

**Ethiopian Public Health Institute**  
**Food Science and Nutrition Research Directorate**  
**Scientific Newsletter**

Implementation of the Ethiopian Food-Based Dietary Guidelines:  
Analysis of cost and affordability of healthy diets, January 2020 - December 2022

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Draft manuscript, last revised July 9, 2023

## **1. Background**

Improving access to healthy diets, including a diversity of foods, is critical for achieving sustainable improvements in nutritional outcomes and reducing diet-related non-communicable diseases, overweight, and obesity. Poor diets have long-lasting consequences, particularly for children and women. The cost of healthy diets may reduce dietary quality, as people with low incomes are sensitive to the higher cost of nutritious foods. Consequently, understanding physical and economic access to healthy diets is important as it determines success in delivering sustainable and healthy diets to all – not only in improving production of diverse, healthy foods, but also in ensuring better availability and affordability (Dizon et al., 2021; Headey et al., 2019; Hirvonen et al., 2017; Hirvonen 2016; Allen and De Brauw 2018).

Several indicators that measure the cost of healthy diets have been developed over the past few years. These indicators can be used, among others, for raising awareness and advocacy about access to these diets; for formulating programs and policies to improve nutrition; designing or evaluating programs and investments in nutrition-sensitive agriculture; and communicating to the public the patterns and trends of the diet costs as well as contents of the healthy diet basket (Dizon et al., 2021; Masters et al., 2018; Cost of Nutritious Diets Consortium, 2018). The indicators discussed in this bulletin are the Cost of a Healthy Diet (CoHD) – the least expensive combination of locally-available items needed for individual health – and the affordability of the CoHD relative to wages. The CoHD is calculated at each time and place, in this case in each woreda and month, using retail food price and wage data collected by the Ethiopian Statistics Service (ESS) from 110 markets/woredas in all regions of Ethiopia (ESS, 2023). The number of markets surveyed in each region is approximately proportional to the region's share of total

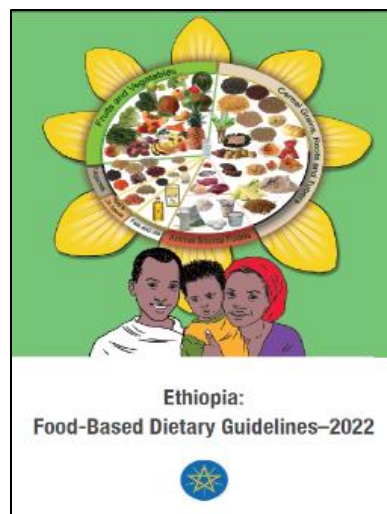
urban population. However, data were not collected from the Tigray Regional State due to the conflict ongoing during the period covered in this bulletin.

## 2. Dietary Recommendations in the Ethiopian Food Based Dietary Guideline

The CoHD is the minimum cost of foods needed to meet daily nutritional goals recommended in Ethiopia’s newly developed food-based dietary guidelines (FBDG) (Herforth et al., 2020).<sup>1</sup> Ethiopia’s FBDG categorizes foods into eight food groups: (1) grains, white roots, and tubers (starchy staples), (2) pulses, (3) nuts and seeds, (4) milk and dairy foods, (5) meat, fish, and eggs, (6) fruits, (7) vegetables, and (8) fats and oils. For calculating least-cost diets, food group recommendations are converted from grams per day to calories per day (see Appendix 1). As Table 1 shows, the hypothetical healthy diet involves a 2,330 total calorie target, just over half of which (55%) should be sourced from grains, white roots and tubers (e.g. potatoes), with the remaining shares derived from a diverse set of nutrient-dense foods. In many respects, Ethiopia’s traditional diets are already comprised of healthy foods and recipes, but a major challenge is to encourage more diversification of the diet into non-staple nutrient-dense foods.

**Table 1. Dietary recommendations in the Ethiopia Food-Based Dietary Guidelines**

| <b>Food Groups</b>          | <b>Number of recommended food items</b> | <b>Calories per day from each food group</b> | <b>Calorie share (%)</b> |
|-----------------------------|---|--|--------------------------|
| Grains, white roots, tubers | 2                                       | 1282   | 55%                      |
| Pulses                      | 1                                       | 188  | 8%                       |
| Nuts and seeds              | 1                                       | 151  | 6%                       |
| Milk and dairy foods        | 1                                       | 185  | 8%                       |
| Meat, fish, and eggs        | 1                                       | 98   | 4%                       |
| Fruits                      | 2                                       | 170  | 7%                       |
| Vegetables                  | 3                                       | 76   | 3%                       |
| Fats and oils               | 1                                       | 180  | 8%                       |
| <b>All food groups</b>      | <b>12</b>                               | <b>2330</b>                                  | <b>100%</b>              |



<sup>1</sup> The Ethiopian FBDG (Ethiopian Public Health Institute, 2022) is an official document of the Ethiopian government developed through consultations of health, nutrition, food, agricultural authorities as well as food and nutrition experts. The document considers agricultural production and food culture of Ethiopians and is an official recommendation of what constitutes a healthy diet in Ethiopia, is composed of food items in eight food groups. EFBDG also provides food recommendations for disaggregated segments of the population (gender, age, and fasting). Adoption of Ethiopia’s FBDG can potentially contribute to the prevention of malnutrition in all its forms, promote human health, and reduce environmental impact.

