	mg	mg	mg
Cereals (excl. beer)	21.1	5.1	188.3	353.0	357.9	2.6	0.4	35.3	2.5
Starchy roots	129.4	6.6	93.8	277.7	1,718.2	1.6	1.0	42.5	11.2
Sugar crops	0.3	0.0	0.1	0.1	1.1	-	0.0	0.1	0.0
Sugar & Sweeteners	0.4	0.0	0.0	0.7	0.8	0.0	0.0	0.4	0.0
Pulses	21.0	2.1	-	134.1	241.5	1.1	0.2	3.4	0.4
Oil crops	6.9	0.3	12.6	28.2	52.9	0.2	0.1	8.4	0.1
Vegetable oils	0.8	-	-	0.9	-	-	-	-	-
Vegetables	12.4	0.3	7.3	16.3	131.1	0.1	0.0	10.0	0.1
Fruits (Excluding Wine)	14.2	0.8	-	58.1	941.1	0.5	0.3	2.7	0.8
Spices	0.4	0.0	0.2	0.7	3.3	0.0	0.0	0.1	0.0
Alcoholic beverages	5.2	0.0	6.2	12.5	26.2	0.0	0.0	5.2	0.0
Meat	0.1	0.0	0.3	2.9	4.6	0.1	0.0	2.3	0.0
Milk - Excluding Butter	28.0	0.0	2.7	22.4	34.1	0.1	0.0	13.4	-
Eggs	0.7	0.0	0.1	2.2	1.6	0.0	-	-	-
Fish & sea food	2.6	0.0	4.7	12.5	25.3	0.0	-	-	-

Source: NISR, FBS 2024

Table 10 presents the per capita daily intake of key vitamins derived from various food commodity groups in Rwanda. The data underscore the significant role of starchy roots in the national diet, especially as a source of vitamin A. Vegetable oils and starchy roots provide 658.5 and 111.3 micrograms of retinol equivalents (RE) per person per day, respectively, making them the leading source of this essential nutrient.

Pulses are the primary source of vitamin B9 (folate), providing 175.1 micrograms per person per day, followed by starchy roots with 105.3 micrograms. This highlights the critical nutritional value of commonly consumed foods such as beans, sweet potatoes, and cassava in providing folate, which is essential for cell growth and development.

Beyond their contributions to vitamin A and folate, fruits (notably bananas and plantains) are significant sources of vitamin C, providing 25.5 mg per person per day. Starchy roots also contribute 120.5 mg, making them key sources of this antioxidant vitamin. Although cereals function primarily as energy providers, they also contribute modestly to B vitamins, including thiamine (B9), niacin (B3), and pantothenic acid (B5).

In contrast, the contribution of animal-source foods such as meat, milk, eggs, and fish to the overall vitamin intake remains low for most vitamins. This reflects the limited consumption and availability of these foods within the average Rwandan diet.

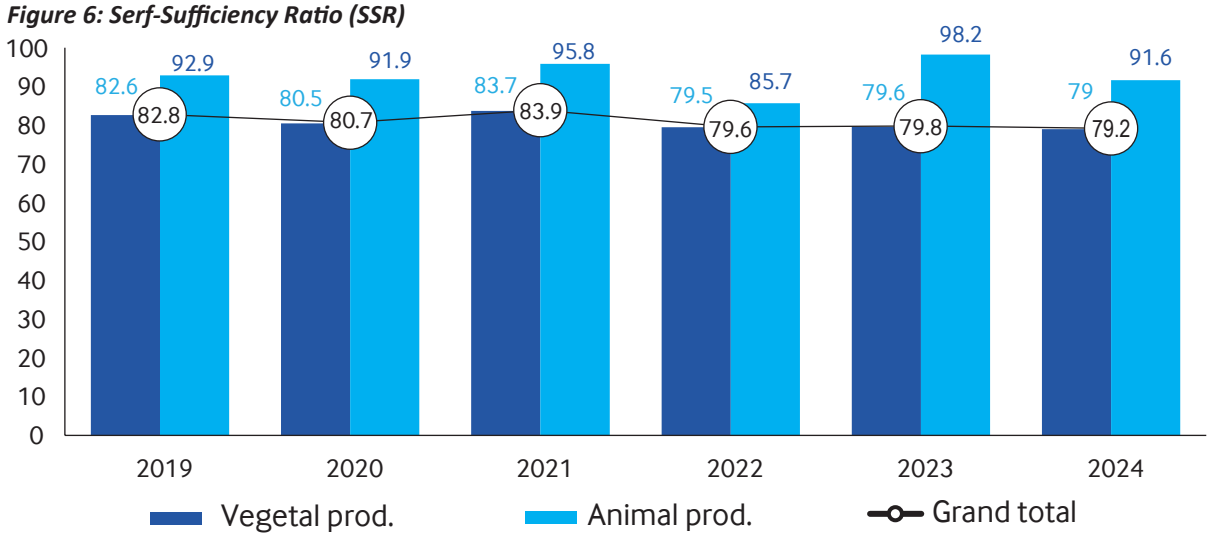
Table 10: Contribution of main products in vitamins

	Vitamin A RE	Vitamin B1/ Thiamine	Vitamin B2/ Riboflavin	Vitamin B3/ Niacin	Vitamin B5/ Pantothenic Acid	Vitamin B6	Vitamin B9/Folate	Vitamin C	Vitamin E
Commodity groups	**µ g RE**	**mg**	**mg**	**mg**	**mg**	**mg**	**µ g**	**mg**	**µ g**
Cereals (excl. beer)	2.5	0.6	0.3	6.1	1.2	0.4	37.4	-	1.3
Starchy roots	111.3	0.4	0.8	3.7	1.7	1.2	105.3	120.5	10.3
Sugar crops	-	-	-	-	0.0	-	-	-	-
Sugar & Sweeteners	-	-	0.0	0.0	0.0	0.0	0.0	0.0	-
Pulses	4.1	0.2	0.1	0.5	0.3	0.1	175.1	0.6	-
Oil crops	-	0.0	0.0	1.1	0.1	0.0	9.4	-	0.7
Vegetable oils	658.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Vegetables	1.6	0.0	0.0	0.0	0.0	0.0	0.3	0.3	-
Fruits (Excluding Wine)	9.1	0.1	0.2	1.8	0.9	1.0	53.6	25.5	0.3
Spices	-	0.0	0.0	0.0	0.0	0.0	0.3	0.1	-
Alcoholic beverages	-	0.0	0.0	0.5	0.1	0.1	6.2	0.0	-
Meat	0.2	0.0	0.0	0.1	0.0	0.0	0.1	0.0	-
Milk - Excluding Butter	10.3	0.0	0.0	0.0	0.1	0.0	1.3	0.1	0.0
Eggs	2.2	0.0	0.0	0.0	0.0	0.0	0.6	-	0.0
Fish & sea food	2.4	0.0	0.0	0.3	0.0	0.0	0.6	-	0.1

Source: NISR, FBS 2024

4.1 Self-Sufficiency Ratio (SSR)

Figure 6: Serf-Sufficiency Ratio (SSR)



Source: NISR, FBS 2024

The Self-Sufficiency Ratio (SSR) indicates the share of national food consumption that is met through domestic production. In 2024, Rwanda achieved an overall SSR of 79.2 %, representing a slight decrease from 79.8 % recorded in 2023. This suggests that the country was able to cover the majority of its food needs from local production.

Table 11: Self-Sufficiency Ratio (SSR) (%)

Products	2019	2020	2021	2022	2023	2024
Grand total	**82.8**	**80.7**	**83.9**	**79.6**	**79.8**	**79.2**
Vegetal prod.	**82.6**	**80.5**	**83.7**	**79.5**	**79.6**	**79.0**
Animal prod.	**92.9**	**91.9**	**95.8**	**85.7**	**98.2**	**91.6**
Cereals (excl. beer)	70.4	65.9	72.2	65.7	65.9	70.1
Starchy roots	102.1	102.9	104.0	101.1	98.1	94.7
Sugar crops	100.5	100.1	100.1	100.2	100.6	100.9
Sugar & Sweeteners	10.2	10.0	5.9	8.0	26.4	13.1
Pulses	106.2	99.5	101.7	99.4	92.7	97.6
Tree nuts	-	-	-	-	-	0.0
Oil crops	54.5	47.4	52.8	49.5	39.5	47.0
Vegetable oils	-	-	-	-	2.4	13.6
Vegetables	100.8	100.0	101.9	100.7	92.1	107.6
Fruits (Excluding Wine)	99.6	99.8	99.6	99.7	99.1	99.3
Stimulants	148.7	139.9	137.6	115.2	115.6	114.0
Spices	73.5	50.6	54.8	46.8	43.5	48.5
Alcoholic beverages	98.5	98.3	97.8	96.1	94.3	95.8
Meat	104.6	101.4	102.5	106.0	110.0	118.4
Offals	100.0	101.2	101.0	103.6	103.3	103.7
Animal fats	100.0	100.0	101.9	1.2	3.0	8.1
Milk - Excluding Butter	81.3	86.4	91.8	87.5	96.9	75.2
Eggs	130.8	117.2	129.4	110.1	224.7	217.4
Fish & sea food	28.3	28.1	34.4	23.3	25.8	37.6

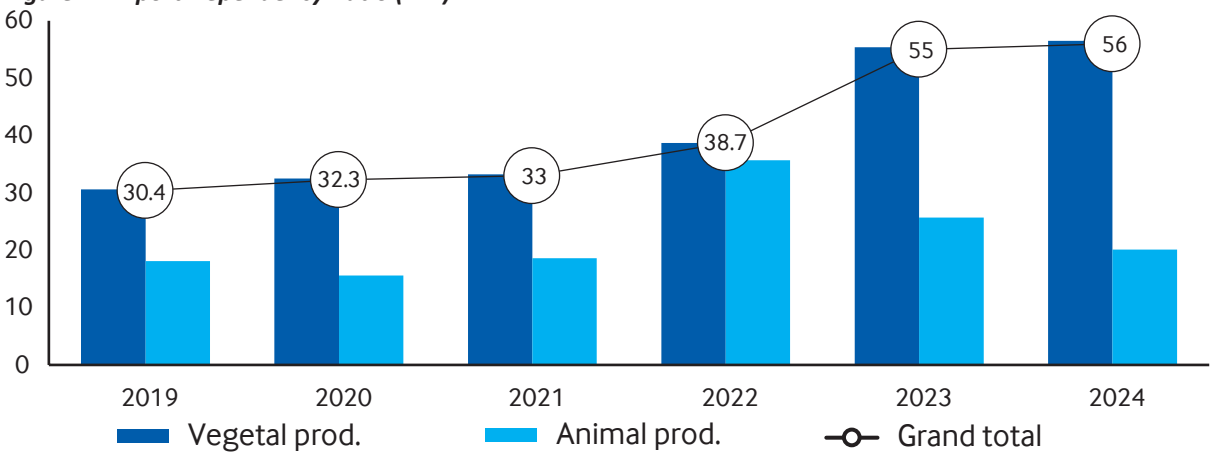
Source: NISR, FBS 2024

The results show that vegetal products recorded an SSR of 79.0 %, reflecting strong domestic production capacity in this category. Several key crops like starchy roots, sugar crops, and pulses maintained high self-sufficiency levels exceeding 90 % while cereals showed notable improvement, with SSR increasing from 65.9 % in 2023 to 70.1 % in 2024.

