ETHIOPIA

Explaining Market Trends in Ethiopia

Ethiopia JMMI (September 2021-May 2023)

May 2023

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REACH Informing more effective humanitarian action

About REACH

REACH facilitates the development of information tools and products that enhance the capacity of aid actors to make evidence-based decisions in emergency, recovery and development contexts. The methodologies used by REACH include primary data collection and in-depth analysis, and all activities are conducted through inter-agency aid coordination mechanisms. REACH is a joint initiative of IMPACT Initiatives, ACTED and the United Nations Institute for Training and Research - Operational Satellite Applications Programme (UNITAR-UNOSAT). For more information, please visit our website. You can contact us directly at: geneva@reach-initiative.org and follow us on Twitter @REACH_info.

Summary

Since 2020, the Ethiopian economy has been suffering from the effects of both conflict and nature induced hazards. Specifically, global market disruptions, particularly stemming from the war in Ukraine, have had a significant impact on the economy. Additionally, drought, conflict in northern Ethiopia and instability in Oromia in the last three years forced millions to leave their villages behind. With 4.7 million Internally Displaced Persons (IDPs), the country topped the list of countries with the largest number of IDPs in October 2022.[1] The number of people in need of food assistance increased from 8.4 million[2] in 2020, to 20.1 million in 2022. This increase is the result of the of destruction of livelihoods and reduced sources of income stemming from both national[3] and international factors.[4] Over the past three years, the involvement of aid organizations has become increasingly necessary to provide essential services for individuals and families affected by conflict and economic instability.

Aiming to provide information for evidence based humanitarian decision making, REACH Initiative joined the Ethiopian humanitarian sphere in 2021. Since September 2021, REACH has been implementing the Joint Market Monitoring Initiative (JMMI) with the Collaborative Cash Delivery (CCD) and has continued to support the widely practiced cash-based intervention through member organizations. The JMMI has been funded by the European Union Delegation in Ethiopia throughout the reporting period. Standardized Key Informant Interview (KII) questionnaires were put in place to collect data from vendors operating in different market sites. CCD members collect three prices per item in their respective woredas.[5] REACH analyses data, prepares factsheets and disseminates findings monthly to the donor and partner organizations. This report has

[1] CCCM Cluster, CCM Cluster Operational Map (Addis Ababa 2023).
[2] OCHA, Ethiopia Humanitarian Needs Overview 2020 (Addis Ababa 2020).
[3] WFP, Ethiopia Country Brief (Addis Ababa 2023)
[4] B. Yohannes, One Year Later the Impact of the Russian Conflict with Ukraine on Africa, UN Africa Renewal, 13 February 2023.
[5] Woreda is the third administrative tier in Ethiopia.

been prepared to explain the major trends in the JMMI between September 2021 and May 2023. In addition, a supply chain analysis and Route Mapping[6] exercise has also been integrated in this report.

Key findings

This report presents the monthly findings of the JMMI from September 2021 to May 2023, and includes relevant secondary sources. The findings show that the prices of both food and non-food items have seen large increases, at both regional and national levels. The JMMI basket median cost has been increasing nationally since September 2021, while regional medians experienced variations at different time intervals. Among all the assessed regions, Somali region showed the highest JMMI basket median cost in most of the assessment periods. Internal conflict, drought, currency depreciation[7] and the global political and economic instability[8] were the major driving factors for the price rise reported regionally and nationally.

[6] REACH Initiative, Ethiopia supply chain analysis and route mapping (Addis Ababa 2022).
[7] WFP, Eastern Africa Market and Trade Update - 2022 Q4 (Nairobi 2023).
[8] WFP, Ethiopia Market Watch (Addis Ababa 2022).

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List of Figures, Tables and Maps

List of Acronyms

CCD: Collaborative Cash Delivery
CPI: Consumer Price Index
CVA: Cash and Voucher Assistance
ECWG: Ethiopian Cash Working Group
ESS: Ethiopian Statistics Service
ETB: Ethiopian Birr
FAO: Food and Agriculture Organization
FEWS NET: Famine Early Warning Systems Network
FPSF: Fuel Price Stabilisation Fund
IDP: Internally Displaced Person
JMMI: Joint Market Monitoring Initiative
KI: Key Informant
KII: Key Informant Interview
SCA: Supply Chain Analysis
SNNP: South Nations and Nationalities People
USD: United States Dollar
WFP: World Food Programme

Geographical Classifications

Region: The highest form of governance next to the national level
Zone: The second tire of governance
Woreda: The third tire of governance

1. Introduction

Ethiopia has been suffering from the effects of recurrent drought, invasion of desert locust swarms, the COVID-19 pandemic, and internal conflicts over the past three years. As of October 2022, the number of IDPs exceeded 4.7 million people, with conflict and drought found to be the major drivers.[9] Moreover, instability of the global economy, particularly the effects of political embargoes among different countries and the war in Ukraine, has put pressure on many sectors, reduced the supply of food and non-food items, and contributed to accelerating inflation in most countries globally, including Ethiopia.

All the aforementioned factors have had significant effect on markets nationwide and created a need for a Joint Market Monitoring Initiative (JMMI) with dedicated analytical capacity that can produce regular market data, including robust data on changes in market functionality, in order to meet the information needs of the Ethiopia humanitarian response. However, there was no specific entity or organization that was delivering systematic and harmonized monitoring before REACH Initiative joined the Ethiopian humanitarian sphere in 2021. While some cash and market assessments were being conducted, the geographical coverage was limited to urban centres. Considering this gap, REACH Initiative's Cash unit started operating in Ethiopia with the intention of combining the efforts of humanitarian actors to expanded coverage through increased operational coordination and improve the timeliness of information dissemination.

The aim of the Ethiopia JMMI is to provide regular and reliable information on prices and market functionality using harmonized tools and validated analysis. The JMMI is a joint exercise funded by EuropeAid and led by REACH in close collaboration with Ethiopia's Collaborative Cash Delivery (CCD) network members. Partner organizations

[9] WFP, Ethiopia – Country Brief (Addis Ababa 2023).

supported the research process by collecting data within their operational areas and sending the data to REACH, while REACH is responsible for the coordination of field implementation, data management, and analysis. More specifically, the JMMI aims to collaboratively develop an evidence base for the wider use of cash and voucher assistance (CVA), as well as facilitate discussions of changes in critical market dynamics, which are an integral part of cash feasibility considerations. Therefore, REACH has been delivering monthly market information to partners and other organizations to better inform decision making of partners and other organizations. Accordingly, this report is prepared to explain the major price trends of JMMI data collected from September 2021 to May 2023, and includes supporting evidence provided by reports from other organizations and media outlets. Secondary sources are used to explain price trends and regional variations observed in the primary data.