### 3. Trends in the cost of a Healthy Diet (CoHD)

#### *National results*

Table 2 provides a summary of the real and nominal nationwide averages of CoHD for January 2020 to December 2022 using both annual averages and December values only.<sup>2</sup> Nominal average CoHD rose from 32 Ethiopian birr (ETB) in 2020, to 43 ETB in 2021, to 59 birr in 2022. In other words, without accounting for overall inflation, the average Cost of a Healthy Diet increased more than two-fold over the 36 months covered (Jan. 2020-Dec. 2022).

Adjusting for inflation, real annual CoHD averaged 19.6 birr in 2022, compared to 19.2 birr in 2021 and 18.6 in 2020 (December 2016 prices). There was a 3% and 2% growth in real CoHD in 2021 and 2022, respectively. The average CoHD in December of each year is either about the same or higher than annual average real CoHD. Except for the unusual jump in real CoHD between December 2020 and 2021, changes in real CoHD ranged in the narrow band of -2% and 3%.

**Table 2: Average cost of healthy diet, 2021-2022**

|               | Nominal CoHD<br>(current birr in each year) |      |      | Real CoHD<br>(Dec 2016 = 100) |      |      |
|---------------|---|------|------|-------------------------------|------|------|
|               | 2020  | 2021 | 2022 | 2020                          | 2021 | 2022 |
| Annual        | 32.4  | 42.8 | 59.2 | 18.6                          | 19.2 | 19.6 |
| December only | 33.7  | 49.9 | 68.0 | 18.5                          | 20.0 | 19.9 |

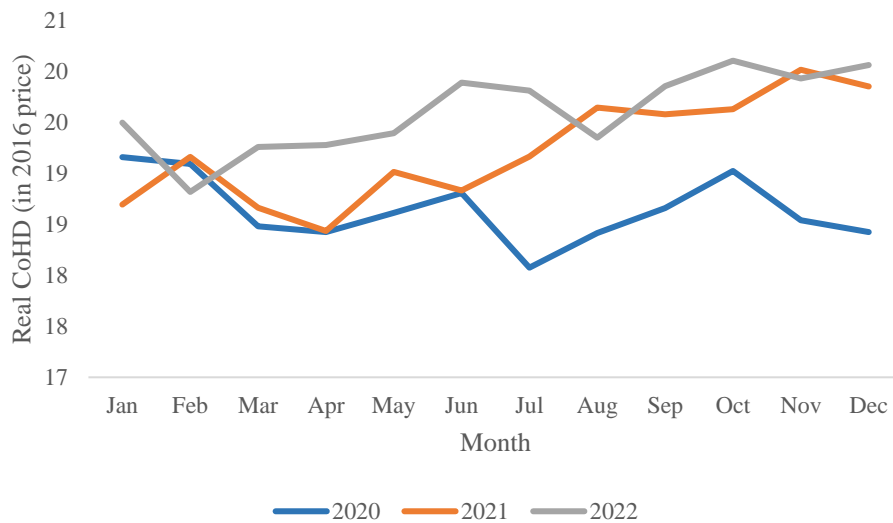
Source: Authors' calculations using Ethiopian Statistics Service monthly retail prices (ESS, 2023a) and total regional consumer price index data (ESS, 2023b). Diet costs are for healthy diets as defined by the Ethiopian food-based dietary guidelines (EPHI, 2022).

Figure 1 shows the trend in average daily real CoHD for all months between 2020 and 2022.

Interestingly, real CoHD costs are relatively similar in January and February of each year, but from April 2021 prices started increasing throughout the remainder of 2021. In 2022, the CoHD was relatively expensive in January, fell in February, and then increased again throughout the year. In most of 2022, the real cost of a healthy diet was 4-6% higher than it was in 2020.

<sup>2</sup> Nominal CoHD provides the value of CoHD in current birr, or it is the cost consumers pay to purchase food at each market-month. Comparison of CoHD over the three-year period is difficult because of the effect of inflation (loosely defined “change in the purchasing power of the birr”). Therefore, we compute real CoHD by deflating nominal CoHD by regional Consumer Price Index (CPI). All remaining discussions about CoHD are in December 2016 birr terms.

