

Cost of a Healthy Diet: Monitoring food security across Ghana

March 28, 2023

Ministry of Food and Agriculture

Accra, Ghana

Goals

- Monitor the Cost of a Healthy Diet at a sub-national level
- Publish trends in the Cost of a Healthy Diet in a regular bulletin
- Use CoHD to inform policymaking
 - Agricultural policy, infrastructure, social protection, etc.



Aims

Cost

If you went to an average market in Ghana, how much would it cost to obtain a diet that satisfied dietary guidelines?

Affordability

How many people could not afford this cost?

Roles

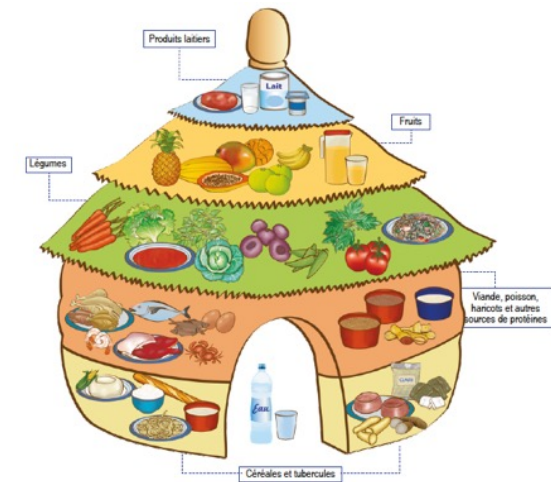
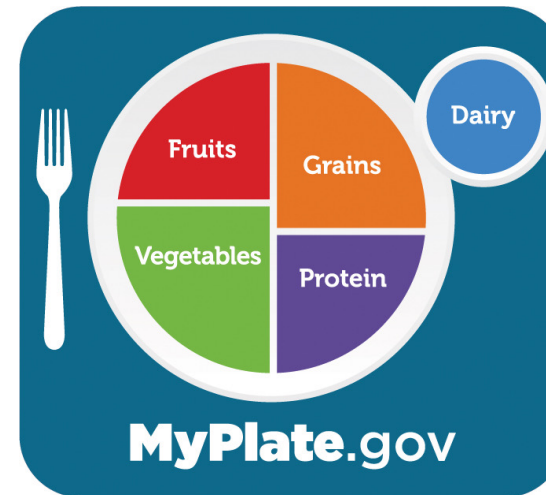
- **MoFA:** monitor Cost of a Healthy Diet using retail food price data
- **GSS:** Affordability of a Healthy Diet using expenditure data and Consumer Price Index
- **Food Prices for Nutrition:** Support calculation and monitoring
- **Researchers:** use additional methods and policy analysis to address underlying causes and solutions to improve access

Define the Cost of a Healthy Diet

- Measuring **physical and economic access** to healthy diets
- Use **retail food prices** to identify the **least expensive** combinations of locally available foods
 - No standard “food basket”; selection depends on time and place
- Least-cost diets and their affordability help to explain why healthy diets are not consumed

Defining healthy diets to measure CoHD

- Based on food-based dietary guidelines (FBDGs)
- FBDGs represent a realistic way for people to select nutrient-adequate diets, using food groups