This report is comprised of six major sections including introduction, methodology, findings and conclusion. The methodology section gives a clear description about the approach, methods and techniques applied to conduct each assessment. Macroeconomic factors are also presented under section three, the factors are believed to have potential effects on markets. The overall JMMI trends and results from the Supply Chain Analysis (SCA), conducted in 2022, are presented in the fourth and fifth sections, respectively.

2. METHODOLOGY

2.1 Ethiopia JMMI basket contents (September 2021-May 2023)

The JMMI basket is a selection of food and hygiene items that represents core monthly expenditures incurred by an average Ethiopian household (6 persons) in a month (see annex 1). It is designed to incorporate a different set of four staple crops in each region in order to reflect consumption patterns. Thus, regional consumption patterns were used as a basis for determining the items in regional baskets. In February 2022, some improvements were made in the JMMI basket including adding camel meat, onions, potatoes, tomatoes, egg, bath soap and laundry soap into the list. Despite these improvements, the current basket cannot be considered as a full basket by itself because it does not reflect the full spectrum of regular household expenditures in Ethiopia. The items selected in JMMI are not representative of all clusters, as they are only chosen from the food and WASH clusters. It can, however, be tracked over time to provide an indicative picture of how household financial burdens are evolving.

2.2 Geographical Scope

The report covers the regions that have been assessed by the JMMI from September 2021 until May 2023. The geographical coverage of the JMMI depends on the access of CCD members in priority areas in the country and their ability to collect data from these areas consistently. The JMMI Taskforce[10] determines these priority areas based on a combination of the locations with the greatest number of persons of concern and those with the greatest presence of humanitarian actors. The JMMI has been expanding gradually, reaching 11 regions in August 2022 (Map 1). All regions have been covered

[10] The JMMI Taskforce is composed of those CCD member organizations that wish to contribute to the Ethiopia JMMI, and co-led by REACH and the CCD leadership. Each participating organization's representatives was self-selected depending on the organization's available technical skills, interest, and staff capacity. CCD members participating in the taskforce have the responsibility to contribute to the JMMI data collection on a monthly basis from at least one location.

except Tigray (due to security reasons) and Southwest (no partner organisation had presence in this region).

Map 1: JMMI regional coverage (August 2022)

2.3 Sampling Strategy

For the JMMI, a woreda's largest urban marketplace(s) devoted to retail (i.e., no markets solely devoted to wholesalers, etc.) is/are prioritized for data collection, with expansion to rural areas depending on the availability of contributing partners. Field teams aim to collect a minimum of three prices per assessed item per assessed woreda. Aiming to mitigate overlaps occurring during data collection, REACH identifies the interest areas of partners prior to data collection, and ensures that only one partner collects data in a particular market site (see annex 1).

2.4 Data Collection Methods

Data collected from the JMMI is supported by and triangulated with secondary sources. The JMMI data was collected in the form of individual informant interviews, with retailers in target markets serving as the key informants (KIs). Secondary data was collected through desk review of news articles from local and international media outlets, as well as through reports from World Bank (WB), World Food Programme (WFP), Ethiopian Statistics Service (ESS), Food and Agriculture Organization (FAO), The Famine Early Warning Systems Network (FEWS NET) Ethiopia and other relevant sources. Media reports are mainly used to contextualise market and economic developments and link them to broader events in the conflicts, Ethiopian politics, or national and global economic trends. Moreover, the data collected from those secondary sources focused on uncovering macroeconomic trends in the country.

2.5 Data Analysis

After each round of data collection, REACH implemented a data cleaning and analysis process. The cleaning process followed IMPACT's Data Cleaning Minimum Standards Checklist and involved removing outliers and improperly encoded data. Additionally, this process was used to verify if the three price criteria were met, identify variations within different locations, assess month-to-month price changes, and ensure the legitimacy of the collected data.

Once the data was cleaned, a standardized quantitative approach was applied to analyse the data collected from marketplaces across the country. Trader-level data was aggregated at the woreda level and then at the regional and national levels. The median was used as the measurement tool for determining results at the woreda level, followed by the application of the median of the medians for aggregation at the regional and national levels (See annex 1).

2.6 Limitations and challenges

The JMMI has been successful in terms of helping humanitarian actors to make informed decision on their Cash and Voucher Assistance, however, with the following challenges faced during its implementation.

- The first challenge was the inconsistency in the number of regions covered in the different months. Partners were not able to cover certain regions consistently due to security access and due to the internal logistical constraints of some partner organisations. REACH always strives for consistency of the coverage areas, however in some cases it becomes impossible due to partners capacity and external factors.
- The second challenge was related to the number of items assessed. The JMMI methodology specifies that three prices are collected per commodity, per woreda. However, sometimes this is not maintained due to availability of vendors and logistical constraints in the field. We acknowledge that all findings are indicative and not statistically generalisable at any level.

3. Macroeconomic Conditions

This literature section defines and discusses national and global events that have put the Ethiopian macroeconomy under pressure. At the national level, drought, the removal of oil subsidies, and conflict are major factors. Internationally, the war in Ukraine and global price hikes also impose burdens on the Ethiopian economy. Data from secondary sources was used to compile these factors.