**Figure 1: Trends in the real cost of a healthy diet in Ethiopia, 2020-2022 (in 2016 prices)**



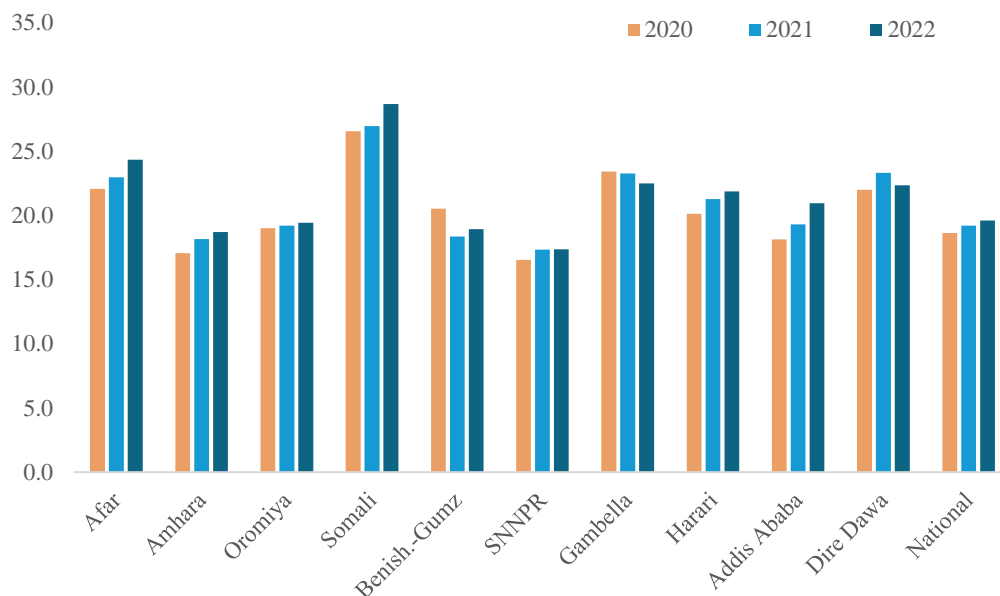
Note: All prices are expressed in December 2016 birr terms. Data were not collected from the Tigray Regional State due to the conflict ongoing during the period covered.

Source: Analyses using ESS monthly retail price and price index data (ESS, 2022a; ESS, 2022b) and the Ethiopian FBDG (EPI, 2022).

### ***Regional results***

Figure 2 depicts the regional annual and December average real CoHDs (December 2016 prices). The figure reveals that there are visible regional disparities in average real cost of healthy diets. Somali region has the highest average real CoHD in all three years, followed by Afar, Dire Dawa and Gambella. The SNNP has the lowest CoHD in all three years and almost all months of December in those years. Amhara is the next low-CoHD region followed by Benishangul-Gumuz and Oromia regions. In general, it appears that more arid and more remote low-density pastoral and agro-pastoral regions have higher diet costs than higher rainfall and more densely populated regions like SNNPR.

**Figure 2. Regional annual average cost of healthy diets (2021/2022)**



Note: CoHD are expressed in December 2016 birr terms. We compute real CoHD by deflating nominal CoHD by regional monthly Consumer Price Index (CPI). Data were not collected from the Tigray Regional State due to the conflict ongoing during the period covered.

Source: Analyses using ESS monthly retail price and price index data (ESS, 2022a; ESS, 2022b) and EFBDG (EPHI, 2022).

#### 4. Affordability of healthy diets

High food prices and low wages or incomes can interact to make healthy diets unaffordable for many, presenting a serious constraint to improved diet quality. Moreover, while healthy diets can become more expensive in nominal terms, whether they become more expensive for the poor depends on whether the poor's income rise more, less or equally to CoHD costs. Hence, in this bulletin, we use the ratio of CoHD to the daily wage of manual laborers as a measure of unaffordability; that is, the share of daily income needed to purchase the least-cost healthy diet in each month and region.<sup>3</sup>

Wage data for unskilled daily laborers is also collected by the Ethiopian Statistics Service each month and is representative of the same areas as the food price data used for the CoHD. The fact that wages of unskilled workers are a good proxy for the incomes of non-farm poor,<sup>4</sup> and that wage data is also collected on the same high frequency monthly basis as the food price data and in the same locations, makes it possible to monitor this affordability metric rigorously and routinely. Of course, wages are only an imperfect income proxy, not an actual measure of income, so the limitations of wage rates should be borne in mind when using them to assess CoHD affordability.<sup>5</sup>

<sup>3</sup> It can be calculated as a ratio of CoHD and income, both expressed in nominal or real terms.

<sup>4</sup> See the following article for justifications on using wages and food prices to monitor food and nutrition security:

<https://www.ifpri.org/publication/food-prices-and-wages-poor-low-cost-high-value-approach-high-frequency-food-security>

<sup>5</sup> First, if wage earners cannot find enough work, then wages earned one day may be all the income earned over the course of multiple days.

Second, these are wages in urban areas, where housing and other non-food costs are higher than in rural areas. Moreover, Third, most laborers are

### *National results on the affordability of healthy diets*

Table 3 provides values of wages in nominal birr and along with COHD *un*affordability (the ratio of CoHD to the daily wage). The nominal daily wage paid for the services of manual laborers increased from an average of 115 ETB in 2020 to nearly 200 ETB in 2022. The increase was rapid during 2021 to 2022, a period of high overall inflation. Nominal wages and growth rates of nominal wages in the month of December are almost always higher than annual averages.

Diets became less affordable in 2021 relative to 2020, but affordability improved somewhat in 2022 due to strong wage growth. On average in 2020, only 31 percent of a manual laborers' daily wage was needed to purchase the least-cost healthy diet. Despite these differences in affordability, the ratio ranged in a narrow band, where the cost of healthy diets was between 30-35% of wages earned. This shows the importance of comparing CoHD to an income proxy, as wages and incomes can change relatively quickly along with overall price changes in an economy.