Quantitative FBDGs tell us how much food we need



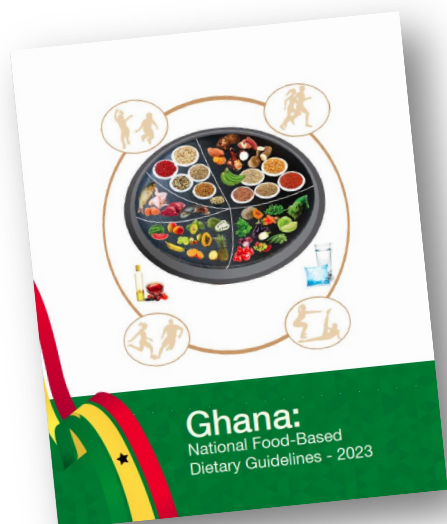
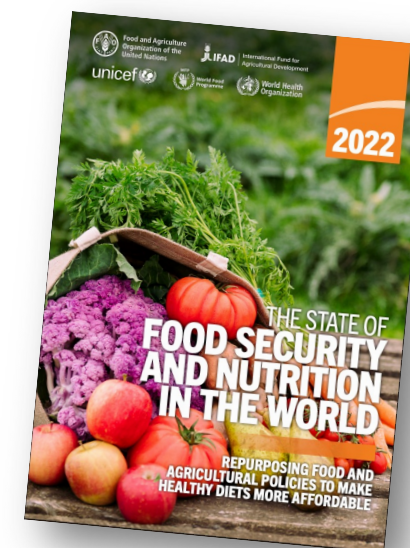
Food group	No. of servings/day	Total amount to consume (g/day)	Total energy/day from food group (kcal)
Animal-sourced food	1.5	144	262
Staples	5	672	1,282
Fruits	1.5	226	158
Vegetables	2.5	227	117
Legumes, pulses, nuts	3	198	636
Healthy fats and oil	1	6	54
Discretionary choices	0.5	42	131

Source: Ministry of Food and Agriculture and University of Ghana School of Public Health (2023). *Food-Based Dietary Guidelines*. Accra, Ghana: January 2023. Table 8, p. 45.

Cost of a Healthy Diet can be calculated in two ways

Global monitoring: Healthy Diet Basket

- Represents commonalities across national guidelines
- Global comparisons
- Data source: national average prices from World Bank ICP, 2017



National monitoring: Ghanaian FBDG

- Official policy standard from national government
- Data source: regional average retail prices from MoFA, monthly

CoHD (global method)

Global
average



CoHD (global method)

Ghana

\$0.15

Peanut oil

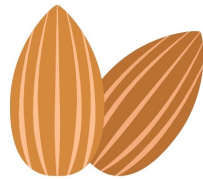


1 item

300 kcal

\$0.17

Groundnuts

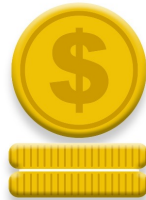


1 item

300 kcal

\$0.55

Maize grains
Wheat flour

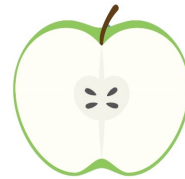


2 items

1160 kcal

\$0.40

Bananas
Coconut

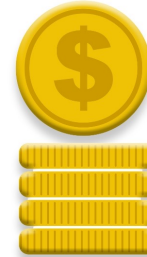


2 items

160 kcal

\$1.26

Onions
Carrots
Eggplants

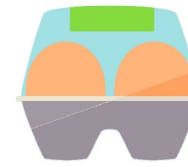
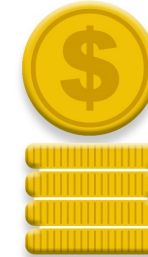


3 items

110 kcal

\$1.24

Chicken legs
Minced beef

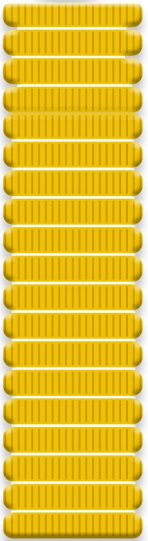


2 item

300 kcal

=

\$3.77
(2017 PPP)