3.1 Drought[11]

Ethiopia has continued to face recurrent droughts in recent years. The drought persisted for six consecutive seasons[12] and impacted about 8.1 million people in pastoralist areas of southern and southeastern portions of Ethiopia: 3.5 million people in Somali; 3.4 million people in Oromia; 1.1 million people in SNNP; and 200,000 people in Southwest regions. By July 2022, the number of people requiring food assistance had grown to more than 7 million.[13] Early 2023, the number of people in need of food assistance in drought affected areas alone has topped 11.8 million.[14] This drought is recognised as being the worst drought in 25 years[15] and has affected overall agricultural productivity including crop failure and death of animals, which in return has decreased food availability and increased the prices of staple foods and related items. Water reserves in drought-affected areas have also been depleted and creating a greater demand for irrigation water for farmers and drinking water for households, which has caused the price of water to soar by more than 60%.[16]

[11] While some regions in Ethiopia were experiencing drought, the impact of heavy rain caused floods and infrastructural damages in the northern, southern and western parts of the country. It is predicted that humanitarian needs will persist in 2023 due to insecurity and ongoing climate shocks related to the drought.
[12] D. Endeshaw, "In southern Ethiopia, drought kills livestock amid fears of what comes next", Reuters, 06 April 2023.
[13] OCHA, Ethiopia – Situation Report (Addis Ababa 2022).
[14] WFP, Regional Drought Response Plan for the Horn of Africa: 2023 (Nairobi 2023).
[15] IFRC, Ethiopia - Hunger Crisis - Emergency Appeal No: MDRET027 (Addis Ababa 2022).
[16] Ibid.

In addition, over 6.85 million livestock have died[17] in drought-affected areas of Somali, Oromia and SNNP regions between September 2021 and February 2023. Those animals that have survived are in poor bodily condition, which decreases their strength and productivity and dropped their market price. This has reduced the Terms of Trade (ToT)[18] in pastoralist areas for livestock. In March 2022, for example, goats in Gode market located in Somali region showed a 65% reduction in terms of value compared to March 2020.[19]

The situation sometimes forced households to engage in unsustainable livelihood coping strategies and to enter into resource-induced conflicts. Households tried to cope with limited resources by reducing food consumption, limiting adults' intake for the sake of children, reducing their number of daily meals, and putting their children into the workforce or into early marriage.[20] The number of children and pregnant and lactating women suffering from malnutrition has increased since the end of 2021, with 19% of children and 32% of pregnant and lactating women found to be malnourished in March 2022.[21] The number of children admitted to health facilities for acute malnutrition increased by over 30,000 in 2022 compared to annual admittance rates recorded in 2021.[22] Drought exposed households have become vulnerable for several transmittable and non-transmittable diseases including cholera, measles and malaria. Of the total number of measles cases reported in the country, 87% were registered in drought affected areas in 2022.[23]

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[17] OCHA, ETHIOPIA - Drought Situation Update #1 (Addis Ababa 2023).
[18] In this context, ToT is the ratio between the price of items sold and price of items bought by households. ToT decreases if the household has to sell more items to get the same amount they used to buy with less money before the drought.
[19] FEWS NET, Ethiopia Food Security Alert (Addis Ababa 2022).
[20] UNFPA, Protecting women and girls affected by conflict and drought in Ethiopia (2023).
[21] IFRC, Ethiopia - Hunger Crisis - Emergency Appeal No: MDRET027 (Addis Ababa 2022).
[22] OCHA, Ethiopia Drought Update No. 4 (Addis Ababa 2022).
[23] WHO African Region, Delivering health services to Ethiopia's drought-affected populations (Addis Ababa 2023).

Conflict also occurred while households moved to neighbouring areas in search of water and rangelands.[24] Since the pastoralists in Ethiopia are mostly organized in clans, the movement of one clan to areas controlled by others in search of water and/or grazing land can trigger conflict between clans, as the clan originally occupying the area fears running out of resources and being dominated by people outside of their clan.

As a response strategy, humanitarian organisations requested $31 million to provide emergency support for about 2 million people in Afar, Oromia, Somali and SNNP regions. The funding is mainly proposed to provide food and nutritional support to the increasing number of severely malnourished children and pregnant and breastfeeding women in drought affected areas.[25]

3.2 Conflict

Northern Ethiopia Conflict

In November 2020, a conflict that took place between armed actors in the northern part of Ethiopia displaced millions and claimed the lives of thousands.[26] This war added humanitarian crises to the already deteriorating macroeconomic situation and affected the lives of millions either directly or indirectly. The conflict directly affected three regions (Afar, Amhara and Tigray regions) and harmed the agricultural productivity in the northern part of the country where livelihoods mostly depend upon agricultural activities. Its effect in Tigray could not be clearly calculated in terms of money due to a lack of data and severe limits on humanitarian access, however, the number of IDPs in Tigray was estimated to be 1.8 million[27] in July 2022. The conflict restricted distribution of agricultural inputs and distracted agricultural activities even for those who did not

[24] IFRC, Ethiopia - Hunger Crisis - Emergency Appeal No: MDRET027 (Addis Ababa 2022).
[25] UNICEF, Prolonged drought pushing families in Ethiopia to the brink (Addis Ababa 2022).
[26] BBC, "Ethiopia's Tigray war: The short, medium and long story", BBC, 29 June 2021.
[27] UNHCR, Protection Cluster, Report on protection assessment for IDPs in host community in Shire (Addis Ababa 2022).

leave their villages. Consequently, only 26.6% of the farmland in Tigray was cultivated during the conflict.[28] The Amhara regional government claimed that agricultural facilities amounting to more than 300 billion Ethiopian birr (ETB) [29] were destroyed during the conflict. However, no comparable estimates were found for the impact of the conflict on agricultural activities in Afar. The conflict flared several times and created multifaceted humanitarian catastrophe in those regions, occurring under the shadow of perpetual drought affecting most East African countries.[30]

As of December 2022, 12.2 million people needed humanitarian assistance in conflict affected areas of Tigray, Amhara and Afar regions of northern Ethiopia.[31] As is common in armed confrontations, women and children became primary victims of the conflict. When looking at food insecurity of children below the age of five, 19% in Amhara, 14% in Afar and 33% in Tigray were found to be food insecure.[32] Out of 173,000 children and women that were screened in Tigray, Amhara and Afar regions, more than 61,000 were found to be suffering from acute malnutrition.[33] By end of November 2021, across all the three regions, more than 2.7 million school aged children were out of school because the conflict completely or partially damaged approximately six thousand schools and many were used as IDP sites.[34] Humanitarian actors resume to actively involve in delivering assistances to Tigray and neighbouring regions following the peace agreement held in Johannesburg in November 2022.[35]

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28 GEOGLAM, Northern Ethiopia: Conflict and Food Insecurity (2022).
29 UN, UN Operational Rates of Exchange (2022).
30 IOM, IOM Appeals for USD 21.1M to Provide Shelter for Internally Displaced in Northern Ethiopia (Addis Ababa 2021).
31 WFP, Northern Ethiopia Emergency Response Situation Report #09 (Addis Ababa 2022).
32 WHO, Northern Ethiopia facing devastating spike in preventable disease (2022).
33 IMC, Ethiopia – Tigray Region Humanitarian Update Situation Report #19 (2021).
34 UNICEF, Crisis grips families in northern Ethiopia (2021).
35 South west and Tigray regions were not assessed due to access constraints and no presence of data collection partners.