Animal-based products had a notably high SSR of 91.6 %, mainly driven by strong production of meat (118.4%), eggs (217.4%), and offals (103.7%). However, some products, including milk (75.2%) and fish and seafood (37.6%), remained significantly import-dependent. These figures underscore Rwanda's continued reliance on domestic agricultural production, especially for staple food items.

4.2. Import Dependency Ratio (IDR)

Figure 7: Import Dependency Ratio (IDR)



Source: NISR, FBS 2024

The Import Dependency Ratio (IDR) measures the share of national food consumption supplied through imports. In 2024, Rwanda's overall IDR was 56.0 %, indicating that imports accounted for more than half of Rwanda's total food supply. This reflects a slight increase from 55.0 % in 2023, suggesting a continued reliance on external markets to meet domestic food demand.

Table 12: Import Dependency Ratio (%)

Products	2019	2020	2021	2022	2023	2024
Grand total	**30.4**	**32.3**	**33.0**	**38.7**	**55.0**	**56.0**
Vegetal prod.	**30.6**	**32.5**	**33.2**	**38.7**	**55.4**	**56.5**
Animal prod.	**18.1**	**15.6**	**18.6**	**35.7**	**25.7**	**20.1**
Cereals (excl. beer)	48.2	54.6	51.3	69.9	108.0	100.8
Starchy roots	2.2	2.4	1.7	2.6	6.7	11.0
Sugar crops	-	-	-	-	-	0.0
Sugar & Sweeteners	128.7	111.0	126.4	156.2	134.9	198.2
Pulses	6.0	5.8	4.7	3.8	8.7	3.6
Tree nuts	-	238.1	134.6	128.5	112.9	179.0
Oil crops	47.2	55.0	52.2	53.1	51.5	64.9
Vegetable oils	174.5	183.5	191.6	176.1	260.0	216.3
Vegetables	1.0	0.7	1.7	7.6	17.9	26.5
Fruits (Excluding Wine)	0.7	0.5	0.9	1.2	1.9	3.3
Stimulants	3.1	1.2	8.6	5.1	4.6	2.3
Spices	32.3	60.8	53.9	65.9	66.3	62.1
Alcoholic beverages	2.7	2.7	4.0	8.1	9.6	14.1
Meat	2.1	1.4	5.7	11.0	8.9	9.3
Offals	-	-	-	-	-	0.0
Animal fats	-	-	-	99.6	-	94.3
Milk - Excluding Butter	34.3	27.3	34.1	37.3	28.9	24.0
Eggs	-	-	-	-	-	0.0
Fish & sea food	71.6	77.2	66.5	139.8	106.9	89.2

Source: NISR, FBS 2024

The Food Balance Sheet (FBS) data further shows that plant-based products had an IDR of 56.5 % in 2024, compared to 20.1 % for animal-based products. The rising dependency is largely attributable to increased imports of essential commodities such as wheat, maize, rice, sugar, and vegetable oils. Notably, cereals reached an IDR of 100.8 %, indicating insufficient domestic production to meet consumption needs. Similarly, sugar and sweeteners demonstrated exceptionally high IDR at 198.2 %, while vegetable oils stood at 216.3 %, showing heavy dependence on imports for these items.

The Self-Sufficiency Ratio (SSR) and the Import Dependency Ratio (IDR) serve as complementary indicators that collectively provide a comprehensive picture of Rwanda's food security situation. While SSR indicates the proportion of domestic production relative to total consumption, IDR shows the share of imports in the same context. However, a portion of domestically produced food is often exported rather than consumed locally. Consequently, domestic production and imports can contribute significantly to food availability, leading to SSR and IDR values that, when added together, exceed or fall short of 100 %. This overlap underscores the complexity of food systems, where production, imports, exports, and stock changes collectively influence the final food supply available for domestic consumption.

The Self-Sufficiency Ratio (SSR) compares the magnitude of a country's agricultural production to its domestic utilization. It is calculated by the formula:

$$SSR=\frac{P}{P+I-X-\Delta Stock}\times 100.$$

The Import Dependency Ratio (IDR), compares the magnitude of a country's imports to its domestic utilization. It is calculated by the formula:

$$IDR=\frac{I}{P+I-X-\Delta Stock}\times 100.$$

Where P is production, I is imports, **X** is exports, and **Δ**Stock represents changes in stock levels.

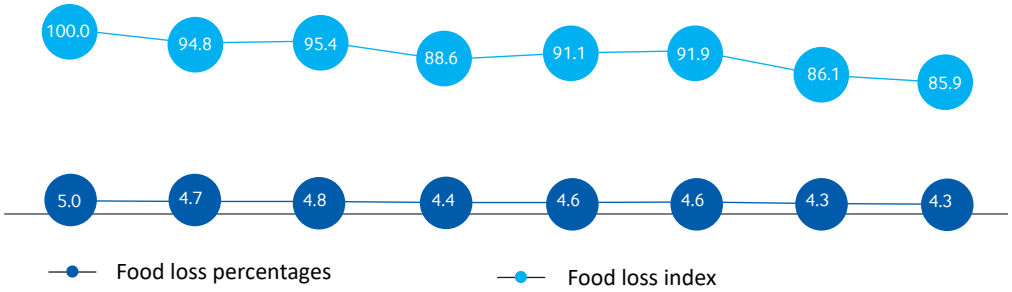
It is important to note that the sum of SSR and IDR may not always equal 100%. This is because part of the production and import might be exported or stored, meaning the country could still need to import more than the remaining amounts to meet domestic utilization.

5 FOOD LOSS INDEX (FLI)

The Food Loss Index (FLI), corresponding to SDG Indicator 12.3.1, which monitors progress toward Sustainable Development Goal (SDG) Target 12.3: "By 2030, halve per capita global food waste at the retail and consumer levels, and reduce food losses along production and supply chains, including post-harvest losses." The FLI tracks changes in food losses over time for a selected basket of key commodities within a country's food system.

The FLI uses a base value of 100 for the year 2017. It measures how food losses evolve from this baseline, focusing specifically on losses that occur along the production and supply chain before reaching the retail level. The index enables policymakers to identify both positive and negative trends in food losses, thereby helping to improve the efficiency of food systems and reduce waste.

Figure 8: Food Loss Index



Source: NISR, FBS 2024

Table 13: FLP (%) of basket commodities

Commodity	Group	2023	2024	Percentage change
Raw milk of cattle	Animal products	4.99	4.99	0.1%
Beans, dry	Cereals and Pulses	1.37	1.50	9.6%
Wheat and meslin flour	Cereals and Pulses	4.65	4.02	-13.6%
Maize (corn)	Cereals and Pulses	5.00	5.00	0.0%
Rice	Cereals and Pulses	4.99	5.00	0.1%
Wheat	Cereals and Pulses	2.00	2.00	0.0%
Plantains and others	Fruits and Vegetables	9.00	9.00	0.0%
Cassava, fresh	Roots, tubers and Oil-bearing crops	3.00	3.00	0.0%
Sweet potatoes	Roots, tubers and Oil-bearing crops	6.10	6.10	0.0%
Potatoes	Roots, tubers and Oil-bearing crops	3.69	4.00	8.3%
Food Loss Percentages		**4.31**	**4.30**	**-0.2%**
Food Loss Index		**86.08**	**85.92**	**-0.2%**

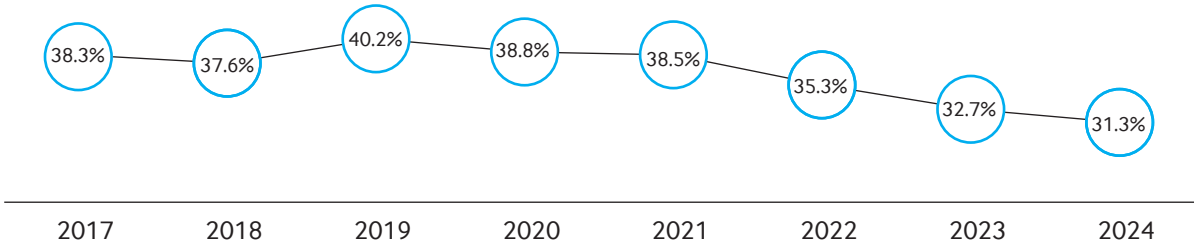
Source: NISR, FBS 2024

In Rwanda, the Food Balance Sheet estimated the Food Loss Percentage (FLP) at an average of 4.30 percent in 2024, slightly down from 4.31 percent in 2023, as shown in Figure 5. This indicates that 4.3 percent of key commodities were lost before reaching the retail stage. Correspondingly, the FLI dropped from its baseline value of 100.0 in 2017 to 85.9 in 2024, a decline of 14 index points since the base year, and a reduction of 0.2 index points compared to 2023. The decrease was mainly driven by reduced losses in specific commodities, particularly wheat flour.

6 PREVALENCE OF UNDERNOURISHMENT (POU)

The Prevalence of Undernourishment (PoU) measures the proportion of the population whose regular food consumption fails to meet the Minimum Dietary Energy Requirement (MDER) necessary for maintaining a normal, active, and healthy life. Individuals classified as undernourished are those whose daily dietary intake consistently falls below this threshold.

Figure 9: Prevalence of Undernourishment (PoU)



Source: NISR, FBS 2024

In 2024, the Minimum Dietary Energy Requirement for Rwanda was estimated at 1,811.2 kilocalories per person per day. Based on this benchmark, approximately 31.3 % of the population was found to be undernourished. This corresponds to about 4.3 million people experiencing insufficient caloric intake to support a healthy lifestyle.

The trend over recent years shows a gradual decline in undernourishment. As presented in Table 14, the PoU has decreased from 38.3% in 2017 to 31.3 % in 2024, reflecting progress in improving food access and nutritional outcomes. Similarly, the number of undernourished individuals has steadily declined from 4.5 million in 2017 to 4.3 million in 2024, indicating a modest but meaningful improvement in national food security.

Table 14: Prevalence of Undernourishment

	2017	2018	2019	2020	2021	2022	2023	2024
PoU (%)	38.3	37.6	40.2	38.8	38.5	35.3	32.7	31.3
Undernourished pop. (in millions)	4.5	4.6	5.0	4.9	5.0	4.7	4.4	4.3
MDER	1,791.9	1,796.70	1,799.9	1,803.7	1,807.3	1,804.9	1,808.1	1,811.2

Source: NISR, FBS 2024

Note:

PoU estimates for 2017–2024 have been updated to improve accuracy. The Physical Activity Level index was refined using detailed occupational data from Labor Force Surveys, reflecting Rwanda specific energy needs. The Coefficient of Variation, which captures dietary energy inequality, was revised based on the latest FAO data. These adjustments provide more precise undernourishment estimates by accounting for disparities in food access. Historical PoU values were recalculated to maintain consistency with the updated methodology.