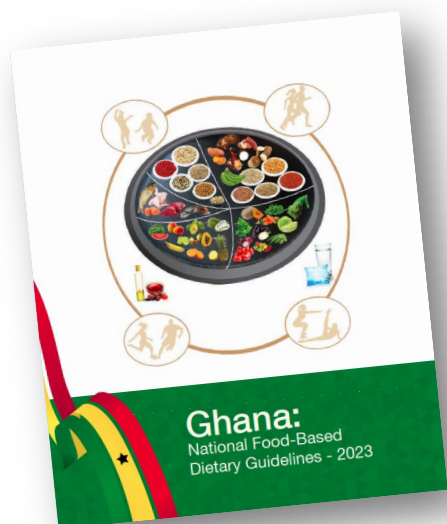
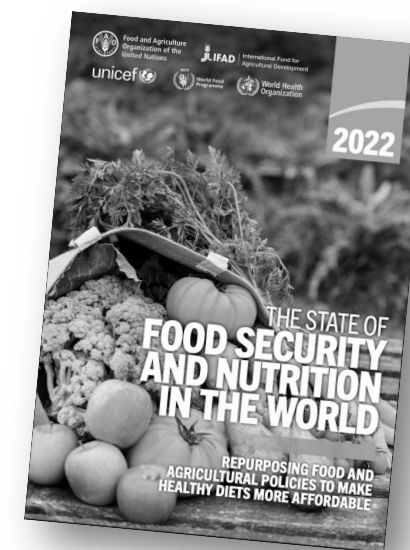
11 items

2330 kcal

Cost of a Healthy Diet can be calculated in two ways

Global monitoring: Healthy Diet Basket

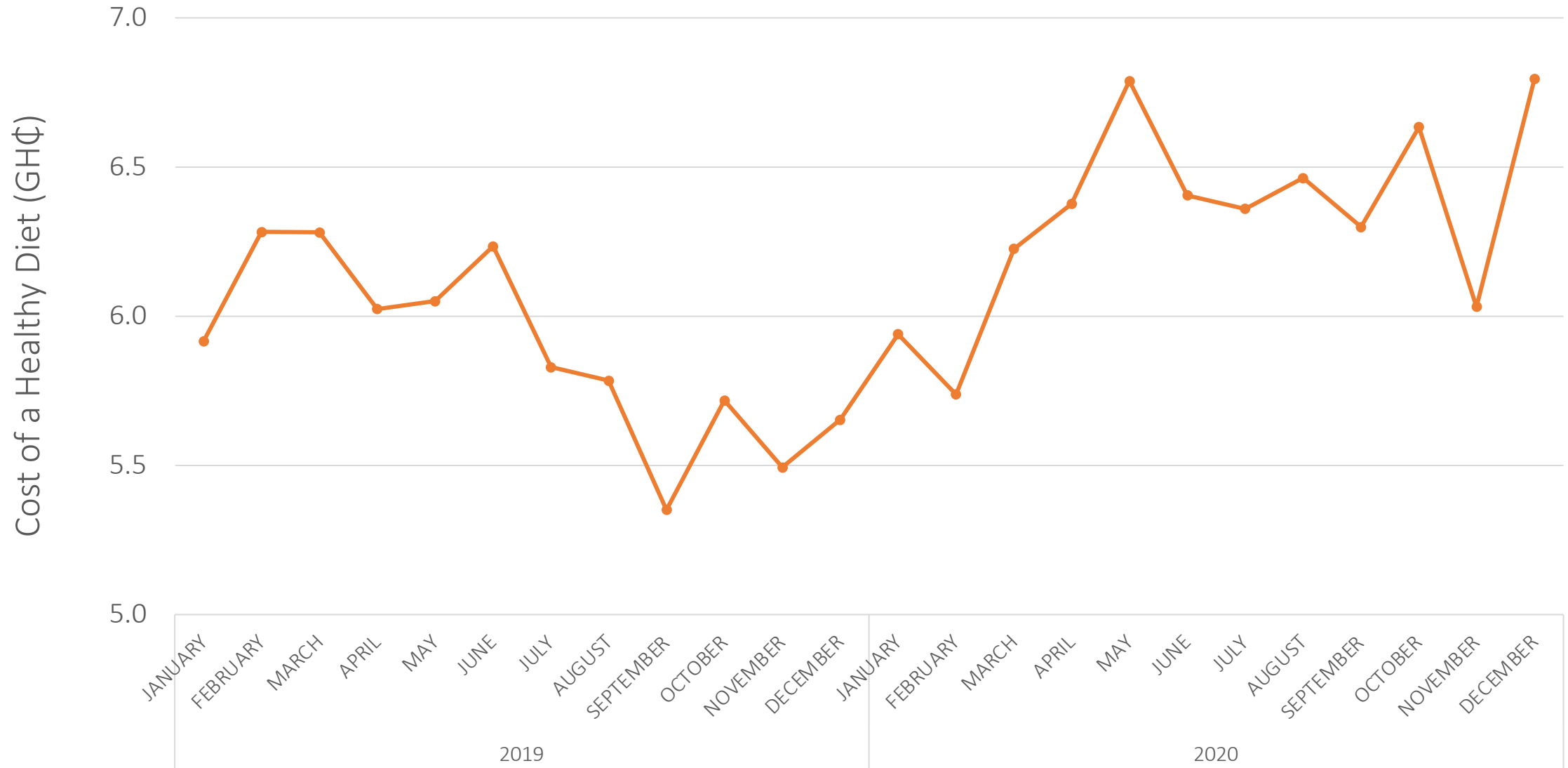
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National monitoring: Ghanaian FBDG