Conflict in Oromia

The situation in Oromia region intensified from time to time with protracted confrontations between armed groups. Civilians have lost their lives and livelihoods, and hundreds of thousands have been displaced and some are living in areas where basic services are not functioning at all.[36] While the conflict in Tigray received considerable international media coverage, the on-going conflicts in Oromia were less frequently reported outside of Ethiopia. The situation has somewhat deteriorated in the northern and western parts of Oromia region while its bordering areas with Amhara region have been engulfed by repeated clashes between armed groups from both sides .[37] In December 2022 alone, 58 battles and violence related events and 246 fatalities were registered in Oromia.[38] Escaping from the hostilities in Oromia region, hundreds of thousands of people fled to Amhara region. Oromia region borders 9 of the 11 regions in the country and insurgencies have been recorded in nearly all border areas.[39] Additionally, the conflict destroyed infrastructures and blocked roads to and from some parts of Oromia.[40] Humanitarian assistance and market activities have become hampered due to the destruction of infrastructures, which impedes trade and movement of commodities from place to place within the region and to other regions which have direct or indirect commercial interaction with vendors from Oromia region.

3.3 Lifting of Fuel Subsidies

In 2001, the Ethiopian government introduced a fuel price stabilisation fund (FPSF) under proclamation No. 247/2001, which aimed to stabilise local markets for all types of fuel that had been continuously affected by volatile global prices. The policy dictated

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[36] AllAfrica, "Ethiopia: Severe Shortage of Humanitarian Needs Amid Surging Number of IDPs in Debre Berhan, Amhara Region", AllAfrica, 28 March 2023.
[37] P. Kleinfeld, "As violence subsides in Tigray, Ethiopia's Oromia conflict flares", The New Humanitarian, 12 January 2023.
[38] EPO, EPO December 2022 monthly: conflict expands in Oromia region, (Addis Ababa 2023).
[39] AFP, "Ethiopia's Other War: The Shadowy Oromia Conflict", Barron's, 22 November 2022.
[40] OCHA, Ethiopia - Situation Report (Addis Ababa 2022).

that changes in the price of fuel in the global market should not affect the price in Ethiopia; rather, the difference would be subsidised by the FPSF in order to stabilise the local market. The proclamation stated that the cost would be covered by the money gained during the decreases in fuel price in the international market, as well as by donations obtained from foreign sources.[41]

However, the Ministry of Trade and Regional Integration has been lifting fuel subsidy progressively starting from July 2022 with 30% (benzene) and 40% (diesel) of removal from the total subsidy for reasons attributed to the global fuel price spike, depletion of the fuel price stabilisation fund and cross-border fuel contraband markets.[42] After the second round of lifting came into effect in September 2022, benzene prices increased by 19% and diesel prices by 22%.[43] Following the January 2023 revision, benzene retail prices went up by 7% while diesel became 12% higher than its prices before the third revision.[44] Another adjustment was made in April 2023, resulting in a rise of at least 5% in the prices of petroleum products, excluding jet fuel.[45] The government spent tens of billions of ETB each year to maintain this subsidy, and the fuel subsidy revision in September 2022 decreased the government spending from 10 to 4 billion ETB.[46] However, the government still partially subsidises public transport providers to lessen the impact a total removal would have on economically vulnerable households who most frequently rely on public transports.

The increase in fuel prices affects commodity transport costs across sectors.[47] The subsidy lift has affected fuel prices in the country, triggering further price hikes for food and non-food items, as well as house rent, mass transit services, utility bills, medical

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[41] FDRE, Fuel Price Stabilization Fund Establishment Proclamation No. 247/2001, Federal Negarit Gazeta (Addis Ababa 2001).
[42] The Reporter, "Easing pain of fuel price hike", The Reporter, 11 December 2021.
[43] WFP, Ethiopia Market Watch (Addis Ababa 2022).
[44] WFP, Ethiopia Market Watch (Addis Ababa 2023).
[45] Ethiopian Monitor, "Ministry adjusts fuel prices, again", Ethiopian Monitor, 02 May 2023.
[46] ENA, "Fuel subsidy revision pushes down monthly gov't loss from 10 to 4 billion birr", ENA, 18 November 2022.
[47] The Reporter, "Easing pain of fuel price hike", The Reporter, 11 December 2021.

expenses, tuition fees, etc. These cumulative price increases are much higher than the increase in income levels, which are usually not adjusted to match; this has put additional pressure on socioeconomically vulnerable households who often do not have financial means to pay the increased prices for goods and services.

The removal of fuel subsidies has affected oil companies too, as they need to have the financial resources to fill the gap left by lifting the subsidy. The 75% removal of the subsidy by mid-2023 means companies need to increase their financial capital by the same rate. This implies that fuel supply may potentially be compromised if the companies do not have the capacity to obtain cash quickly enough to adapt to the reduced subsidy rates.[48] Companies' inability to adapt hampers transportation of commodities from production sites to consumers, constrains the supply of commodities in markets, and contributes to skyrocketing prices. Meanwhile, it is likely that fuel supply shortage due to budget gap would affect overall market activities.

3.4 Inflation

The factors mentioned above, including drought, conflict, the lifting of fuel subsidies, and the domestic market for some core goods being controlled by limited number of suppliers, resulted in an accelerated inflation rate in Ethiopia.[49] Moreover, local manufacturers could not make full use of their potential due to scarcity of inputs affected by the conflict in northern Ethiopia. For example, sesame is among the major export commodities of Ethiopia, and one-third of the country's sesame-producing areas are located in northern Ethiopia. This crop is considered as the highly valued crop and earmarked for export which accounted for 10% of the total export revenue in 2021.[50]

[48] S. Bogale, "Fuel price increase troubles fuel dealers, oil companies", The Reporter, 9 July 2022.
[49] Addis Standard, "Analysis: As rising prices, inflation grip Ethiopia, government to open up retail sector to foreign companies", Addis Standard, 9 March 2022.
[50] S. Bogale, "Edible oil oily prices no respite for consumers", Addis Fortune, 12 March 2022.