7 CONCLUSION

The 2024 Rwanda Food Balance Sheet highlights significant progress in the country's food supply. The availability of dietary energy, carbohydrates, proteins, and fats has steadily increased by 1.7%, 1.4%, 1.9%, and 3.7%, respectively, compared to 2023, contributing to improved nutritional adequacy. At the same time, reductions in post-harvest losses, reflected in the decline of the Food Loss Index from 86.1% in 2023 to 85.9% in 2024, have strengthened overall food availability. Together, these improvements have led to a decrease in undernourishment from 32.7% in 2023 to 31.3% in 2024, marking an important step toward ensuring that the population has consistent access to sufficient and nutritious food. The analysis further shows that Rwanda's diet continues to be heavily dominated by starchy staples and cereals, which provide the bulk of daily calories but limit dietary diversity. The relatively low availability of animal-source foods, fruits, and vegetables restricts the intake of essential micronutrients such as calcium, vitamin B12, and iron, highlighting persistent nutritional gaps. Another key finding concerns the balance between domestic production and imports. While national production has expanded in recent years, the Self-Sufficiency Ratio (SSR) slightly declined from 79.8% in 2023 to 79.2% in 2024, while the Import Dependency Ratio (IDR) increased from 55.0% to 56.0% over the same period. This reliance on imports underscores both the importance of trade in maintaining food availability and the vulnerability of Rwanda's food supply to external shocks and price fluctuations. Overall, Rwanda has made commendable progress in improving food security, yet challenges remain in enhancing dietary diversity, reducing import dependency, and ensuring adequate nutrition. The findings provide a robust evidence base for tracking progress toward national priorities and global commitments, particularly Sustainable Development Goal Target 2.1: ending hunger and ensuring universal access to safe, nutritious, and sufficient food throughout the year. Looking ahead, the FBS serves as a crucial resource for policymakers, researchers, and development partners, offering timely insights into the strengths and weaknesses of Rwanda's food supply and identifying areas where targeted interventions can have the greatest impact. Achieving sustainable improvements will require coordinated action, including strengthening national agricultural strategies, integrating nutrition into food policies, and fostering partnerships across government, the private sector, and civil society.

ANNEXES

Annex 1: Rwanda FBS 2024 FBS detailed results

1.A: Rwanda 2024 FBS standard table: Population ('000): 13,500

Products	DOMESTIC SUPPLY (1000 MT)					DOMESTIC UTILIZATION (1000 MT)						PER CAPUT SUPPLY				SSR	IDR
	Prod.	Imports	Exports	Stock changes	Total D.S.	Processed	Loss	Feed	Seed	Other Uses	Food	PER YEAR FOOD	PER DAY Calories	Proteins	Fats		
	1000 Metric Tons											Kg.	units	grams	grams	%	%
Grand total													2329	59	31	79.4	56.1
Vegetal prod.													2289	56	29	79.2	56.6
Animal prod.													40	3	2	91.6	20.1
Cereals (excl. beer)	976	1402	555	446	1377	51	80	19	19	3	1205	87	707	19	5	70.9	101.8
Wheat and products	16	528	208	145	191	0	14	7	2	0	168	12.2	91	3	0	8.6	276.7
Barley and products	0	40	2	6	32	1	0	0	0	0	31	2.3	18	1	0	0.0	124.1
Maize and products	627	250	196	121	559	0	39	8	11	1	500	36.2	327	9	4	112.1	44.7
Rye and products	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	-	-
Oats and products	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	109.6
Millet and products	2	2	0	0	3	0	0	0	0	0	3	0.2	2	0	0	64.6	50.2
Sorghum and products	188	69	15	-15	257	50	8	4	5	0	191	13.8	124	4	1	73.0	26.9
Rice & Prod (Milled Equivalent)	142	514	132	189	335	0	19	0	1	2	312	22.6	146	3	0	42.4	153.5
Cereals, Others & Products	0	0	1	0	0	0	0	0	0	0	0	0.0	0	0	0	-	-
Starchy roots	3668	426	265	-44	3872	0	177	0	129	4	3563	258.2	649	8	1	94.7	11.0
Potatoes and products	703	44	6	-63	804	0	30	0	129	1	645	46.7	91	2	0	87.3	5.5
Cassava and products	1301	376	178	0	1500	0	41	0	0	1	1457	105.6	285	2	0	86.8	25.1
Sweet potatoes	1398	4	3	35	1364	0	86	0	0	1	1277	92.6	243	3	1	102.5	0.3
Yams	0	1	1	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	-
Roots & Tubers, Other & Prod.	266	0	78	-16	204	0	20	0	0	0	183	13.3	31	1	0	130.3	0.0
Sugar crops	94	0	1	0	93	74	0	0	0	0	20	1.4	1	0	0	100.9	0.0
Sugar cane	94	0	1	0	93	74	0	0	0	0	20	1.4	1	0	0	100.9	0.0
Sugar Beets	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	-	-
Sugar & Sweeteners	28	419	136	99	212	5	0	0	0	0	206	15.0	145	0	0	13.1	198.2
Sugar non-centrifugal	6	59	47	7	10	0	0	0	0	0	10	0.8	7	0	0	40.6	59.4
Sugar & Prod. (raw equivalent)	21	360	89	92	200	5	0	0	0	0	195	14.1	137	0	0	10.5	180.0
Sweeteners, other & prod.	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	107.5
Honey	0	1	0	0	1	0	0	0	0	0	1	0.1	1	0	0	0.0	71.3
Pulses	491	18	6	0	502	0	8	0	67	0	427	30.9	285	18	1	97.6	3.6
Beans, Dry & Products	478	18	6	0	490	0	7	0	67	0	416	30.1	277	17	1	97.6	3.7
Peas, Dry & Products	12	0	0	0	12	0	1	0	0	0	12	0.8	8	1	0	100.0	0.0
Pulses, Other and products	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	-
Treenuts	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	179.0

Products	DOMESTIC SUPPLY (1000 MT)					DOMESTIC UTILIZATION (1000 MT)						PER CAPUT SUPPLY				SSR	IDR
Nuts and products	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	179.0
Oilcrops	51	71	13	0	109	10	2	0	6	0	90	6.5	61	4	4	47.0	64.9
Soyabeans & Products	37	10	0	0	47	10	2	0	4	0	31	2.2	18	2	1	78.7	22.3
Groundnuts (Shelled Eq)	14	60	12	0	62	0	1	0	2	0	59	4.3	43	2	3	23.3	96.9
Sunflower seed	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	200.0
Rape and Mustardseed	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	133.3
Coconuts - Incl Copra	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	-	-
Sesame seed	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	-
Palmkernels	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	100.0
Olives (including preserved)	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	104.6
Oilcrops, Other	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	-32.4
Vegetable oils	12	184	69	42	85	3	0	0	0	3	79	5.7	137	0	17	13.6	216.3
Soyabean Oil	3	0	0	0	3	0	0	0	0	0	3	0.2	5	0	1	93.1	0.0
Groundnut Oil	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	-	-
Sunflowerseed Oil	2	3	0	0	5	0	0	0	0	0	5	0.3	8	0	1	38.6	66.5
Rape and Mustard Oil	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	-	-
Cottonseed Oil	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	-	-
Palmkernel Oil	0	1	0	0	1	0	0	0	0	0	1	0.0	1	0	0	0.0	110.4
Palm Oil	0	171	59	42	69	0	0	0	0	3	66	4.8	116	0	13	0.0	245.9
Coconut Oil	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	100.0
Sesameseed Oil	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	100.0
Olive & Residue Oil	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	115.2
Maize Germ Oil	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	-	-
Oilcrops Oil, Other	7	9	9	0	8	3	0	0	0	0	4	0.3	7	0	1	91.0	123.2
Vegetables	460	113	117	28	428	0	0	0	0	2	426	30.9	22	1	0	107.6	26.5
Tomatoes and products	81	71	25	28	98	0	0	0	0	0	98	7.1	4	0	0	81.9	72.4
Onions, Dry	31	10	6	0	35	0	0	0	0	0	35	2.5	3	0	0	87.3	29.5
Vegetables, Other & Prod.	349	32	86	0	294	0	0	0	0	2	292	21.2	15	1	0	118.6	10.7
Fruits (Excluding Wine)	2487	84	66	0	2505	1035	101	0	0	3	1366	99.0	190	3	1	99.3	3.3
Oranges, Tang-Mand & Prod.	0	38	24	0	14	0	0	0	0	1	12	0.9	1	0	0	0.0	276.1
Lemons, Limes and products	0	4	2	0	1	0	0	0	0	0	1	0.1	0	0	0	0.0	263.8
Grapefruit and products	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	-
Citrus Fruit nes & prod	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	100.0
Bananas	1331	7	15	0	1324	1035	0	0	0	0	288	20.9	34	1	0	100.6	0.6
Plantains	1104	13	3	0	1115	0	101	0	0	1	1013	73.4	151	2	1	99.0	1.2
Apples and products	0	3	0	0	2	0	0	0	0	0	2	0.2	0	0	0	0.0	114.0
Pineapples and products	22	5	9	0	19	0	0	0	0	0	18	1.3	1	0	0	121.2	25.3
Dates	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	200.0
Grapes and products (excl wine)	0	1	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	194.3
Fruits, Other & Products	30	14	14	0	30	0	0	0	0	0	30	2.2	3	0	0	99.9	45.7
Stimulants	178	4	48	-22	157	0	0	0	0	0	156	11.3	13	3	0	114.0	2.3

Products	DOMESTIC SUPPLY (1000 MT)					DOMESTIC UTILIZATION (1000 MT)						PER CAPUT SUPPLY				SSR	IDR
Coffee and products	18	3	35	-22	8	0	0	0	0	0	8	0.6	1	0	0	222.8	39.3
Cocoa Beans and products	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	147.9
Tea (including mate)	161	0	12	0	148	0	0	0	0	0	148	10.7	12	3	0	108.2	0.0
Spices	6	7	1	0	12	0	0	0	0	0	12	0.9	8	0	0	48.5	62.1
Pepper	6	0	1	0	5	0	0	0	0	0	5	0.3	3	0	0	121.7	0.0
Pimento	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	-	-
Cloves	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	-	-
Spices, other	0	7	0	0	7	0	0	0	0	0	7	0.5	5	0	0	0.0	101.0
Alcoholic beverages	656	96	68	0	685	0	0	0	0	11	673	48.8	64	0	0	95.8	14.1
Wine	0	5	4	0	1	0	0	0	0	0	1	0.1	0	0	0	0.0	375.6
Barley Beer	4	9	8	0	5	0	0	0	0	0	5	0.4	0	0	0	70.5	175.3
Beverages, fermented	653	35	29	0	658	0	0	0	0	1	657	47.6	59	0	0	99.1	5.3
Beverages, alcoholic	0	18	9	0	9	0	0	0	0	0	9	0.7	5	0	0	0.0	199.8
Alcohol, non food	0	28	17	0	11	0	0	0	0	11	0	0.0	0	0	0	0.0	263.6
Meat	41	3	10	0	35	0	0	0	0	0	35	2.5	12	1	1	118.4	9.3
Meat & Products, Bovine	27	1	7	0	20	0	0	0	0	0	20	1.5	7	1	1	130.5	5.6
Meat & Prod, Sheep & Goat	5	0	0	0	5	0	0	0	0	0	5	0.3	1	0	0	110.2	0.0
Meat & Products, Pig	5	0	0	0	5	0	0	0	0	0	5	0.4	3	0	0	95.8	0.0
Meat & Products, Poultry	3	2	2	0	3	0	0	0	0	0	3	0.2	1	0	0	96.1	51.5
Meat & Products, Other Anim.	1	0	0	0	1	0	0	0	0	0	1	0.1	0	0	0	100.0	0.0
Offals	6	0	0	0	6	0	0	0	0	0	6	0.4	1	0	0	103.7	0.0
Offals, Edible	6	0	0	0	6	0	0	0	0	0	6	0.4	1	0	0	103.7	0.0
Animal fats	1	14	0	0	15	0	0	0	0	0	15	1.1	2	0	0	8.1	94.3
Fats, Animals, Raw	1	14	0	0	15	0	0	0	0	0	15	1.1	2	0	0	8.1	94.3
Cream	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	92.9	7.1
Milk - Excluding Butter	118	38	30	-31	156	0	6	0	0	0	150	10.9	18	1	1	75.2	24.0
Milk & Prod (Excluding Butter)	118	38	30	-31	156	0	6	0	0	0	150	10.9	18	1	1	75.2	24.0
Eggs	7	0	4	0	3	0	0	0	0	0	3	0.2	1	0	0	217.4	0.0
Eggs and products	7	0	4	0	3	0	0	0	0	0	3	0.2	1	0	0	217.4	0.0
Fish & sea food	9	22	4	0	25	0	0	0	0	0	28	2.0	6	1	0	37.6	89.2
Miscellaneous	0	28	11	0	17	0	0	0	0	0	17	1.2	8	0	0	0.0	165.8
Infant food	0	1	1	0	0	0	0	0	0	0	0	0.0	4	0	0	-	-
Miscellaneous	0	27	10	0	17	0	0	0	0	0	17	1.2	4	0	0	0.0	162.3