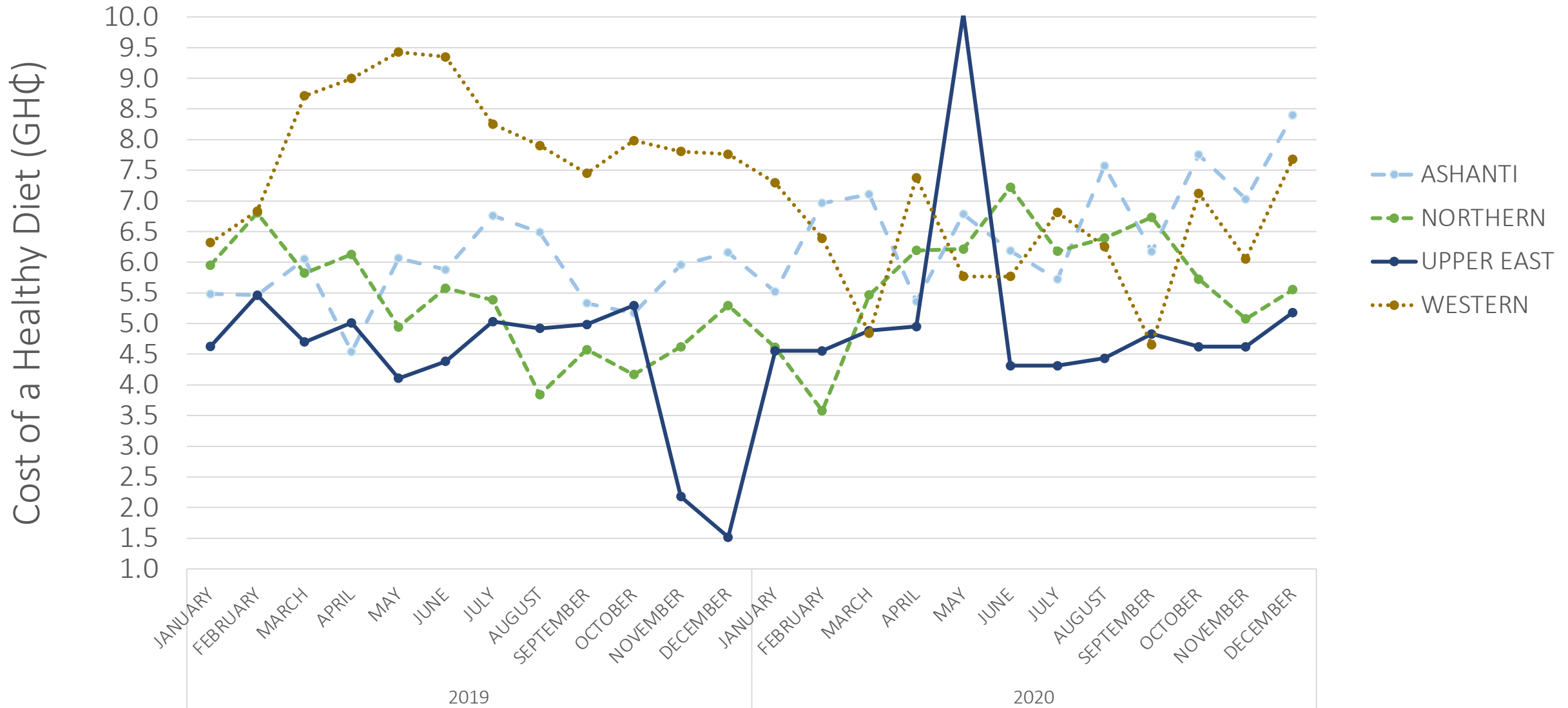
- Official policy standard from national government
- Data source: regional average retail prices from MoFA, monthly