**Table 3: Nominal wages (birr) and the ratio of CoHD to the wage rate: 2020-2022**

|          | Nominal wages (current birr) |       |       | CoHD to wage ratio (%)<br>(% of daily wage) |      |      |
|----------|------------------------------|-------|-------|---|------|------|
|          | 2020                         | 2021  | 2022  | 2020  | 2021 | 2022 |
| Annual   | 115.1                        | 140.5 | 198.4 | 31%   | 34%  | 32%  |
| December | 125.1                        | 159.3 | 239.8 | 30%   | 35%  | 31%  |

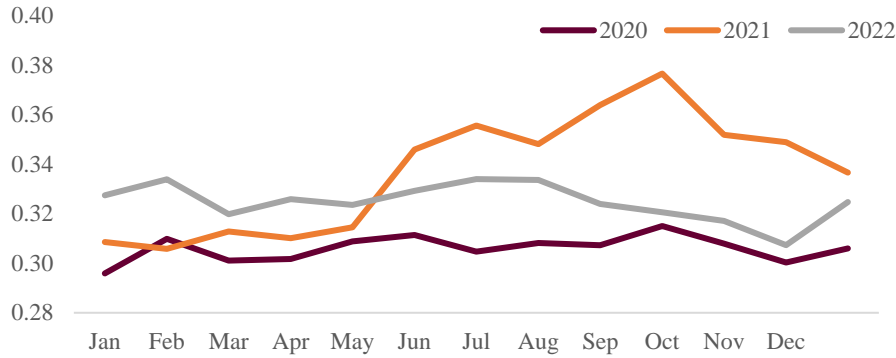
Source: Analyses using ESS monthly retail price (ESS, 2022a) and EFBDG (EPHI, 2022) data.

Figure 3 shows the affordability ratio across all months of the three years considered in this bulletin. Affordability in all months of 2020 was better than those in 2022, which is consistent with the discussion above. Similarly, healthy diets were much more affordable in most months of 2020 compared to 2021, and diet costs relative to wage rates rose particularly steeply from June-October 2021 before declining thereafter. Consequently, overall, 2021 was a year when healthy diets were least affordable, although the monthly data in Figure 3 illustrate the value of having a high-frequency healthy diet affordability metric.

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migrants from rural areas, implying there exists a large army of rural residents clustered around these wages. See the study referenced in the previous footnote for more discussion.

**Figure 3: Trends of affordability (CoHD to wage, ratio)**

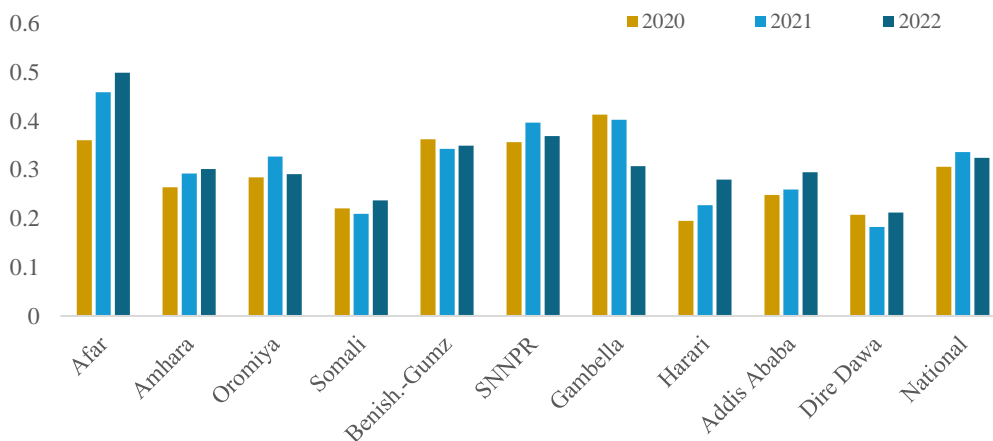


Note: Data were not collected from the Tigray Regional State due to the conflict ongoing during the period covered.  
 Source: Analyses using ESS monthly retail price (ESS, 2022a) and EFBDG (EPHI, 2022) data.

**Regional results**

Figure 4 shows annual average affordability of the healthy diet (CoHD-wage ratios) across regions. The main takeaway from Figure 4 is there are differences in levels of CoHD unaffordability across regions, but also differences in trends. In 2022, healthy diets were least affordable in Afar, where a healthy diet costs 50% of the daily wage, up from 36% in 2020. Relative to wages, healthy diets were also relatively expensive in SNNPR (despite nominal diet costs being low there), but lower than were in 2021. In contrast, Somali region is second best (lowest) in affordability despite CoHD being the highest in nominal terms, because average wages in Somali region are the highest in all years. Similarly, healthy diets are also more affordable in Dire Dawa. However, we see diverse trends across states and regions, with rising CoHD-wage ratios over 2020-2022 in Afar, Amhara, Harar and Addis Ababa, but falling ratios in Oromia, SNNPR, and Gambella.