1.B: Rwanda 2024-Per capita and per day Supply of minerals

Products	Calcium	Iron	Magnesium	Phosphorus	Potassium	Zinc	Copper	Sodium	Manganese
	Mg	mg	mg	mg	mg	Mg	mg	mg	mg
Grand total	243	15	316	921	3536	6	2	124	15
Vegetable prod.	212.0	15.3	308.5	882.2	3473.4	6.2	2.0	108.0	15.2
Animal prod.	31.2	0.1	7.3	38.7	62.8	0.2	0.0	15.7	0.0
Cereals (excl. beer)	21.1	5.1	188.3	353.0	357.9	2.6	0.4	35.3	2.5
Wheat and products	3.5	0.3	5.2	25.3	25.1	0.2	0.0	0.5	0.2
Barley and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maize and products	5.5	3.2	117.1	222.2	264.6	1.7	0.2	32.3	1.8
Rye and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oats and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Millet and products	1.4	0.0	0.1	1.5	2.1	0.0	0.0	0.1	0.0
Sorghum and products	8.7	1.5	57.7	80.3	47.4	0.6	0.2	2.5	0.3
Rice & Prod (Milled Equivalent)	1.9	0.1	8.3	23.8	18.7	0.3	0.0	0.0	0.2
Cereals, Others & Products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Starchy roots	129.4	6.6	93.8	277.7	1718.2	1.6	1.0	42.5	11.2
Potatoes and products	38.5	4.1	29.5	48.7	529.6	0.4	0.5	12.8	0.8
Cassava and products	40.2	1.4	28.8	127.5	552.0	0.6	0.1	11.9	0.2
Sweet potatoes	50.7	1.0	35.5	101.4	636.6	0.5	0.4	17.8	10.1
Yams	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Roots & Tubers, Other & Prod.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugar crops	0.3	0.0	0.1	0.1	1.1	0.0	0.0	0.1	0.0
Sugar cane	0.3	0.0	0.1	0.1	1.1	0.0	0.0	0.1	0.0
Sugar Beets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugar & Sweeteners	0.4	0.0	0.0	0.7	0.8	0.0	0.0	0.4	0.0
Sugar non-centrifugal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugar & Prod. (raw equivalent)	0.3	0.0	0.0	0.7	0.7	0.0	0.0	0.3	0.0
Sweeteners, other & prod.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Honey	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Pulses	21.0	2.1	0.0	134.1	241.5	1.1	0.2	3.4	0.4
Beans, Dry & Products	19.9	2.1	0.0	129.4	230.6	1.1	0.2	3.3	0.4
Peas, Dry & Products	1.1	0.1	0.0	4.7	10.9	0.0	0.0	0.1	0.0
Pulses, Other and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Treenuts	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nuts and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oilcrops	6.9	0.3	12.6	28.2	52.9	0.2	0.1	8.4	0.1
Soyabeans & Products	0.0	0.0	0.1	0.2	0.3	0.0	0.0	7.0	0.0
Groundnuts (Shelled Eq)	6.9	0.3	12.5	28.0	52.6	0.2	0.1	1.3	0.1
Sunflower seed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rape and Mustardseed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Coconuts - Incl Copra	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Products	Calcium	Iron	Magnesium	Phosphorus	Potassium	Zinc	Copper	Sodium	Manganese
	Mg	mg	mg	mg	mg	Mg	mg	mg	mg
Sesame seed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Palmkernels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Olives (including preserved)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oilcrops, Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vegetable oils	0.8	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Soyabean Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Groundnut Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sunflowerseed Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rape and Mustard Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cottonseed Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Palmkernel Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Palm Oil	0.8	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Coconut Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sesameseed Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Olive & Residue Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maize Germ Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oilcrops Oil, Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vegetables	12.3	0.3	7.2	16.2	130.6	0.1	0.0	9.9	0.1
Tomatoes and products	0.9	0.1	2.0	4.3	39.6	0.0	0.0	1.6	0.0
Onions, Dry	1.6	0.0	0.7	2.0	10.2	0.0	0.0	0.3	0.0
Vegetables, Other & Prod.	9.8	0.2	4.6	9.9	80.9	0.1	0.0	8.1	0.1
Fruits (Excluding Wine)	14.2	0.8	0.0	58.1	941.1	0.5	0.3	2.7	0.8
Oranges, Tang-Mand & Prod.	0.6	0.0	0.0	0.2	2.6	0.0	0.0	0.0	0.0
Lemons, Limes and products	0.1	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
Grapefruit and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Citrus Fruit nes & prod	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bananas	2.9	0.2	0.0	12.6	205.0	0.1	0.1	0.6	0.2
Plantains	10.1	0.6	0.0	44.2	719.8	0.4	0.2	2.0	0.6
Apples and products	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Pineapples and products	0.3	0.0	0.0	0.3	4.1	0.0	0.0	0.0	0.1
Dates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grapes and products (excl wine)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fruits, Other & Products	0.4	0.0	0.0	0.7	8.7	0.0	0.0	0.1	0.0
Stimulants	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Coffee and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cocoa Beans and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tea (including mate)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spices	0.4	0.0	0.2	0.7	3.3	0.0	0.0	0.1	0.0
Pepper	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pimento	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Products	Calcium	Iron	Magnesium	Phosphorus	Potassium	Zinc	Copper	Sodium	Manganese
	Mg	mg	mg	mg	mg	Mg	mg	mg	mg
Cloves	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spices, other	0.4	0.0	0.2	0.7	3.3	0.0	0.0	0.1	0.0
Alcoholic beverages	5.2	0.0	6.2	12.5	26.2	0.0	0.0	5.2	0.0
Wine	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Barley Beer	0.1	0.0	0.0	0.1	0.3	0.0	0.0	0.1	0.0
Beverages, fermented	5.1	0.0	6.2	12.3	25.7	0.0	0.0	5.1	0.0
Beverages, alcoholic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alcohol, non food	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Meat	0.1	0.0	0.3	2.9	4.6	0.1	0.0	2.3	0.0
Meat & Products, Bovine	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Meat & Prod, Sheep & Goat	0.0	0.0	0.2	1.9	3.4	0.0	0.0	0.5	0.0
Meat & Products, Pig	0.0	0.0	0.0	0.2	0.4	0.0	0.0	1.5	0.0
Meat & Products, Poultry	0.1	0.0	0.1	0.8	0.8	0.0	0.0	0.3	0.0
Meat & Products, Other Anim.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Offals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Offals, Edible	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Animal fats	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fats, Animals, Raw	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Butter, Ghee	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cream	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Milk - Excluding Butter	28.0	0.0	2.7	22.4	34.1	0.1	0.0	13.4	0.0
Milk & Prod (Excluding Butter)	28.0	0.0	2.7	22.4	34.1	0.1	0.0	13.4	0.0
Eggs	0.7	0.0	0.1	2.2	1.6	0.0	0.0	0.0	0.0
Eggs and products	0.7	0.0	0.1	2.2	1.6	0.0	0.0	0.0	0.0
Fish & sea food	2.3	0.0	4.2	11.1	22.5	0.0	0.0	0.0	0.0
Miscellaneous	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Infant food	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Miscellaneous	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.C: Rwanda 2024 -Per capita and per day Supply of vitamins

Products	Vitamin A RE µg RE	Vitamin B1 mg	Vitamin B2 mg	Vitamin B3 mg	Vitamin B5 mg	Vitamin B6 mg	Vitamin B8	Vitamin B9 µg	Vitamin B10	Vitamin B12 µg	Vitamin C mg	Vitamin D µg	Vitamin E µg
Grand total	802	1.3	1.4	14.0	4.5	2.8	0.0	390.2	0.0	0.2	147.1	0.6	13.1
Vegetable prod.	787.1	1.3	1.4	13.7	4.4	2.8	0.0	387.6	0.0	0.0	147.0	0.0	13.0
Animal prod.	14.7	0.0	0.1	0.4	0.1	0.0	0.0	2.5	0.0	0.2	0.1	0.6	0.1
Cereals (excl. beer)	2.5	0.6	0.3	6.1	1.2	0.4	0.0	37.4	0.0	0.0	0.0	0.0	1.3
Wheat and products	0.0	0.1	0.0	1.5	0.2	0.1	0.0	8.0	0.0	0.0	0.0	0.0	0.0
Barley and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maize and products	0.0	0.4	0.2	3.3	0.4	0.3	0.0	23.0	0.0	0.0	0.0	0.0	0.9
Rye and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oats and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Millet and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Sorghum and products	2.5	0.1	0.0	1.0	0.3	0.1	0.0	5.0	0.0	0.0	0.0	0.0	0.4
Rice & Prod (Milled Equivalent)	0.0	0.0	0.0	0.3	0.3	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0
Cereals, Others & Products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Starchy roots	111.3	0.4	0.8	3.7	1.7	1.2	0.0	105.3	0.0	0.0	120.5	0.0	10.3
Potatoes and products	0.0	0.0	0.5	1.3	0.0	0.3	0.0	21.8	0.0	0.0	14.6	0.0	0.0
Cassava and products	9.9	0.3	0.1	1.5	0.5	0.5	0.0	40.4	0.0	0.0	60.2	0.0	0.1
Sweet potatoes	101.4	0.1	0.2	1.0	1.2	0.4	0.0	43.1	0.0	0.0	45.7	0.0	10.1
Yams	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Roots & Tubers, Other & Prod.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugar crops	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugar cane	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugar Beets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugar & Sweeteners	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugar non-centrifugal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugar & Prod. (raw equivalent)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sweeteners, other & prod.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Honey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pulses	4.1	0.2	0.1	0.5	0.3	0.1	0.0	175.1	0.0	0.0	0.6	0.0	0.0
Beans, Dry & Products	1.7	0.2	0.0	0.4	0.3	0.1	0.0	172.5	0.0	0.0	0.0	0.0	0.0
Peas, Dry & Products	2.4	0.0	0.0	0.1	0.0	0.0	0.0	2.5	0.0	0.0	0.6	0.0	0.0
Pulses, Other and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Products	Vitamin A RE µg RE	Vitamin B1 mg	Vitamin B2 mg	Vitamin B3 mg	Vitamin B5 mg	Vitamin B6 mg	Vitamin B8	Vitamin B9 µg	Vitamin B10	Vitamin B12 µg	Vitamin C mg	Vitamin D µg	Vitamin E µg
Treenuts	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nuts and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oilcrops	0.0	0.0	0.0	1.1	0.1	0.0	0.0	9.4	0.0	0.0	0.0	0.0	0.7
Soyabeans & Products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Groundnuts (Shelled Eq)	0.0	0.0	0.0	1.1	0.1	0.0	0.0	9.4	0.0	0.0	0.0	0.0	0.7
Sunflower seed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rape and Mustardseed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Coconuts - Incl Copra	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sesame seed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Palmkernels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Olives (including preserved)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oilcrops, Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vegetable oils	658.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Soyabean Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Groundnut Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sunflowerseed Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rape and Mustard Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cottonseed Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Palmkernel Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Palm Oil	658.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Coconut Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sesameseed Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Olive & Residue Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maize Germ Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oilcrops Oil, Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vegetables	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.3	0.0	0.0
Tomatoes and products	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.3	0.0	0.0
Onions, Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vegetables, Other & Prod.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fruits (Excluding Wine)	9.1	0.1	0.2	1.8	0.9	1.0	0.0	53.6	0.0	0.0	25.5	0.0	0.3
Oranges, Tang-Mand & Prod.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.8	0.0	0.0
Lemons, Limes and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0