Reduction of foreign exchange gained through export of items like sesame caused overall shortage of foreign currency, which in turn increased black market money exchanges and limited the import of key agricultural materials.

According to Ethiopian Statistical Service report, month-on-month inflation showed an upward trend for all the months covered (Figure 1). The highest inflation rate was 40% which was recorded on food items and had been observed in the consecutive four months from May 2022 to August 2022. This period corresponds to the main rainy season for the majority of regions in Ethiopia and the inflation could be associated with the destruction of supply chain and lower productivity associated with heavy rain.[51]

The war in Ukraine triggered inflation, not only in Ethiopia, but around the world. Its impact is widely noticed on fuel costs, agricultural inputs, agricultural products, and construction materials.[52] The northern Ethiopia conflict which erupted in November 2020 also played a significant part in these price hikes, as they hampered agricultural activities and supply chains. The outbreak of COVID-19 also led to increased public expenditure, external debt, and led to various macroeconomic instability including inflation.[53] These issues, together with the other issues outlined previously, affected the Ethiopian macroeconomy, creating price instability and accelerating inflation rates throughout the assessment period.

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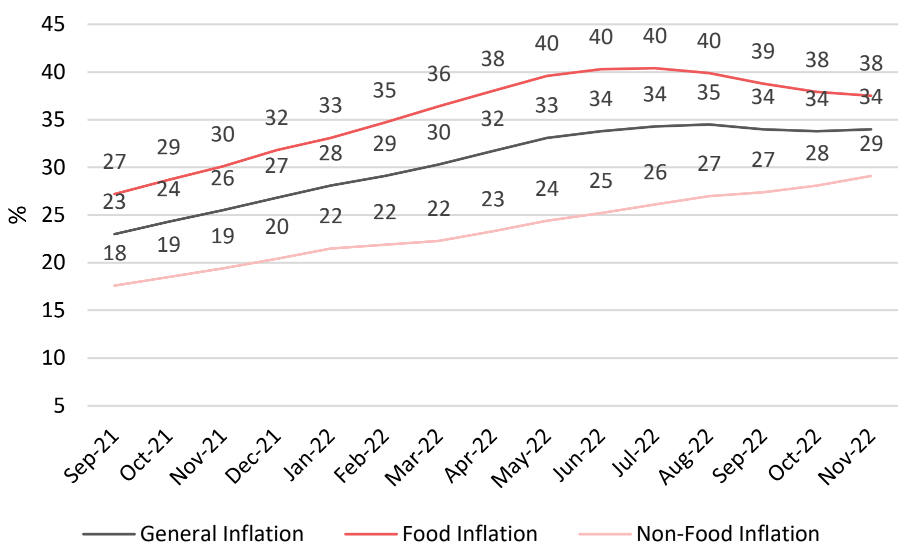
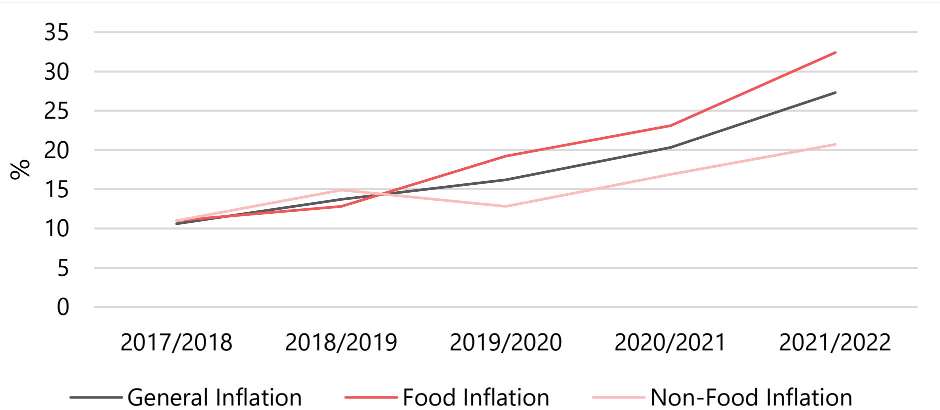
[51] UNICEF, Ethiopia Humanitarian Situation Report No. 8 (Addis Ababa 2022).
[52] S. Tamru & T. Makonnen, Impact of the Russia-Ukraine war on Ethiopia, International Growth Centre (Addis Ababa 2022).
[53] A. Geda, The Macroeconomic and Social Impact of COVID-19 in Ethiopia in the Global Context, UNCTAD (Addis Ababa 2021).

Figure 1: Month-on-month inflation rate between September 2021 and Nov 2022



The national year-on-year inflation trend, from 2017/2018 to 2021/2022, shows a consistently increasing rate, except the downward trend experienced on non-food items in 2019/2020 (Figure 2). In general, inflation for non-food item prices remained relatively low, peaking in November 2022, except for sanitary pads, for which the median price almost doubled since September 2021. In 2021/2022, all categories experienced the highest rates over the five-year period. From 2018/2019, food items inflation remained at the top of all.