**Figure 4: Regional annual average affordability (CoHD to wage ratio)**



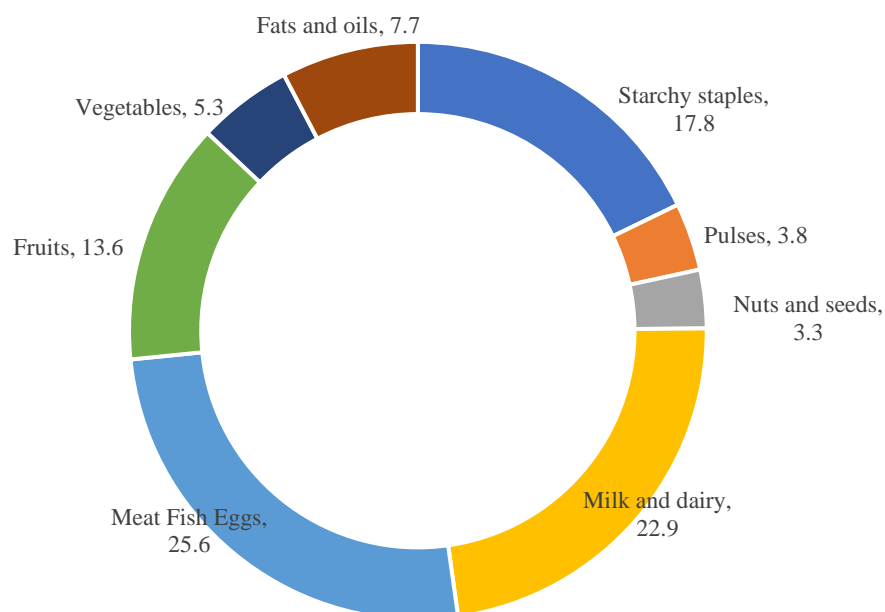
Note: Data were not collected from the Tigray Regional State due to the conflict ongoing during the period covered.  
 Source: Analyses using ESS monthly retail price (ESS, 2022a) and EFBDG (EPHI, 2022) data.

## 5. Cost share of food groups in least-cost diets

The cost share of each food groups within the total Cost of a Healthy Diet provides important information for policymakers and the reader, highlighting areas for interventions to reduce food costs or increase their affordability. Figure 5 provides a summary of the share of food groups in total CoHD for the three years covered in the bulletin. We focus on the results for 2022 because the summary for the three years has the same qualitative implication. Despite relatively low-calorie shares in the CoHD (Table 1), the meat, fish, and eggs (MFE) food group accounted for about a quarter of the CoHD in 2022. This is slightly higher than the average share of the food group during the period and is consistent with the increase in MFE share by 5% between the first and last years of the period covered. Milk and dairy also account for around 23% of CoHD costs across all years. These results are consistent with the stagnant animal-source foods productivity observed in recent decades in Ethiopia and the need to significantly boost livestock productivity (Bachewe & Tadesse, 2019; Minten et al, 2020)

Despite accounting for 55% of recommended calorie intake, the cost of starchy staples relative to the total CoHD cost is typically around 17%. The changes in the real cost share of fruits observed during the period is considerable, reaching 14.7% in 2022. Vegetables account for 5-6% of total costs, pulses 4%, nuts and seeds 3%. Oils and fats accounted for just 6.3% in 2020, but this rose to 7.7% in 2021 with the booming cost of palm oil in 2021, before falling back to 7% in 2022.

**Figure 5. Cost share of food groups in Cost of a Healthy Diet (%) 2022)**



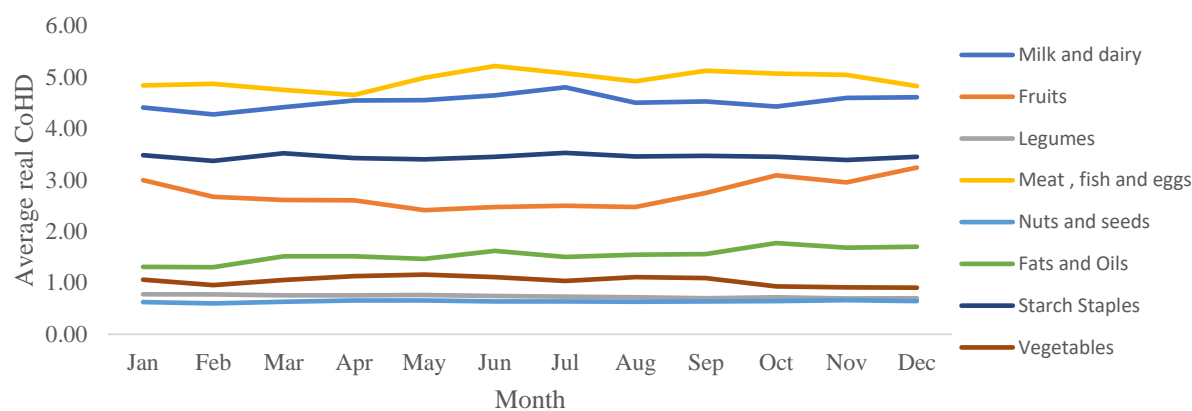
Source: Analyses using ESS monthly retail price and price index data (ESS, 2022a; ESS, 2022b) and EFBDG (EPHI, 2022).