Products	Vitamin A RE µg RE	Vitamin B1 mg	Vitamin B2 mg	Vitamin B3 mg	Vitamin B5 mg	Vitamin B6 mg	Vitamin B8	Vitamin B9 µg	Vitamin B10	Vitamin B12 µg	Vitamin C mg	Vitamin D µg	Vitamin E µg
Grapefruit and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Citrus Fruit nes & prod	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bananas	1.7	0.0	0.0	0.4	0.2	0.2	0.0	11.5	0.0	0.0	5.0	0.0	0.1
Plantains	6.0	0.1	0.1	1.3	0.7	0.7	0.0	40.2	0.0	0.0	17.5	0.0	0.2
Apples and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pineapples and products	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	1.3	0.0	0.0
Dates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grapes and products (excl wine)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fruits, Other & Products	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.7	0.0	0.0
Stimulants	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Coffee and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cocoa Beans and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tea (including mate)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spices	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0
Pepper	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pimento	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cloves	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spices, other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0
Alcoholic beverages	0.0	0.0	0.0	0.5	0.1	0.1	0.0	6.2	0.0	0.0	0.0	0.0	0.0
Wine	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Barley Beer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Beverages, fermented	0.0	0.0	0.0	0.5	0.1	0.1	0.0	6.2	0.0	0.0	0.0	0.0	0.0
Beverages, alcoholic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alcohol, non food	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Meat	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Meat & Products, Bovine	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Meat & Prod, Sheep & Goat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Meat & Products, Pig	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Meat & Products, Poultry	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Meat & Products, Other Anim.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Offals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Offals, Edible	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Products	Vitamin A RE µg RE	Vitamin B1 mg	Vitamin B2 mg	Vitamin B3 mg	Vitamin B5 mg	Vitamin B6 mg	Vitamin B8	Vitamin B9 µg	Vitamin B10	Vitamin B12 µg	Vitamin C mg	Vitamin D µg	Vitamin E µg
Animal fats	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fats, Animals, Raw	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Butter, Ghee	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cream	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Milk - Excluding Butter	10.3	0.0	0.0	0.0	0.1	0.0	0.0	1.3	0.0	0.1	0.1	0.0	0.0
Milk & Prod (Excluding Butter)	10.3	0.0	0.0	0.0	0.1	0.0	0.0	1.3	0.0	0.1	0.1	0.0	0.0
Eggs	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Eggs and products	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Fish & sea food	2.1	0.0	0.0	0.3	0.0	0.0	0.0	0.5	0.0	0.1	0.0	0.6	0.0
Miscellaneous	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Infant food	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Miscellaneous	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Annex 2: Rwanda FBS 2023 detailed results

2.A: Rwanda 2023 FBS standard table: Population ('000): 13,500

Products	DOMESTIC SUPPLY (1000 MT)					DOMESTIC UTILIZATION (1000 MT)						PER CAPUT SUPPLY				SSR	IDR
												PER					
	Prod.	Imports	Exports	Stock	Total	Processed	Loss	Feed	Seed	Other	Food	YEAR	PER DAY				
				changes	D.S.					Uses		FOOD	Calories	Proteins	Fats		
	1000 Metric Tons											Kg.	units	grams	grams	%	%
Grand total													2290	58	30	79.8	55.0
Vegetal prod.													2252	55	28	79.6	55.4
Animal prod.													39	3	2	98.2	25.7
Cereals (excl. beer)	847	1389	404	547	1286	50	75	16	18	3	1123	83	674	18	5	65.9	108.0
Wheat and products	17	335	122	47	183	0	17	4	2	2	158	11.7	88	3	1	9.1	182.9
Barley and products	0	28	1	0	28	1	0	0	0	0	27	2.0	16	1	0	0.0	102.7
Maize and products	508	315	101	222	500	0	25	8	10	1	456	33.8	305	8	3	101.6	63.0
Rye and products	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	-	-
Oats and products	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	104.9
Millet and products	2	1	0	0	3	0	0	0	0	0	3	0.2	2	0	0	67.6	34.9
Sorghum and products	186	66	1	0	250	49	8	4	5	0	185	13.7	123	4	1	74.2	26.3
Rice & Prod (Milled Equivalent)	134	644	179	278	320	0	25	0	1	0	293	21.7	140	3	0	41.8	201.3
Cereals, Others & Products	1	0	0	0	1	0	0	0	0	0	1	0.1	1	0	0	103.0	0.0
Starchy roots	3784	257	183	0	3859	0	175	0	142	4	3537	262.0	661	8	0	98.1	6.7
Potatoes and products	865	73	6	0	932	0	35	0	142	1	754	55.9	109	2	0	92.8	7.9
Cassava and products	1345	183	106	0	1422	0	41	0	0	1	1379	102.2	283	2	0	94.6	12.9
Sweet potatoes	1312	1	1	0	1312	0	80	0	0	1	1231	91.2	240	3	0	100.0	0.1
Yams	0	1	1	0	0	0	0	0	0	0	0	0.0	0	0	0	-	-
Roots & Tubers, Other & Prod.	261	0	69	0	192	0	19	0	0	0	173	12.8	30	1	0	136.2	0.0
Sugar crops	141	0	1	0	140	122	0	0	0	0	18	1.3	1	0	0	100.6	0.0
Sugar cane	141	0	1	0	140	122	0	0	0	0	18	1.3	1	0	0	100.6	0.0
Sugar Beets	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	-	-
Sugar & Sweeteners	50	253	67	48	188	0	0	0	0	0	188	13.9	135	0	0	26.4	134.9
Sugar non-centrifugal	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	100.0
Sugar & Prod. (raw equivalent)	49	252	67	48	187	0	0	0	0	0	186	13.8	134	0	0	26.4	135.2
Sweeteners, other & prod.	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	169.6
Honey	0	1	0	0	1	0	0	0	0	0	1	0.1	1	0	0	0.0	76.1
Pulses	457	43	7	0	493	0	7	0	65	0	421	31.2	287	18	1	92.7	8.7
Beans, Dry & Products	445	43	7	0	481	0	7	0	65	0	409	30.3	279	17	1	92.5	8.9
Peas, Dry & Products	12	0	0	0	12	0	0	0	0	0	12	0.9	8	1	0	99.8	0.0
Pulses, Other and products	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	102.0
Treenuts	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	112.9
Nuts and products	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	112.9

Products	DOMESTIC SUPPLY (1000 MT)					DOMESTIC UTILIZATION (1000 MT)						PER CAPUT SUPPLY				SSR	IDR
Oilcrops	43	56	7	-16	108	4	3	0	8	0	93	6.9	63	4	4	39.5	51.5
Soyabeans & Products	30	9	0	-12	50	4	2	0	6	0	37	2.8	22	2	1	59.6	17.4
Groundnuts (Shelled Eq)	13	47	6	0	54	0	1	0	2	0	51	3.8	38	2	3	24.5	86.8
Sunflower seed	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	107.1
Rape and Mustardseed	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	115.5
Coconuts - Incl Copra	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	100.0
Sesame seed	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	100.0
Palmkernels	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	-	-
Olives (including preserved)	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	102.2
Oilcrops, Other	0	0	0	-5	4	0	0	0	0	0	4	0.3	3	0	0	0.0	0.0
Vegetable oils	2	213	56	77	82	0	0	0	0	6	75	5.6	135	0	16	2.4	260.0
Soyabean Oil	1	2	0	0	3	0	0	0	0	0	3	0.2	5	0	1	27.7	72.3
Groundnut Oil	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	-	-
Sunflowerseed Oil	0	5	0	0	5	0	0	0	0	0	5	0.4	9	0	1	0.0	96.6
Rape and Mustard Oil	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	-
Cottonseed Oil	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	-	-
Palmkernel Oil	0	1	0	0	1	0	0	0	0	0	1	0.0	1	0	0	0.0	123.2
Palm Oil	0	194	52	77	65	0	0	0	0	4	61	4.5	109	0	13	0.0	299.7
Coconut Oil	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	100.0
Sesameseed Oil	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	-	-
Olive & Residue Oil	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	146.2
Maize Germ Oil	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	200.0
Oilcrops Oil, Other	1	12	4	0	9	0	0	0	0	2	6	0.5	11	0	1	8.8	133.4
Vegetables	373	73	41	0	405	0	0	0	0	1	404	29.9	18	1	0	92.1	17.9
Tomatoes and products	84	37	13	0	109	0	0	0	0	0	109	8.1	4	0	0	77.6	34.1
Onions, Dry	35	5	4	0	36	0	0	0	0	0	36	2.7	3	0	0	98.5	12.9
Vegetables, Other & Prod.	253	31	24	0	260	0	0	0	0	1	260	19.2	11	1	0	97.3	11.8
Fruits (Excluding Wine)	2357	45	23	0	2379	975	95	0	0	3	1306	96.7	184	3	1	99.1	1.9
Oranges, Tang-Mand & Prod.	0	17	6	0	10	0	0	0	0	0	10	0.8	0	0	0	0.0	159.3
Lemons, Limes and products	0	2	1	0	1	0	0	0	0	0	1	0.1	0	0	0	0.0	261.5
Grapefruit and products	0	3	2	0	1	0	0	0	0	0	1	0.0	0	0	0	0.0	400.8
Citrus Fruit nes & prod	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	100.0
Bananas	1259	2	4	0	1256	975	0	0	0	0	281	20.8	34	1	0	100.2	0.1
Plantains	1050	4	0	0	1054	0	95	0	0	1	958	71.0	146	2	1	99.6	0.4
Apples and products	0	3	0	0	2	0	0	0	0	0	2	0.2	0	0	0	0.0	122.9
Pineapples and products	23	1	0	0	25	0	0	0	0	1	23	1.7	1	0	0	95.2	5.4
Dates	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	100.0
Grapes and products (excl wine)	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	147.9
Fruits, Other & Products	25	13	8	0	30	0	0	0	0	0	30	2.2	3	0	0	82.8	43.7
Stimulants	176	7	31	0	153	0	0	0	0	0	152	11.3	12	3	0	115.6	4.6
Coffee and products	18	7	20	0	4	0	0	0	0	0	4	0.3	0	0	0	405.5	150.2
Cocoa Beans and products	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	124.9