Average Cost of a Healthy Diet in Ghana, 2019-2020

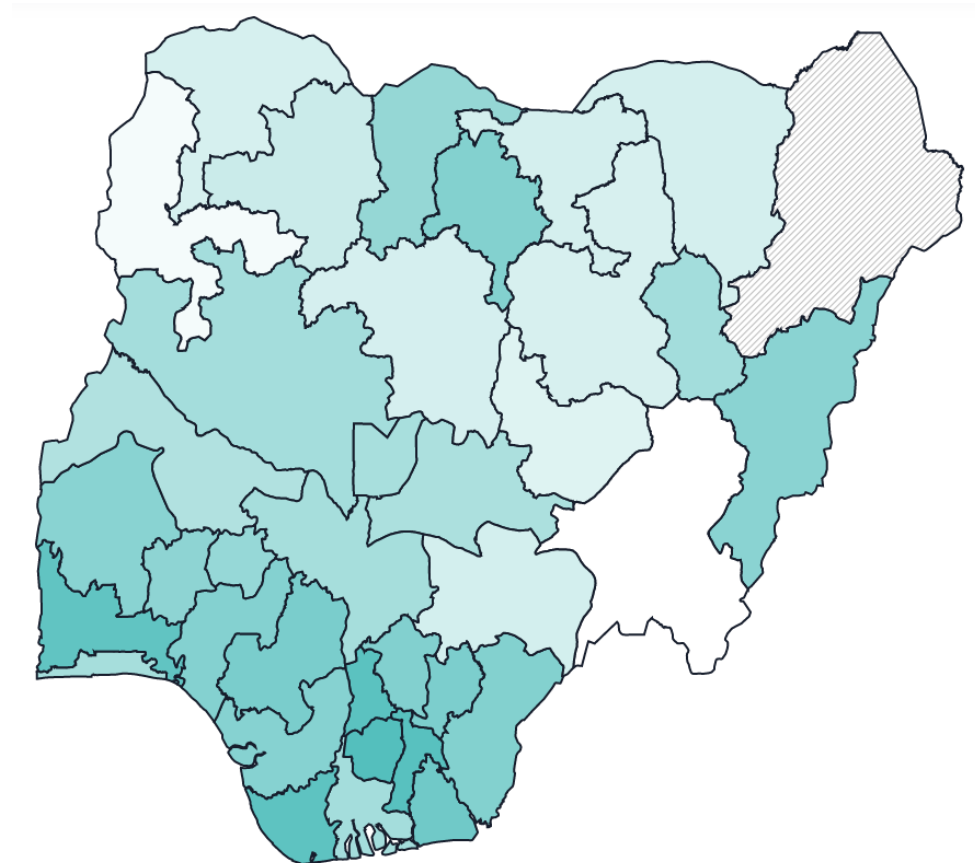
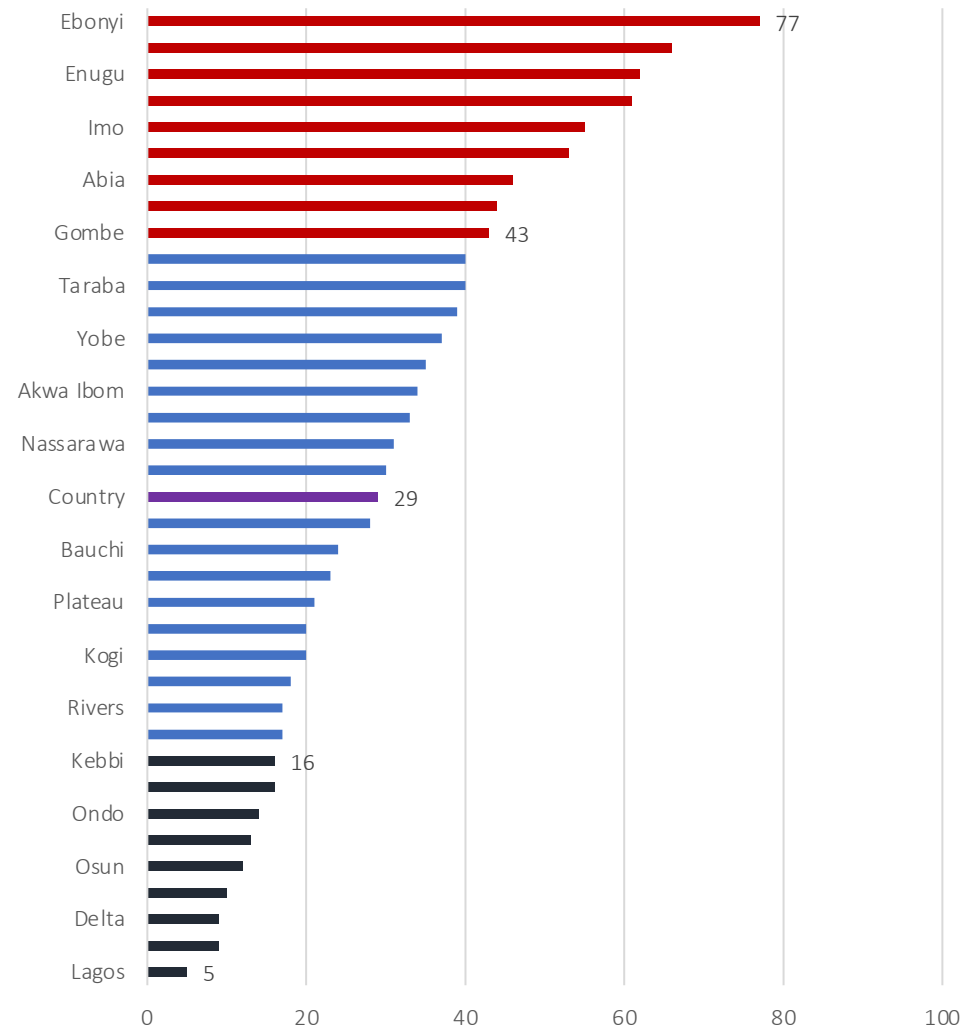


Source: Sienso, 2022.

Regional Cost of a Healthy Diet in Ghana, 2019-2020



Example sub-national results from Nigeria



Source: Mekonnen et al, 2021 (left), Food Systems Dashboard (right).

Healthy Diet Basket & Ghanaian FBDG comparison

Healthy Diet Basket

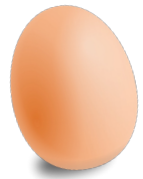
Food Group	# of foods recommended	Calories (kcal/day)
Starchy staples	2	1160
Vegetables	3	110
Fruits	2	160
Animal source foods	2	300
Legumes nuts and seeds	1	300
Oils and fats	1	300
Total	11	2330

Ghana

Food Group	# of foods recommended	Calories (kcal/day)
Starchy staples	2	1191
Vegetables	3	109
Fruits	2	147
Animal source foods	2	243
Legumes nuts and seeds	2	591
Oils and fats	1	50
Discretionary foods*	0	0
Total	12	2330

*Discretionary foods are not recommended, and thus not included in the healthy diet calculation. Instead, a maximum allowable amount is indicated by the Ghana FBDGs.