### Trends in CoHD by food group

Figure 6 shows the trend in average daily real CoHD for all months in 2022 by food group. Real cost of most of the foods groups remained level throughout the year 2022. Fruit cost slightly increased between August to October. Cost of meat, fish and eggs declined from February to March then rose from April to June. This is highly associated with fasting season and religious events (Bachewe et al, 2017)

**Figure 6: Trends in average Real CoHD by food group, 2022**



Note: CoHD are expressed in December 2016 birr terms. Data were not collected from the Tigray Regional State due to the conflict ongoing during the period covered.

Source: Analyses using ESS monthly retail price and price index data (ESS, 2022a; ESS, 2022b) and EFBDG (EPHI, 2022).

## 6. Frequently selected least-cost items by food group

Given that the least-cost diet can differ in terms of the items selected in each food group in each time and place, it is useful to identify which items are most commonly selected as least-cost items within their food group. Table 4 presents the most selected items within each food group in 2022. Appendix Table 2 lists these items for seven regions/groups of regions while the discussion below highlights on some of these results as well as nationwide not shown in the table.

**Table 4: Frequently selected least cost items by food group in 2022**

| Food group  | Items      | % of least-cost diet baskets in 2022 in which item is selected |
|---|------------|--|
| Grains, white roots, and tubers (starchy staples) | Maize      | 48%  |
|   | Sorghum    | 30%  |
|   | Wheat      | 6%   |
| Pulses  | Beans      | 68%  |
|   | Chickpeas  | 14%  |
|   | Vetch      | 14%  |
| Nuts and seeds                                    | Niger seed | 76%  |
|   | Sunflower  | 8%   |
|   | Linseed    | 7%   |
| Milk and dairy foods                              | Milk       | 79%  |
|   | Cheese     | 14%  |
|   | Yoghurt    | 8%   |

|                     |             |     |
|---------------------|-------------|-----|
| Meat, fish and eggs | Eggs        | 90% |
|                     | Camel meat  | 5%  |
|                     | Fish        | 3%  |
| Fruits              | Avocado     | 42% |
|                     | Dates       | 28% |
|                     | Banana      | 24% |
| Vegetables          | Beet roots  | 33% |
|                     | Onions      | 22% |
|                     | Cabbages    | 22% |
| Oils and fats       | Cooking oil | 79% |
|                     | Fats        | 21% |

Source: Analyses using ESS monthly retail price and price index data (ESS, 2022a; ESS, 2022b) and EFBDG (EPHI, 2022). Notes: Percentages are based on food basket per each food group, estimated at national level. Appendix Table 2 lists these items for seven regions/groups of regions while the discussion below highlights on some of these results as well as nationwide not shown in the table. Data were not collected from the Tigray Regional State due to the conflict ongoing during the period covered.

Milk is most important in the dairy food group for all regions. Eggs are most important in MFE food group of all regions except Harari and Dire Dawa, where camel meat is slightly more frequently selected. Beetroots are the most frequently selected vegetables in all regions while onions are most frequently selected in 5 of the 7 regions. Dates and avocado alternate as most frequently selected fruits in 5 of the 7 regions while in the remaining two regions avocado and banana alternate as most frequently selected, consequently making avocado the most frequently selected item in fruits. Oils (largely imported palm oil) was the most frequently selected item in 5 of the 7 regions/groups excluding Oromia and Afar and Somali, where fats (butter) was overwhelmingly frequently selected.

#### *Implication/Key takeaways*

- The main takeaway of this bulletin is to encourage Ethiopians to transition to healthier and more balanced diets and point the items that constitute these diets in each locality
- Re-emphasizing that affordability is a major barrier to improving healthy diets in Ethiopia, but that data on food prices and wages can help monitor the total cost and affordability of healthy diets, but also the costs of particular food groups and even individual food items.
- It is hoped that the information presented in this and forthcoming bulletins will raise awareness among policymakers, researchers, NGOs and other stakeholders, and the public on the imports of healthy diets, of the cost constraints to reaching healthy diets, and the potential for policy and programmatic actions to address these barriers.

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## **Appendix 1**

To quantify the Ethiopian food-based dietary guidelines for monitoring the cost and composition of healthy diets, reference food items from each of these eight food groups were chosen after considering their average intake, contribution to the overall target energy, and healthier nutritional profiles. In addition, the Healthy Diet Basket was used to calculate the quantity of reference items required per day from each food group.

The recommended daily energy intake for reference foods is taken from the ranges of recommendations taking into account how much of the total target energy each food contributes. The Ethiopian FBDGs were also used to determine the energy per serving of these reference items (in Kcal) and their corresponding quantity/volume. This energy value is multiplied by the recommended number of servings (per day) to provide a least-cost healthy diet in energy balance and scaled to meet the target of 2,330 kcal/day. This energy was calculated based on the requirements of a 30-year-old woman who fasts intermittently; which is also the energy needs of an average individual in the population globally (Bai, Herforth, & Masters, 2022).