Products	DOMESTIC SUPPLY (1000 MT)					DOMESTIC UTILIZATION (1000 MT)						PER CAPUT SUPPLY				SSR	IDR
Tea (including mate)	159	0	11	0	148	0	0	0	0	0	148	10.9	12	3	0	107.2	0.0
Spices	5	8	1	0	12	0	0	0	0	0	12	0.9	8	0	0	43.5	66.3
Pepper	5	0	1	0	4	0	0	0	0	0	4	0.3	2	0	0	121.9	0.0
Pimento	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	-	-
Cloves	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	-	-
Spices, other	0	8	0	0	8	0	0	0	0	0	8	0.6	6	0	0	0.0	101.2
Alcoholic beverages	625	64	26	0	662	0	0	0	0	17	645	47.8	66	0	0	94.3	9.6
Wine	0	4	1	0	3	0	0	0	0	0	3	0.2	0	0	0	0.0	131.7
Barley Beer	4	4	2	0	6	0	0	0	0	0	6	0.4	0	0	0	79.4	63.2
Beverages, fermented	620	13	8	0	624	0	0	0	0	1	624	46.2	58	0	0	99.3	2.0
Beverages, alcoholic	0	19	6	0	13	0	0	0	0	0	13	1.0	8	0	0	0.0	145.0
Alcohol, non food	0	25	9	0	16	0	0	0	0	16	0	0.0	0	0	0	0.0	155.5
Meat	39	3	7	0	35	0	0	0	0	0	35	2.6	13	1	1	110.0	8.9
Meat & Products, Bovine	25	1	6	0	20	0	0	0	0	0	20	1.5	8	1	1	123.3	5.2
Meat & Prod, Sheep & Goat	5	0	0	0	5	0	0	0	0	0	5	0.4	1	0	0	104.0	0.0
Meat & Products, Pig	5	0	0	0	5	0	0	0	0	0	5	0.4	3	0	0	96.3	0.0
Meat & Products, Poultry	3	2	1	0	4	0	0	0	0	0	4	0.3	1	0	0	73.7	43.1
Meat & Products, Other Anim.	1	0	0	0	1	0	0	0	0	0	1	0.1	0	0	0	100.0	0.0
Offals	6	0	0	0	6	0	0	0	0	0	6	0.4	1	0	0	103.3	0.0
Offals, Edible	6	0	0	0	6	0	0	0	0	0	6	0.4	1	0	0	103.3	0.0
Animal fats	1	222	183	0	39	0	0	0	0	0	39	2.9	2	0	0	3.0	-
Fats, Animals, Raw	1	222	183	0	39	0	0	0	0	0	39	2.9	2	0	0	3.0	-
Cream	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0.0	100.0
Milk - Excluding Butter	115	34	31	0	119	0	4	0	0	0	115	8.5	14	1	1	96.9	28.9
Milk & Prod (Excluding Butter)	115	34	31	0	119	0	4	0	0	0	115	8.5	14	1	1	96.9	28.9
Eggs	7	0	4	0	3	0	0	0	0	0	3	0.2	1	0	0	224.7	0.0
Eggs and products	7	0	4	0	3	0	0	0	0	0	3	0.2	1	0	0	224.7	0.0
Fish & sea food	8	33	10	0	30	0	0	0	0	0	30	2.1	8	1	0	25.8	106.9
Miscellaneous	0	29	6	0	24	0	0	0	0	0	24	1.8	8	0	0	0.0	123.0
Infant food	0	1	1	0	0	0	0	0	0	0	0	0.0	4	0	0	-	-
Miscellaneous	0	29	5	0	24	0	0	0	0	0	24	1.8	4	0	0	0.0	119.7

2.B: Rwanda 2023-Per capita and per day Supply of minerals

Products	Calcium Mg	Iron mg	Magnesium mg	Phosphorus mg	Potassium mg	Zinc mg	Copper mg	Sodium mg	Manganese mg
Grand total	242	16	311	901	3561	6	2	114	15
Vegetable prod.	214.2	15.7	302.6	862.3	3497.0	6.1	2.1	100.3	15.1
Animal prod.	27.8	0.1	8.1	39.0	64.4	0.2	0.0	13.9	0.0
Cereals (excl. beer)	20.2	4.9	179.0	333.2	335.8	2.5	0.4	33.1	2.4
Wheat and products	3.1	0.2	4.6	22.4	22.2	0.1	0.0	0.4	0.1
Barley and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maize and products	5.2	3.0	109.3	207.4	247.0	1.5	0.2	30.1	1.7
Rye and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oats and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Millet and products	1.5	0.0	0.1	1.5	2.2	0.0	0.0	0.1	0.0
Sorghum and products	8.7	1.5	57.2	79.7	47.0	0.6	0.2	2.5	0.3
Rice & Prod (Milled Equivalent)	1.7	0.1	7.7	22.2	17.4	0.2	0.0	0.0	0.2
Cereals, Others & Products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Starchy roots	135.2	7.3	98.7	282.0	1801.3	1.7	1.1	44.8	11.1
Potatoes and products	45.9	4.9	35.2	58.1	631.4	0.5	0.6	15.3	0.9
Cassava and products	39.4	1.4	28.6	124.0	543.0	0.6	0.1	12.1	0.2
Sweet potatoes	50.0	1.0	35.0	99.9	626.9	0.5	0.4	17.5	10.0
Yams	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Roots & Tubers, Other & Prod.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugar crops	0.3	0.0	0.1	0.1	1.0	0.0	0.0	0.1	0.0
Sugar cane	0.3	0.0	0.1	0.1	1.0	0.0	0.0	0.1	0.0
Sugar Beets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugar & Sweeteners	0.4	0.0	0.0	0.7	0.8	0.0	0.0	0.3	0.0
Sugar non-centrifugal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugar & Prod. (raw equivalent)	0.3	0.0	0.0	0.7	0.7	0.0	0.0	0.3	0.0
Sweeteners, other & prod.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Honey	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Pulses	21.2	2.1	0.0	135.2	244.0	1.1	0.2	3.5	0.4
Beans, Dry & Products	19.9	2.1	0.0	129.4	230.7	1.1	0.2	3.3	0.4
Peas, Dry & Products	1.3	0.1	0.0	5.7	13.2	0.1	0.0	0.1	0.0
Pulses, Other and products	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Treenuts	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nuts and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oilcrops	6.3	0.3	11.5	25.8	48.4	0.2	0.1	5.5	0.1
Soyabeans & Products	0.0	0.0	0.0	0.1	0.2	0.0	0.0	4.2	0.0
Groundnuts (Shelled Eq)	6.3	0.3	11.5	25.7	48.2	0.2	0.1	1.3	0.1
Sunflower seed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rape and Mustardseed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Coconuts - Incl Copra	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Sesame seed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Palmkernels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Olives (including preserved)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oilcrops, Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vegetable oils	0.7	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Soyabean Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Groundnut Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sunflowerseed Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rape and Mustard Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cottonseed Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Palmkernel Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Palm Oil	0.7	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Coconut Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sesameseed Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Olive & Residue Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maize Germ Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oilcrops Oil, Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vegetables	10.4	0.3	7.0	15.0	119.1	0.1	0.0	5.2	0.1
Tomatoes and products	1.0	0.1	2.2	4.8	44.4	0.0	0.0	1.8	0.0
Onions, Dry	1.7	0.0	0.7	2.1	10.6	0.0	0.0	0.3	0.0
Vegetables, Other & Prod.	7.7	0.1	4.1	8.1	64.1	0.0	0.0	3.2	0.1
Fruits (Excluding Wine)	13.9	0.8	0.0	56.6	917.4	0.5	0.3	2.6	0.8
Oranges, Tang-Mand & Prod.	0.6	0.0	0.0	0.2	2.7	0.0	0.0	0.0	0.0
Lemons, Limes and products	0.1	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Grapefruit and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Citrus Fruit nes & prod	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bananas	2.9	0.2	0.0	12.5	204.1	0.1	0.1	0.6	0.2
Plantains	9.7	0.6	0.0	42.8	695.9	0.4	0.2	1.9	0.6
Apples and products	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Pineapples and products	0.3	0.0	0.0	0.3	5.2	0.0	0.0	0.0	0.1
Dates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grapes and products (excl wine)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fruits, Other & Products	0.4	0.0	0.0	0.7	8.8	0.0	0.0	0.1	0.0
Stimulants	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Coffee and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cocoa Beans and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tea (including mate)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spices	0.5	0.0	0.3	0.8	3.7	0.0	0.0	0.1	0.0
Pepper	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pimento	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cloves	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spices, other	0.5	0.0	0.3	0.8	3.7	0.0	0.0	0.1	0.0

Alcoholic beverages	5.1	0.0	6.0	12.1	25.6	0.0	0.0	5.0	0.0
Wine	0.1	0.0	0.1	0.1	0.6	0.0	0.0	0.0	0.0
Barley Beer	0.1	0.0	0.0	0.1	0.3	0.0	0.0	0.1	0.0
Beverages, fermented	4.9	0.0	5.9	11.9	24.7	0.0	0.0	4.9	0.0
Beverages, alcoholic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alcohol, non food	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Meat	0.2	0.0	0.4	3.5	5.4	0.1	0.0	2.4	0.0
Meat & Products, Bovine	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Meat & Prod, Sheep & Goat	0.0	0.0	0.3	2.2	3.8	0.0	0.0	0.6	0.0
Meat & Products, Pig	0.0	0.0	0.0	0.2	0.4	0.0	0.0	1.3	0.0
Meat & Products, Poultry	0.1	0.0	0.1	1.2	1.2	0.0	0.0	0.5	0.0
Meat & Products, Other Anim.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Offals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Offals, Edible	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Animal fats	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fats, Animals, Raw	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Butter, Ghee	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cream	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Milk - Excluding Butter	24.1	0.0	2.3	19.3	29.2	0.1	0.0	11.5	0.0
Milk & Prod (Excluding Butter)	24.1	0.0	2.3	19.3	29.2	0.1	0.0	11.5	0.0
Eggs	0.7	0.0	0.1	2.3	1.7	0.0	0.0	0.0	0.0
Eggs and products	0.7	0.0	0.1	2.3	1.7	0.0	0.0	0.0	0.0
Fish & sea food	2.9	0.1	5.2	13.9	28.1	0.0	0.0	0.0	0.0
Miscellaneous	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Infant food	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Miscellaneous	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