Figure 2: Year-on-year inflation rate from 2018 to 2022



4. JMMI Findings

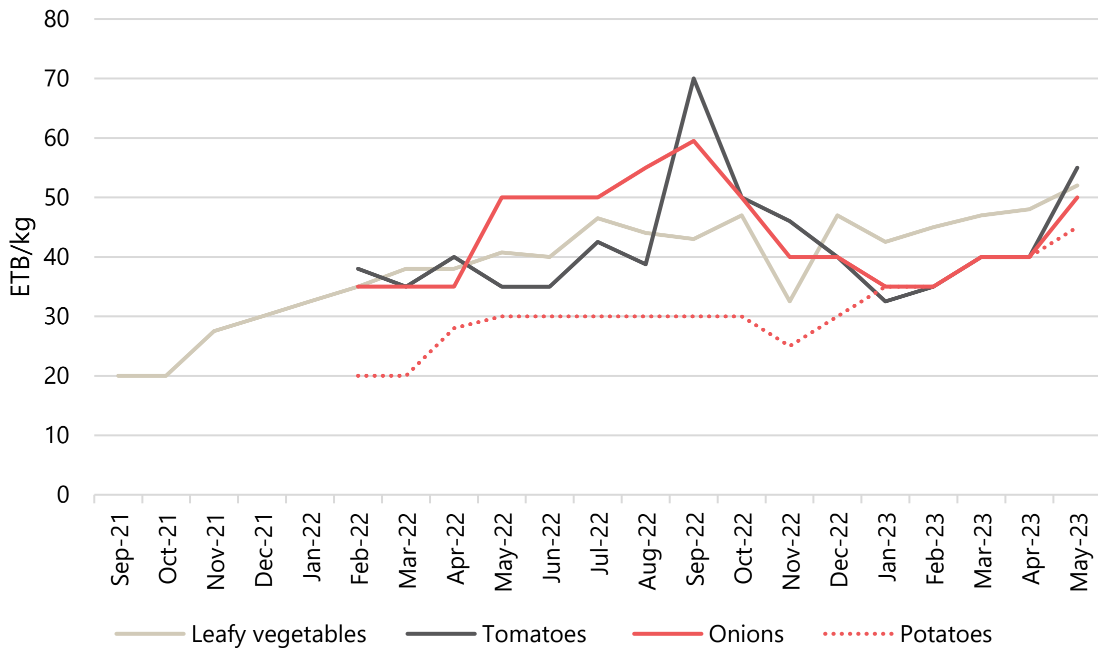
4.1 Trends of JMMI food and non-food items

This section provides overview of the JMMI items assessed from September 2021 until May 2023. It covers vegetables, cooking oil, meat products and staple crops.

4.1.1 Vegetable prices

Prices for vegetables have experienced recurring fluctuation throughout the assessment period. For instance, the median price of tomatoes peaked at ETB 70 in September 2022, which is a 54% increase from August. While the rise from February to December 2022 was only 5% for the tomato median price, it masked significant volatility over the course of 2022, including a sudden price spike in September (Figure 3). From October to December 2022, the median price of tomatoes decreased by 43% from its peak in September. This fall was probably due to high production and excess supply of vegetable items following the main Ethiopian rainy season (starting in June and ending in September). Tomato price consistently increased between January 2023 and May 2023, the season before the main rainy season.

Figure 3: Vegetable price trends (ETB/kg)[54]



The price of potatoes remained relatively stable until October 2022. Potatoes are the cheapest vegetable assessed in the JMMI, however there has been a significant price increase of 50% between October 2022 and May 2023, with the price reaching ETB45. A slight fall had been noticed on all vegetable prices in November 2022 which was likely linked with the high production volume of vegetables in this month.

Onion prices also showed several ups and downs, reaching their peak during May 2022 and October 2022 due to the holiday season[55] in Ethiopia, as onion is used as a main ingredient in many holiday dishes.[56] In May 2023, the price of green leafy vegetables was ETB51, which was a 160% increase from the median price in September 2021. The

[54] In February 2022 REACH made adjustment to the JMMI basket and included tomatoes, onions and potatoes.
[55] Ethiopians celebrated Easter on April 24 and Eid al-Fitre on May 03, 2022. Furthermore, the Ethiopian New Year and Meskel (finding of the true cross) were also celebrated on September 11 and September 27, 2022, respectively.
[56] S. Mengesha, "Looming inflation dims holiday season, consumers' confidence takes a back seat", The Reporter, 23 April 2022.

median prices have shown a steady increase continuously throughout the assessment period with a 30% decrease only recorded in November 2022.

4.1.2 Cooking oil and meat products

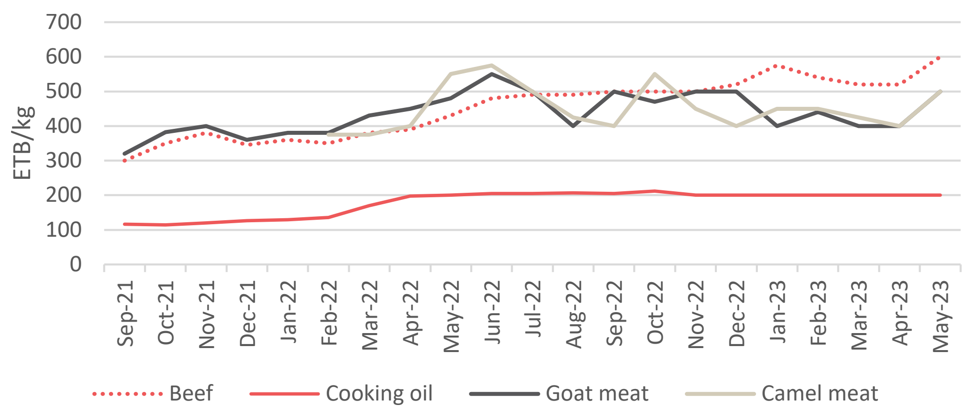
The highest increase in the median price of cooking oil was observed between February 2022 and April 2022 (46%) (Figure 4). Other sources reported an increase as high as 69% in edible oil prices the first week of March 2022; the price that used to buy a five-litre bottle of oil would now only buy a three-litre bottle of oil, in just a week time.[57] The JMMI captured part of this fluctuation in the assessments conducted in April 2022. Cooking oil price remained stable but high, between April 2022 and May 2023. The prices increase observed in cooking oil was linked with the war in Ukraine, because Ukraine and Russia were the major sources of cooking oil and raw materials used to produce cooking oil. This indicates that the war disrupted the supply chain of cooking oil on a global stage and largely affected import-dependent countries, like Ethiopia. In 2021, five large-scale oil plants started producing cooking oil in the country. However, the local companies cannot realise their full capacity due to various challenges including poor electrical infrastructure, shortage of raw materials, and high degree of dependence on imported oilseeds and crude oil to be further processed locally.[58]

Beef and goat meat prices also increased by 100% and 56% respectively between September 2021 and May 2023[59], with the prices reaching ETB600 and ETB500(Figure 4). Fasting practices and religious festivities strongly influence the price of beef and goat meat in Ethiopia. The increasing demand for meat products during the Easter and Eid holidays, between April 2022 and June 2022, together with shrinking supply, created a market gap and initiated upward price changes. Additionally, the widespread drought

[57] Addis Standard, "Business: Ethiopia procures cooking oil worth $70 m from Golden Africa Company in Djibouti to stabilize market", Addis Standard, 04 January 2023.
[58] S. Bogale, "Edible oil oily prices no respite for consumers", Addis Fortune, 12 March 2022.
[59] New year is celebrated in September and Christmas in January of every year.

that affected pastoralists in the southern and north-eastern parts of the country hampered the supply of beef and goat.