**Appendix Table 1. Quantification of Ethiopian food-based dietary guidelines for monitoring the cost and composition of healthy diets**

| Food Groups                     | Food group recommendations                          |   | Example items to allow substitution within energy balance |  |   |   | Proportion of total calories | Sum total by food group for CoHD scaled to 2330 (kcal/day) |
|---------------------------------|---|---|---|--|---|---|------------------------------|--|
|                                 | Number of items needed per day from each food group | Recommended intake for 19-64 years (intermittent fasting) | Reference foods for food group quantification             | Energy density of example item as purchased (kcal/g) | Mean amount recommended of reference food (g/day) | Energy per item as purchased (kcal/day) |                              |  |
| Grains, white roots, and tubers | 2   | 600 (500-800)   | White rice, dry   | 3.60   | 650   | 845                                     | 0.55                         | 1282   |
|                                 |   |   | Injera  | 1.30   |   |   |                              |  |
| Pulses                          | 1   | 90 (90-120)   | Bean  | 3.41   | 120   | 124                                     | 0.08                         | 188  |
|                                 |   |   | Cooked 'Shiro'  | 1.03   |   |   |                              |  |
| Nuts and seeds                  | 1   | 15 (10–20)  | Peanut  | 5.84   | 18  | 99                                      | 0.06                         | 151  |
| Milk and dairy foods            | 1   | 250 (0–400)   | Fluid whole milk  | 0.61   | 200   | 122                                     | 0.08                         | 185  |
| Meat, Fish and Eggs             | 1   | 40 (0-90)   | Egg   | 1.43   | 45  | 64                                      | 0.04                         | 98   |
| Fruits                          | 2   | 150 (100-200)   | Banana or mango   | 0.75   | 150   | 112                                     | 0.07                         | 170  |
| Vegetables                      | 3   | 130 (100–150)   | Kale (Ethiopian)  | 0.40   | 125   | 50                                      | 0.03                         | 76   |
| Fats and oils                   | 1   | 15 (10–17)  | Oil   | 8.84   | 14  | 119                                     | 0.08                         | 181  |
| <b>All food groups</b>          | <b>12</b>   | <b>1265 (930-1538)</b>                                    |   |  |   | <b>1536</b>                             | <b>1.00</b>                  | <b>2330</b>  |

**Note:** Column J shows scaled energy in kcals/day to meet the target 2330 kcal/day. This energy is the energy need of an average individual in the population globally (Bai, Herforth, & Masters, 2022).

**Appendix Table 2: Frequently selected least-cost items by food group and region, 2022**

| 2022                            |              |           |              |           |              |             |              |               |              |                         |              |                    |            |           |
|---------------------------------|--------------|-----------|--------------|-----------|--------------|-------------|--------------|---------------|--------------|-------------------------|--------------|--------------------|------------|-----------|
| Amhara                          |              | Oromia    |              | SNNP      |              | Addis Ababa |              | Afar & Somali |              | Benish.-Gumz & Gambella |              | Harari & Dire Dawa |            |           |
| Food group                      | Food name    | Share (%) | Food name    | Share (%) | Food name    | Share (%)   | Food name    | Share (%)     | Food name    | Share (%)               | Food name    | Share (%)          | Food name  | Share (%) |
| Grains, white roots, and tubers | Maize        | 50.0      | Maize        | 47.6      | Maize        | 45.5        | Maize        | 50.0          | Maize        | 48.2                    | Maize        | 48.9               | Maize      | 48.6      |
|                                 | Sorghum      | 19.7      | Sorghum      | 41.3      | Sorghum      | 30.3        | Sorghum      | 45.1          | Sorghum      | 34.2                    | Sorghum      | 32.1               | Sorghum    | 45.8      |
|                                 | Millet       | 13.9      | Wheat        | 6.3       | Wheat        | 7.1         | Wheat        | 1.4           | Wheat        | 9.0                     | Millet       | 11.1               | Wheat      | 2.8       |
|                                 | Wheat        | 6.7       | Barley       | 2.4       | Sweet potato | 4.1         | Barley       | 1.4           | Barley       | 4.1                     | Barley       | 2.6                | Millet     | 1.4       |
|                                 | Barley       | 5.8       | Sweet potato | 1.6       | Millet       | 3.6         | Rice, ...    | 0.7           | Teff         | 3.2                     | Teff         | 2.1                | Barley     | 1.4       |
| Pulses                          | Bean         | 52.4      | Chickpeas    | 41.3      | Bean         | 87.2        | Chickpeas    | 48.6          | Bean         | 40.5                    | Bean         | 80.0               | Bean       | 58.3      |
|                                 | Vetch        | 31.7      | Bean         | 33.3      | Chickpeas    | 4.9         | Bean         | 38.9          | Chickpeas    | 35.1                    | Vetch        | 9.5                | Chickpeas  | 30.6      |
|                                 | Chickpeas    | 14.9      | Peas         | 19.0      | Vetch        | 4.1         | Vetch        | 9.7           | Peas         | 11.7                    | Peas         | 7.4                | Peas       | 11.1      |
|                                 | Peas         | 1.0       | Vetch        | 3.2       | Peas         | 3.6         | Peas         | 2.8           | Vetch        | 10.8                    | Chickpeas    | 3.2                |            |           |
|                                 |              |           | Mixed Pulses | 3.2       | Mixed Pulses | 0.3         |              |               | Mixed Pulses | 1.8                     |              |                    |            |           |
| Nuts and seeds                  | Niger seed   | 88.9      | Sunflower    | 28.9      | Niger seed   | 69.5        | Niger seed   | 100.0         | Niger seed   | 39.1                    | Niger seed   | 51.1               | Niger seed | 66.7      |
|                                 | Sunflower    | 5.8       | Linseed      | 26.7      | Linseed      | 12.3        |              |               | Sunflower    | 29.3                    | Sesame       | 22.2               | Sunflower  | 30.6      |
|                                 | Ground nuts  | 4.3       | Ground nuts  | 24.4      | Ground nuts  | 7.8         |              |               | Linseed      | 17.4                    | Ground nuts  | 14.4               | Linseed    | 2.8       |
|                                 | Sesame       | 1.0       | Niger seed   | 20.0      | Sunflower    | 7.6         |              |               | Ground nuts  | 13.0                    | Sunflower    | 12.2               |            |           |
|                                 |              |           |              |           | Sesame       | 2.8         |              |               | Sesame       | 1.1                     |              |                    |            |           |
| Milk and dairy foods            | Milk         | 87.9      | Milk         | 100.0     | Milk         | 65.2        | Milk         | 98.6          | Milk         | 83.8                    | Milk         | 83.7               | Milk       | 100.0     |
|                                 | Yoghurt      | 10.1      |              |           | Cheese       | 22.4        | Yoghurt      | 1.4           | Yoghurt      | 16.2                    | Cheese       | 15.2               |            |           |
| Meat, Fish and Eggs             | Egg          | 98.6      | Egg          | 49.2      | Egg          | 96.4        | Egg          | 75.0          | Egg          | 61.3                    | Egg          | 96.8               | Camel Meat | 52.8      |
|                                 | Pork         | 1.4       | Camel Meat   | 39.7      | Fish         | 3.3         | Fish         | 16.7          | Camel Meat   | 27.0                    | Beef         | 3.2                | Egg        | 47.2      |
|                                 |              |           | Fish         | 11.1      | Beef         | 0.3         | Pork         | 8.3           | Fish         | 10.8                    |              |                    |            |           |
|                                 |              |           |              |           |              |             |              |               | Beef         | 0.9                     |              |                    |            |           |
| Fruits                          | Avocado      | 40.2      | Dates(fresh) | 46.0      | Avocado      | 47.6        | Avocado      | 50.0          | Dates        | 46.4                    | Banana       | 41.5               | Dates      | 50.0      |
|                                 | Dates(fresh) | 39.3      | Avocado      | 31.0      | Banana       | 29.1        | Dates(fresh) | 30.6          | Avocado      | 35.1                    | Avocado      | 29.0               | Avocado    | 50.0      |
|                                 | Banana       | 16.9      | Banana       | 20.6      | Dates(fresh) | 15.1        | Banana       | 19.4          | Banana       | 16.7                    | Dates(fresh) | 12.5               |            |           |