2.C: Rwanda 2023 -Per capita and per day Supply of vitamins

Products	Vitamin A RE	Vitamin B1	Vitamin B2	Vitamin B3	Vitamin B5	Vitamin B6	Vitamin B8	Vitamin B9	Vitamin B10	Vitamin B12	Vitamin C	Vitamin D	Vitamin E
	µg RE	mg	mg	mg	mg	mg		µg		µg	mg	µg	µg
Grand total	756	1.2	1.5	13.8	4.3	2.8	0.0	389.6	0.0	0.2	147.8	0.7	12.8
Vegetable prod.	743.3	1.2	1.5	13.4	4.2	2.7	0.0	387.1	0.0	0.0	147.8	0.0	12.7
Animal prod.	12.9	0.0	0.1	0.4	0.1	0.0	0.0	2.5	0.0	0.2	0.1	0.7	0.1
Cereals (excl. beer)	2.5	0.5	0.3	5.7	1.2	0.4	0.0	35.3	0.0	0.0	0.0	0.0	1.2
Wheat and products	0.0	0.1	0.0	1.3	0.2	0.1	0.0	7.5	0.0	0.0	0.0	0.0	0.0
Barley and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maize and products	0.0	0.3	0.2	3.1	0.4	0.3	0.0	21.5	0.0	0.0	0.0	0.0	0.9
Rye and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oats and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Millet and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Sorghum and products	2.5	0.1	0.0	1.0	0.3	0.1	0.0	4.9	0.0	0.0	0.0	0.0	0.4
Rice & Prod (Milled Equivalent)	0.0	0.0	0.0	0.2	0.2	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0
Cereals, Others & Products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Starchy roots	109.4	0.4	0.9	4.0	1.7	1.2	0.0	108.5	0.0	0.0	121.3	0.0	10.1
Potatoes and products	0.0	0.0	0.6	1.5	0.0	0.3	0.0	26.0	0.0	0.0	17.4	0.0	0.0
Cassava and products	9.5	0.3	0.1	1.4	0.5	0.5	0.0	40.1	0.0	0.0	58.9	0.0	0.1
Sweet potatoes	99.9	0.1	0.2	1.0	1.2	0.4	0.0	42.5	0.0	0.0	45.0	0.0	10.0
Yams	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Roots & Tubers, Other & Prod.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugar crops	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugar cane	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugar Beets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugar & Sweeteners	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugar non-centrifugal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugar & Prod. (raw equivalent)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sweeteners, other & prod.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Honey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pulses	4.6	0.2	0.1	0.5	0.3	0.1	0.0	175.7	0.0	0.0	0.7	0.0	0.0
Beans, Dry & Products	1.7	0.2	0.0	0.4	0.3	0.1	0.0	172.6	0.0	0.0	0.0	0.0	0.0
Peas, Dry & Products	2.9	0.0	0.0	0.1	0.0	0.0	0.0	3.1	0.0	0.0	0.7	0.0	0.0
Pulses, Other and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Treenuts	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nuts and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oilcrops	0.0	0.0	0.0	1.0	0.1	0.0	0.0	8.6	0.0	0.0	0.0	0.0	0.6
Soyabeans & Products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Groundnuts (Shelled Eq)	0.0	0.0	0.0	1.0	0.1	0.0	0.0	8.6	0.0	0.0	0.0	0.0	0.6
Sunflower seed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rape and Mustardseed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Coconuts - Incl Copra	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Products	Vitamin A RE	Vitamin B1	Vitamin B2	Vitamin B3	Vitamin B5	Vitamin B6	Vitamin B8	Vitamin B9	Vitamin B10	Vitamin B12	Vitamin C	Vitamin D	Vitamin E
	µg RE	mg	mg	mg	mg	mg		µg		µg	mg	µg	µg
Sesame seed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Palmkernels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Olives (including preserved)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oilcrops, Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vegetable oils	615.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Soyabean Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Groundnut Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sunflowerseed Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rape and Mustard Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cottonseed Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Palmkernel Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Palm Oil	615.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Coconut Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sesameseed Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Olive & Residue Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maize Germ Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oilcrops Oil, Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vegetables	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.5	0.0	0.0
Tomatoes and products	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.5	0.0	0.0
Onions, Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vegetables, Other & Prod.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fruits (Excluding Wine)	8.8	0.1	0.2	1.7	0.9	0.9	0.0	52.3	0.0	0.0	25.1	0.0	0.3
Oranges, Tang-Mand & Prod.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.8	0.0	0.0
Lemons, Limes and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Grapefruit and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Citrus Fruit nes & prod	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bananas	1.7	0.0	0.0	0.4	0.2	0.2	0.0	11.4	0.0	0.0	5.0	0.0	0.1
Plantains	5.8	0.1	0.1	1.3	0.6	0.7	0.0	38.9	0.0	0.0	16.9	0.0	0.2
Apples and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pineapples and products	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	1.7	0.0	0.0
Dates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grapes and products (excl wine)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fruits, Other & Products	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.7	0.0	0.0
Stimulants	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Coffee and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cocoa Beans and products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tea (including mate)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spices	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0
Pepper	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pimento	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Products	Vitamin A RE	Vitamin B1	Vitamin B2	Vitamin B3	Vitamin B5	Vitamin B6	Vitamin B8	Vitamin B9	Vitamin B10	Vitamin B12	Vitamin C	Vitamin D	Vitamin E
	µg RE	mg	mg	mg	mg	mg		µg		µg	mg	µg	µg
Cloves	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spices, other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0
Alcoholic beverages	0.0	0.0	0.0	0.5	0.1	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
Wine	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Barley Beer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Beverages, fermented	0.0	0.0	0.0	0.5	0.1	0.0	0.0	5.9	0.0	0.0	0.0	0.0	0.0
Beverages, alcoholic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alcohol, non food	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Meat	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Meat & Products, Bovine	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Meat & Prod, Sheep & Goat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Meat & Products, Pig	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Meat & Products, Poultry	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Meat & Products, Other Anim.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Offals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Offals, Edible	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Animal fats	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fats, Animals, Raw	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Butter, Ghee	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cream	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Milk - Excluding Butter	7.8	0.0	0.0	0.0	0.1	0.0	0.0	1.1	0.0	0.1	0.1	0.0	0.0
Milk & Prod (Excluding Butter)	7.8	0.0	0.0	0.0	0.1	0.0	0.0	1.1	0.0	0.1	0.1	0.0	0.0
Eggs	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Eggs and products	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Fish & sea food	2.6	0.0	0.0	0.3	0.0	0.0	0.0	0.7	0.0	0.1	0.0	0.7	0.1
Miscellaneous	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Infant food	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Miscellaneous	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Annex 3. Methodological Note

1. Estimation For Food Loss Index

This is a brief description of the methodology on how to estimate the Food Loss Index (FLI). The details can be accessed in FAO (2018). The FLI is a composite index for essential products in the production of a country. The aggregate index is used for national, global, and international monitoring of progress accomplished for achieving the Target 3 of SDG 12. In addition, countries can calculate, if needed basic data are available, FLIs to disaggregated level, by geographic area or by agro-ecological zone, or at different links of the value chain (farms, transport, markets, processors etc.). Then the FLI of all countries can be aggregated to obtain the The Global Food Loss Index (GFLI).

The calculation of the Global Food Loss Index adheres to the following steps:

- Choice of a base year;
- Selection of the basket of goods and compilation of the weight of each good at the base year;
- Estimated loss percentages for each product and Food Loss Percentage (FLP) in the country;
- Comparison of FLPs over time and calculating the FLI;
- Aggregation of FLIs to deduct GFLI.

Selection of the basket of goods

The selection of products for the Global Food Loss Index is guided by national targets while maintaining international comparability. Since dietary diversity and achieving food security are the key priorities targeted through the calculation of the FLI, the basket must contain a structured set of product headings covering many facets of a typical diet. These headings are the following: (1) Cereals & Pulses, (2) Fruits & Vegetables, (3) Roots & Tubers and Oil-Bearing crops, (4) Animals Products, and (5) Fish and Fish Products). 10 products are recommended to be selected in these different headings.

The international recommendation is to constitute the 5 groups and choose two representative products from each commodity group. The method of selection of products, which is internationally followed, is to rank the value of the production of the products by country and by group and choose the two products which have the highest production value in the group. The selection process is based on the international dollar value of commodities in the base year.

At the national level, countries can use their own set of values or quantities and their prices, or use different criteria based on policies, provided that the main headings are covered. Once the basket of products is chosen, this basket remains fixed at the national/global levels to allow comparisons over time. In addition, FAO explains that:

The headings correspond to basic food groups and dietary needs. Each country therefore should have at least one priority product in each heading.

Product loss levels within headings should be broadly similar, within countries, while average losses between categories will be systematically different. For example, the variation of losses in fruits is higher than those in grains, but within grains losses may be similar.

Estimated percentages of losses of each commodity and FLP

Once the basket of commodities has been chosen, the next step involves the calculation of loss percentages. The losses are expressed as a percentage of the total of Production + Import. The use of percentages rather thanloss values, is justified bytheir greater stability over time. For each product, the percentage of loss L_{ijt} by country (i), commodity (j) and year (t) is either estimated or observed.

These percentages are typicallyobtained through agricultural surveysthat incorporatemodules on post-harvest losses. The estimation of loss percentages should adhere to established methodologies, such as those outlined in the relevant International Guidelines. Consequently, theFood Loss Percentage (FLP) provides a measure of the average level of loss. This enables countries to assess the extent of their food losses compared to others, or in an international context.

It is calculated using the following formula:

$$= \frac{\sum_j L_{jt} * (q_{jt_o}}{\sum_j (q_{jt_o} *}$$

Where:

Ljt = loss percentage (estimated or observed) for commodity j in year t;

to = the base year;

qjto = Production plus Imports for commodity j in the base year;

pjto = International dollar price for commodity j in the base year.

Calculation of the Food Loss Index (FLI)

The country-level indices (FLI) are simply equal to the ratio of the Food Loss Percentage in the current period and the FLP in the base period multiplied by 100.

$$= \frac{FLPt}{FLPto} X$$

While the FLP_t is the country's food loss percentage in year t, The related FLI_t shows how much losses move from the baseline value equal to 100 in the base year.

Compilation of Global Food Loss Index (GFLI)

The GFLI is obtained through a weighted average of single indices calculated for all countries in the world (FLI). Toaggregate these national FLI into either the GFLI or a Regional FLI, each country's indice is weightedaccording to its total value of agricultural production for the year of reference. The GFLI weights reflect the relative importance the overall value of the basket of commodities in international dollar terms compared to the rest of the World.In contrast, the weights used within a national FLI constitute the value of commodities in international dollars relative to the production value of the country. The weighting is determined in the reference year.

GFLI is calculated using the following formula:

$$= \frac{\sum_{i=1}^{G} FLIit * W}{\sum_{i=1}^{G} Wi}$$

Where:

Wi = total value of agricultural production of country i at international dollar prices in the base period. FLIit= is the country's Food Loss Index.

Application of the FAO methodology-FLI: The case of Rwanda

The computation of the Food Loss Index (FLI) for Rwanda followed the methodology proposed by FAO. The required data include production (Crops and livestock, including fishery) and commodity prices. The production, import, prices, and loss ratios data were collected from NISR and MINAGRI. The quantities of losses are those from the Food Balance Sheets results. The methodology recommends the base year of 2015 because it is the start of measurement and monitoring of the SDGs but in Rwanda case it is 2017.

As recommended by the methodology, a basket of 10 key commodities were to be selected, with top two commodities in each of the five main headings (1. Cereals & Pulses, 2. Fruits & Vegetables, 3. Roots & Tubers and Oil-Bearing crops, 4. Animals Products, 5. Fish and Fish Products. The selection was according to their importance (in terms of value of production) in their respective commodity headings. However, in Rwanda case this selection was also dependent on the availability of data on loss quantities. That is why, in the « Fish and Fish Product" group there is any commodity selected. From reasons above the 10 key commodities selected were: Raw milk of cattle, Beans(dry), Wheat and meslin flour, Maize(corn), Rice, Wheat, Plantains and others, Cassava(fresh), Sweet potatoes and Irish potatoes. Having the production quantity, import quantity, loss quantity and prices for each of the 10 selected commodities, the calculation of the FLI followed the FAO methodology described above.