Figure 4: Meat products and cooking oil price trend (ETB/kg)



Camel meat is typically consumed in regions that experience drought, mainly in Somali region, so the JMMI assessed the price of camel meat in Somali region. The highest price for camel meat was recorded at ETB575 in June 2022, up 53% from the median price recorded in February 2022. The rise observed in camel meat could primarily be attributed to the on-going drought, caused by five consecutive failed rainy seasons.[60] Additionally, poor livestock body conditions led to reduced birth rate of livestock, between the typical birthing time of March to May, annually.[61]

4.2 Staple crop prices

Ethiopia produces the major cereals consumed in the country, i.e., maize, teff, wheat, barley, sorghum and enset. The country uses imported wheat to fulfil the demand that cannot be satisfied through domestic production. Rice is another cereal that has been largely imported from other countries. Different cereal prices were monitored in

[60] OCHA, Ethiopia: Drought Situation Update #1 (Addis Ababa 2023).
[61] FEWS NET, Ethiopia Food Security Outlook Update (Addis Ababa 2022).

different regions based on the consumption pattern of the areas. The price trends of each item are discussed below.

Maize is the most productive crop in Ethiopia and the second in terms of production coverage, next to teff. Maize is widely consumed in all regions of Ethiopia; therefore, maize prices were assessed in all regions where the JMMI was administered. Maize had the lowest price from all assessed cereals during the assessment periods, with exceptions in few months (Figure 5). The highest price of maize was recorded at 40 ETB/kg in May 2023. Similar to other cereal commodities the increase in price of maize could be attributed to all the factors discussed above.

The other most important cereal in Ethiopia is teff. It is native to Ethiopia, teff is widely harvested and is a staple ingredient in the daily meals in many households across the country, except in Somali region, where it is less commonly consumed. Ethiopia produces about 90% of the global teff harvest each year. Locally consumed teff products are domestically grown, mostly in highland areas of the country.[62] The price of teff was highest in May 2023 with 75 ETB/kg, amounting to a 50% increase compared to the median price in September 2022. However, the price was relatively stable throughout the assessment periods as a whole. The price stability of teff could be linked with its high volume of production and small multiplier effect of foreign currencies and global market incidents. However, it cannot escape the impact of fuel subsidy removal, which impacted local transportation price, like other staple crops.

Wheat is a major cereal that is consumed in most parts of the country. Wheat price was assessed in all regions except in Afar, SNNP and Sidama. Wheat is mostly imported from Ukraine and Russia. In 2021, the overall cereal import accounted for 11% of the total value of its purchase from abroad and it constitutes the second largest imported values

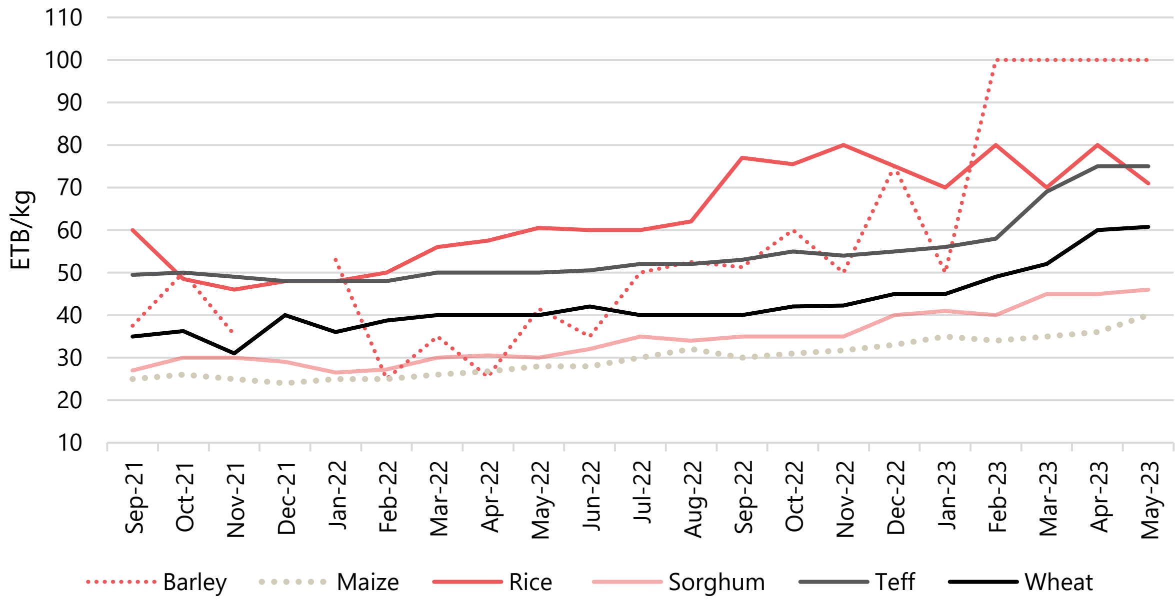
[62] Anadolu Agency, "Ethiopia's 'super grain' seeks to capture global market", Anadolu Agency, 17 October 2017.

next to machineries. Wheat is the most commonly imported cereal, accounting for $938.6 of import costs and showing an annual growth rate of 118% in 2021 compared to the value in 2020.[63] As shown in Fig. 5, wheat price continuously increased, with few exceptions, with the highest price recorded (61 ETB/kg) in May 2023. Both local and global factors attributed to the price surge observed in wheat.[64] The supply chain of wheat was globally disrupted because of the war between the two major wheat supplying countries. Overall, Ethiopia's dependence on imports means the domestic market is affected by global market wellness and anything that happens to the global market can impact the domestic market.[65]

Another cereal, barley, is largely harvested in Amhara, Tigray, and some parts of Oromia and SNNP regions. Barely constitutes an important source of food for people in Afar, SNNP and Sidama regions, the price of barley was assessed in these regions' JMMI basket. At the regional level, barley was identified to be more expensive in Afar region compared to SNNP and Sidama regions. The price of barely fluctuated throughout the assessed period (Figure 5). In some cases, the frequent changes in price were largely related to the assessed regions. Barley price was higher when it was monitored only in Afar and got lower price when it was assessed in additional regions (SNNP and Sidama). Therefore, the fluctuation in barley price may not necessarily be attached to market-related reasons.