Cost of a Healthy Diet: Calculation Logic



1 single egg

0.38 GH¢ / single egg

0.044 kg / single egg

=

8.52 GH¢ / kg of egg

Calculate price/kg

8.52 GH¢ / kg of egg

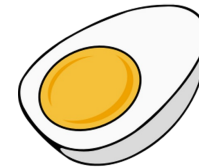
x

1 kg of egg / 0.88 kg edible egg

=

9.69 GH¢ / kg of edible egg

Food Composition Data



Calculate price/kg of edible food

9.69 GH¢ / kg edible egg

x

1 kg edible egg / 1430 kcal

=

0.007 GH¢ / kcal

Food Composition Data

Calculate price/kcal

0.007 GH¢ / kcal

x

Dietary Guidelines

115 kcal / day

=

0.78 GH¢ / day

Calculate cost/day to meet food group recommendation

Review: Steps to calculate

1. Calculate the price per kg for each food
2. Match each food to its food composition
3. Calculate the price per calorie for each food
4. Calculate the cost per day for each food
5. Categorize each food in appropriate food group
6. Select the least-expensive food item(s) per food group
7. Sum the cost per day for all foods

Example least-cost diets

Date	Market Name	Food Group	Item Name	Daily Food Items	Daily kcal Requirement	Daily Cost
1-2016	MKT1	Vegetables	Carrot	1	34	0.16
1-2016	MKT1	Vegetables	Green leaves	1	34	0.27
1-2016	MKT1	Vegetables	Onion	1	34	0.23
1-2016	MKT1	Starchy staples	Maize flour, yello	1	566	0.06
1-2016	MKT1	Starchy staples	Rice, medium	1	566	0.16
1-2016	MKT1	Oils and fats	Palm oil	1	48	0.01
1-2016	MKT1	Legumes nuts and seeds	Beans	1	281	0.16
1-2016	MKT1	Legumes nuts and seeds	Groundnuts, shelled	1	281	0.15
1-2016	MKT1	Fruits	Guava	1	70	0.21
1-2016	MKT1	Fruits	Pineapple	1	70	0.16
1-2016	MKT1	Discretionary foods	Biscuit, cream	1	116	0.05
1-2016	MKT1	Animal source foods	Powdered Skimmed Milk	1	116	0.16
1-2016	MKT1	Animal source foods	Sardines, tin	1	116	0.29
1-2016	MKT1	Total		13	2330	2.07
1-2016	MKT2	Vegetables	Carrot	1	34	0.20
1-2016	MKT2	Vegetables	Onion	1	34	0.10
1-2016	MKT2	Vegetables	Tomato	1	34	0.13
1-2016	MKT2	Starchy staples	Biscuit	1	566	0.16
1-2016	MKT2	Starchy staples	Maize on the cob, fresh	1	566	0.17
1-2016	MKT2	Oils and fats	Groundnut oil	1	48	0.01
1-2016	MKT2	Legumes nuts and seeds	Beans	1	281	0.18
1-2016	MKT2	Legumes nuts and seeds	Groundnuts, shelled	1	281	0.20
1-2016	MKT2	Fruits	Guava	1	70	0.11
1-2016	MKT2	Fruits	Mango, ripe	1	70	0.07
1-2016	MKT2	Discretionary foods	Biscuit, cream	1	116	0.08
1-2016	MKT2	Animal source foods	Powdered Skimmed Milk	1	116	0.23
1-2016	MKT2	Animal source foods	Sardines, dried	1	116	0.27
1-2016	MKT2	Total		13	2330	1.91