The computation of the FLI was done using basic Microsoft Excel to produce the results which are analyzed in FLI Section of this report. For each year and commodity, the loss percentages were first calculated as well as their aggregation at national level; and from there, the FLI for each year was computed, with 2017 as the base year.

Note

The Global Food Loss Index is not appropriate because we are dealing with only one country.

2. Estimation For Prevalence of Undernourishment

Introduction

The FAO prevalence of undernourishment (PoU) indicator monitors progress towards Millennium Development Goal target 1C of halving, between 1990 and 2015, the proportion of people suffering from hunger. Estimates of the number of undernourished (NoU) calculated by multiplying the PoU by the size of the reference population are used to monitor progress towards the World Food Summit goal of reducing by half the number of people suffering from undernourishment.

The PoU indicator is defined as the probability that a randomly selected individual from the reference population is found to consume less than his/her calorie requirement for an active and healthy life. It is written as:

$$PoU = \int_{x<MDER} f(x)dx$$

Where $f(x)$ is the probability density function of per capita calorie consumption.

The parameters needed for the calculation of the indicator are: the mean level of dietary energy consumption (DEC); a cut-off point defined as the Minimum Dietary Energy Requirement (MDER); the coefficient of variation (CV) as a parameter accounting for inequality in food consumption; and a skewness (SK) parameter accounting for asymmetry in the distribution. The DEC as well as the MDER are updated annually, with the former calculated from the FAO Food Balance Sheets. The MDER is calculated as a weighted average of energy requirements according to sex and age class and is updated each year from UN population ratio data. The inequality in food consumption parameters is derived from National Household Survey data when such data is available and reliable. Due to the limited number of available household surveys, the inequality in food access parameters is updated much less frequently over time than the DEC and MDER parameters.

To implement this methodology, it is necessary to: (i) choose a functional form for the distribution of food consumption $f(x)$; (ii) identify values for the three parameters, that is, for mean food consumption (DEC), its variability (CV) and its asymmetry (SK); and (iii) compute the MDER threshold. The probability density function used to infer the habitual levels of dietary energy consumption in a population, $f(x)$, refers to a typical level of daily energy consumption during a year. As such, f(x) does not reflect the possible implications of insufficient food consumption levels that may prevail over shorter periods. Both the probability distribution $f(x)$ and the MDER threshold are associated with a representative individual of the population, of average age, sex, stature and physical activity level.

Functional Form

The FAO methodology for the calculation of the prevalence of undernourishment uses a probability framework in which the distribution of per capita calorie consumption of the representative individual is characterized. The use of such a framework is necessary, as data typically are not available on individual food consumption and requirements, but rather for household acquisition. Starting with the estimates of undernourishment produced for the Sixth World Food Survey in 1996, the distribution was assumed to be lognormal. This model

is very convenient for the purposes of analysis, but has limited flexibility, especially in capturing the skewness of the distribution.

As part of the revisions made for the 2012 edition of The State of Food Insecurity in the World Report, the methodology moved away from the exclusive use of the two parameters lognormal distribution to adopt the more flexible three parameter skew-normal and skew- lognormal families [3]. In the case of the lognormal distribution, the skewness can be written as function of the CV as:

SK = (CV^2+3) *CV (1)

This implies that the SK for the lognormal distribution is completely determined by the CV derived from household survey data. The flexibility gained from the additional parameter allows for independent characterization of the asymmetry of the distribution. The skew-normal distribution can be considered a generalization of the normal distribution that can account for departures from normality to a certain degree, corresponding to skewness values within the approximate range (-0.995, 0.995). The distribution cannot be evaluated at higher levels of asymmetry, and so ways to deal with higher degrees of skewness need to be found. One solution is to consider only the restricted range of the skewed-normal distribution in the calculation of the PoU. Another solution is to add another level of flexibility in which the functional form for the distribution itself is allowed to change, based on the level of asymmetry in the data. The identification of the appropriate combination of functional forms as well as the level of asymmetry at which to change functional forms motivates the investigations below.

The simplest way to handle skewness outside of the range of the skewed-normal distribution is to place a ceiling on the SK parameter (such as 0.99) and to use this limit for higher degrees of asymmetry. The implementation of this approach (referred to as Function 1) – in (a) the PoU is shown as a function of the SK parameter with the other parameters fixed (DEC equal to 2000, MDER equal to 1800, and CV equal to 0.35) and in (b) the density function is shown the with the same parameters fixed but with the SK equal to zero (corresponding to the normal distribution), 0.75, and 0.99 (the ceiling). High levels of asymmetry in the data may indicate that the skew-normal distribution is not the appropriate model, and alternative criterions for the selection of the functional form are described below.

As a first alternative to the application of the skewed-normal distribution described above, consider replacing the ceiling with a new value W, and evaluating the log-normal distribution for skewness values higher than W. If we denote the PoU evaluated using the lognormal distribution as PoULN, we can write this criterion for the choice for the distribution (**Function 2**) as:

PoU = PoULN (DEC, CV, SK, MDER), SK ≥ W (2a)

PoU = PoUSN (DEC, CV, SK, MDER), SK < W (2b)

Although the two different functional forms for the distribution do allow for a wider range of levels of asymmetry to be captured, discontinuities in the PoU occur as the functional form transitions from one to the other. An intermediate distribution may help to link such a gap, and this is the motivation behind the criterion below for the choice of the functional form.

As a modification of the criterion described above, consider using the log-skewed-normal distribution2 (denoted by PoU_{LSN}) as an intermediate between the transition of the functional form from the skewed-normal to the log-normal, as written below:

$PoU = PoU_{LN}(DEC, CV, SK, MDER)$, $SK \geq (CV^2 + 3)\, CV$ (3a)

$PoU = PoU_{LSN}(DEC, CV, SK, MDER)$, $W < SK < (CV^2 + 3)CV$ (3b)

$PoU = PoU_{SN}(DEC, CV, SK, MDER)$, $SK < W$ (2b) (3b)

In the criterion written above (Function 3), the skewness implied theoretically by the lognormal is used both as a floor for the application of the lognormal and as a ceiling for the application of the log-skewed-normal. The fixed switch point W is used as a floor for the application of the log-skewed-normal and as a ceiling for the application of the skewed- normal.

Estimating and projecting mean food consumption: To compute per capita DEC in a country, FAO has traditionally relied on Food Balance Sheets, which are available for more than 180 countries. This choice was due mainly to the lack, in most countries, of suitable surveys conducted regularly. Through data on production, trade and utilization of food commodities, the total amount of dietary energy available for human consumption in a country for a one-year period is derived using food composition data, allowing computation of an estimate of per capita dietary energy supply.

During the revision for The State of Food Insecurity in the World 2012 a parameter that captures food losses during distribution at the retail level was introduced in an attempt to obtain more accurate values of per capita consumption. Region-specific calorie losses were estimated from data provided in a recent FAO study and ranged from 2 percent of the quantity distributed for dry grains, to 10 percent for perishable products such as fresh fruits and vegetables.

Estimating the MDER threshold

To calculate the MDER threshold, FAO employs normative energy requirement standards from a joint FAO/WHO/United Nations University expert consultation in 2001. These standards are obtained by calculating the needs for basic metabolism – that is, the energy consumedby the human body in a state of rest – and multiplying them by a factor that takes into account physical activity, referred to as the physical activity level (PAL) index.

As individual metabolic efficiency and physical activity levels vary within population groups of the same age and sex, energy requirements are expressed as ranges for such groups. To derive the MDER threshold, the minimum of each range for adults and adolescents is specified based onthe distribution of ideal body weights and the mid-point of the values of the PAL index associated with a sedentary lifestyle. The lowest body weight for a given height that is compatible with good health is estimated from the fifth percentile of the distribution of body mass indices in healthy populations.

Once the minimum requirement for each sex-age group has been established, the population-level MDER threshold is obtained as a weighted average, considering the relative frequency of individuals in each group

as weights. The threshold is determined with reference to light physical activity, normally associated with a sedentary lifestyle. However, this does not negate the fact that the population also includes individuals engaged in moderate and intense physical activity. It is just one way of avoiding the overestimation of food inadequacy when only food consumption levels are observed that cannot be individually matched to the varying requirements.

A frequent misconception when assessing food inadequacy based on observed food consumption data is to refer to the mid-point in the overall range of requirements as a threshold for identifying inadequate energy consumption in the population. This would lead to significantly biased estimates: even in groups composed of only well-nourished people, roughly half of these individuals will have intake levels below mean requirements, as the group will include people engaged in low physical activity. Using the mean requirement as a threshold would certainly produce an overestimate, as all adequately nourished individuals with less than average requirements would be misclassified as undernourished.

FAO updates the MDER thresholds every two years based on regular revisions of the population assessments of the United Nations Population Division and data on population heights from various sources, most notably the Monitoring and Evaluation to Assess and Use Results of Demographic and Health Surveys project coordinated by the United States Agency for International Development (USAID). This edition of The State of Food Insecurity in the World uses updated population estimates from the 2012 revision published by the United Nations Population Division in June 2013. When data on population heights are not available, reference is made either to data on heights from countries where similar ethnicities prevail, or to models that use partial information to estimate heights for various sex and age classes.

Application of FAO methodology-MDER: The case of Rwanda

The Minimum Dietary Energy Requirements (MDER) are determined using standards established by the FAO/WHO expert group on energy needs. There is a computation developed under Microsoft Excel that automatically calculates the MDER, once the input parameters are entered. The input parameters are:

- Population projections by age group and sex, provided by NISR
- The anthropometric data (height and weight of children under 5), as well as those of women of 15-49 years (height, Body Mass Index) are provided by the RDHS (2019/20).
- Body Mass Index (BMI) of men as well as women outside childbearing age group (0-14 years and over 49 years), weight gain for age, energy per kg of weight gained, and level of physical activity for age from 5 years to more than 70 years; this data was obtained from the World Health Organization (WHO).
- A combination of the above input parameters makes it possible to generate estimates for the MDER for male and female separately.
- Also required is to estimate the MDER of pregnant women in population. To do this, two other parameters were integrated into the model:
    - The birth rate, obtained from RDHS (2019/20)
    - The DER of an average pregnant woman is estimated by multiplying the birth rate by 210 kilocalories, assuming an estimated daily requirement of 280 kilocalories during pregnancy over 75 per cent of the year.

Note:

An adjustment for physical activity has been included using the Physical Activity Level (PAL) index. The minimum acceptable level of activity, often described as "light activity" or a "sedentary lifestyle," generally corresponds to a PAL of about 1.55; however, some countries, such as the United Kingdom, adopt a lower threshold of 1.4. For the working-age population, physical activity levels have been categorized as light, moderate, or high, depending on the types of occupations reported in the Labor Force Surveys. The PAL values applied to each group reflect the minimum necessary levels of physical activity rather than ideal standards, which is the appropriate basis for calculating prevalence undernourishment. Based on this classification, an average PAL of 1.64 was estimated.

- The Coefficients of Variation (CV) linked to the consumption of the Rwanda population was obtained from the FAO Food Security indicators as 0.33.
- The average Dietary Energy Consumption (DEC) per capita per year comes from the FBS detailed results. It is, the DES per capita generated in the context of developing the Rwanda FBS 2024, which is used as proxy of DEC.

Following the FAO methodology, to estimate the Prevalence of Undernourishment, we assumed the distribution of the DEC within Rwanda population to be log-normal.

Finally, the population undernourished for a given year in the case of Rwanda was estimated by multiplying the Prevalence of Undernourishment for the year by the total population of the same year.

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