|               |           |      |           |       |           |      |           |        |           |        |              |      |           |      |
|---------------|-----------|------|-----------|-------|-----------|------|-----------|--------|-----------|--------|--------------|------|-----------|------|
|               | Orange    | 1.2  | Mango     | 2.4   | Mango     | 3.6  |           | Mango  | 1.4       | Mango  | 7.4          |      |           |      |
|               | Papaya    | 1.0  |           |       | Pineapple | 2.4  |           | Orange | 0.5       | Papaya | 5.7          |      |           |      |
| Vegetables    | Beet root | 33.2 | Beet root | 31.7  | Beet root | 32.3 | Beet root | 33.3   | Beet root | 32.4   | Beet root    | 32.3 | Beet root | 33.3 |
|               | Onion     | 24.4 | Onion     | 28.0  | Cabbage   | 22.3 | Onion     | 31.0   | Onion     | 30.3   | Onion        | 30.2 | Pumpkin   | 24.1 |
|               | Cabbage   | 23.6 | Cabbage   | 13.8  | Onion     | 14.9 | Cabbage   | 21.3   | Cabbage   | 18.3   | Cabbage      | 16.5 | Cabbage   | 22.2 |
|               | Pumpkin   | 11.2 | Carrot    | 9.0   | Pumpkin   | 12.7 | Pumpkin   | 6.0    | Carrot    | 5.1    | Pumpkin      | 15.1 | Onion     | 15.7 |
|               | Spinach   | 4.2  | Pumpkin   | 5.3   | Shiferaw  | 9.7  | Tomatoes  | 4.6    | Pumpkin   | 3.9    | Pepper green | 3.2  | Spinach   | 2.8  |
| Fats and oils | Oil       | 85.6 | Fat       | 100.0 | Oil       | 86.3 | Oil       | 97.2   | Fat       | 85.1   | Oil          | 86.7 | Oil       | 72.2 |
|               | Fat       | 14.4 |           |       | Fat       | 13.7 | Fat       | 2.8    | Oil       | 14.9   | Fat          | 13.3 | Fat       | 27.8 |

Source: Analyses using ESS monthly retail price and price index data (ESS, 2022a; ESS, 2022b) and EFBGD (EPHI, 2022). Data were not collected from the Tigray Regional State due to the conflict ongoing during the period covered.