[63] D. Workman, Ethiopia's Top 10 Imports, World's Top Exports (2023).
[64] The Reporter, "The Price Increases that Matter for the Poor", The Reporter, 15 January 2022.
[65] WB, Food Imports (% of Merchandise Imports) – Ethiopia (2022).

Figure 5: Cereal price trends (in ETB/kg)



Sorghum is another important cereal item assessed by the JMMI in Ethiopia. It is mostly harvested in *Qola*[66] *(*low land*)* and *Woina-dega*[67] *(*mid-land*)* agroecological zones of the country and commonly consumed in Addis Ababa, Gambela, Oromia, Amhara, Benishangul-Gumuz, Harari, Dire-Dawa and Somali regions. The price of sorghum increased constantly over the assessed months with the highest price of 46 ETB/kg reported in May 2023, which showed 70% increase from the baseline price recorded in September 2021.

Enset (also known as false banana), is a staple food in Southern Ethiopia, and its price was assessed as part of the JMMI in SNNP and Sidama regions. The price trend for enset shows an upward shift, however this may be due to the variation in coverage during the assessment periods. While it was collected in only two regions (SNNP and Sidama), the

[66] Qola (Kola) is a warm semiarid agroecological zone of Ethiopia.
[67] Woina-dega is a cool sub-humid agroecological zone of Ethiopia.

failure to get data in one of these regions created variability in the overall enset price so the observed price change could partly be seen from this perspective.

Rice was assessed in the Somali region, as it is the main cereal consumed in the region. The price of rice showed variability over the assessment period, peaking at 80 ETB/Kg (in November 2022, February and April 2023) from about ETB 61/kg in September 2021 which is a 33% rise in the assessed months. Both domestic and global factors contributed to the price increase. Drought and conflict in the rice growing areas of the country exacerbated households' dependence on imported rice. According to a 2021 report issued by International Trade Centre[68], in Ethiopia, rice constitutes the second most imported cereal product next to wheat.[69] Fluctuating exchange rates and foreign currency availability could have a direct impact on the price of rice. Being a major component of the regular diet in Somali region, the effects of prolonged drought and the growing dependence on imported rice, puts vulnerable households under stress to meet their basic dietary needs.

4.3 Median price of JMMI basket

In September 2021, REACH published the first JMMI monthly factsheet covering six regions: Addis Ababa, Afar, Gambela, Oromia, SNNP and Somali. Since then, the JMMI has been expanding gradually, reaching 11 regions in August 2022: all regions except Tigray (due to security reasons) and South West (a recently established region, which currently does not have CCD partners present). As stated in Annex 1, the items in the JMMI basket were amended in February 2022. Therefore, comparisons of basket costs are separated into two periods, between September 2021 and January 2022 and

[68] D. Workman, Ethiopia's Top 10 Imports, World's Top Exports (2022).
[69] Knoema, Ethiopia – Cereals Imports Quantity (2022).

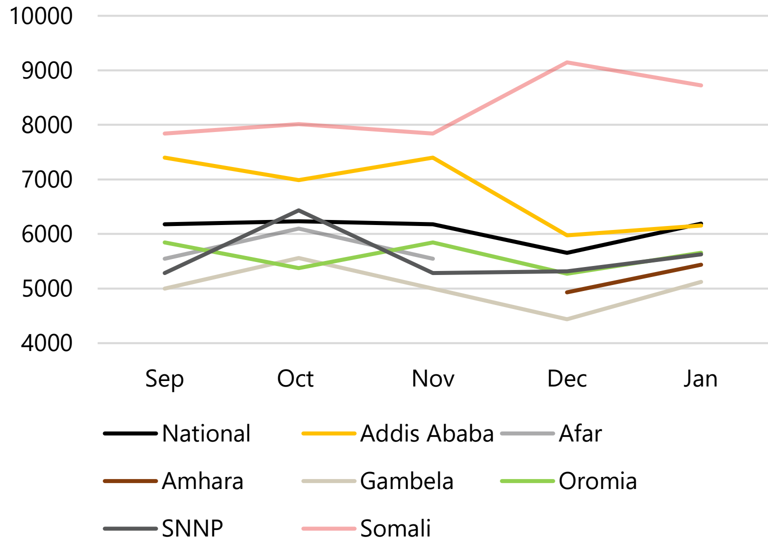
between February 2022 and December 2022. This section gives brief explanations for the trends in both periods separately.

Between November and December 2021, the Somali region witnessed a 17% surge in median prices, showcasing the highest rate of increase. Conversely, Addis Ababa encountered a notable 19% decline during the same period, signifying a significant drop. Gambela, on the other hand, experienced a continuous downturn, with a substantial 20% decline in December 2021 for the second consecutive month. Similarly, the SNNP region faced an 18% decrease in median prices from October to November 2021, reflecting a considerable downturn as well.

The cost of JMMI food and full baskets has seen fluctuations in most regions between September 2021 and January 2022 (Figure 6). Between September 2021 and January 2022, the highest increase in the JMMI full basket price (both at national level and regional level) was in January 2022. In the same period, the Ethiopian Statistics Service (ESS), in its monthly report on the Consumer Price Index (CPI), also reported relatively high inflation for all food and non-food indices. The increase in general inflation over the one-year period, between January 2021 and January 2022, was 28.1%.[70] This was partly due to the decrease in agricultural productivity and food supplies stemming from the drought in the southern and south-eastern parts of the country, as well as from the conflict in Tigray and surrounding areas. In addition, the fuel price inflation that surfaced around the globe played a role in the inflation observed in Ethiopia.[71]

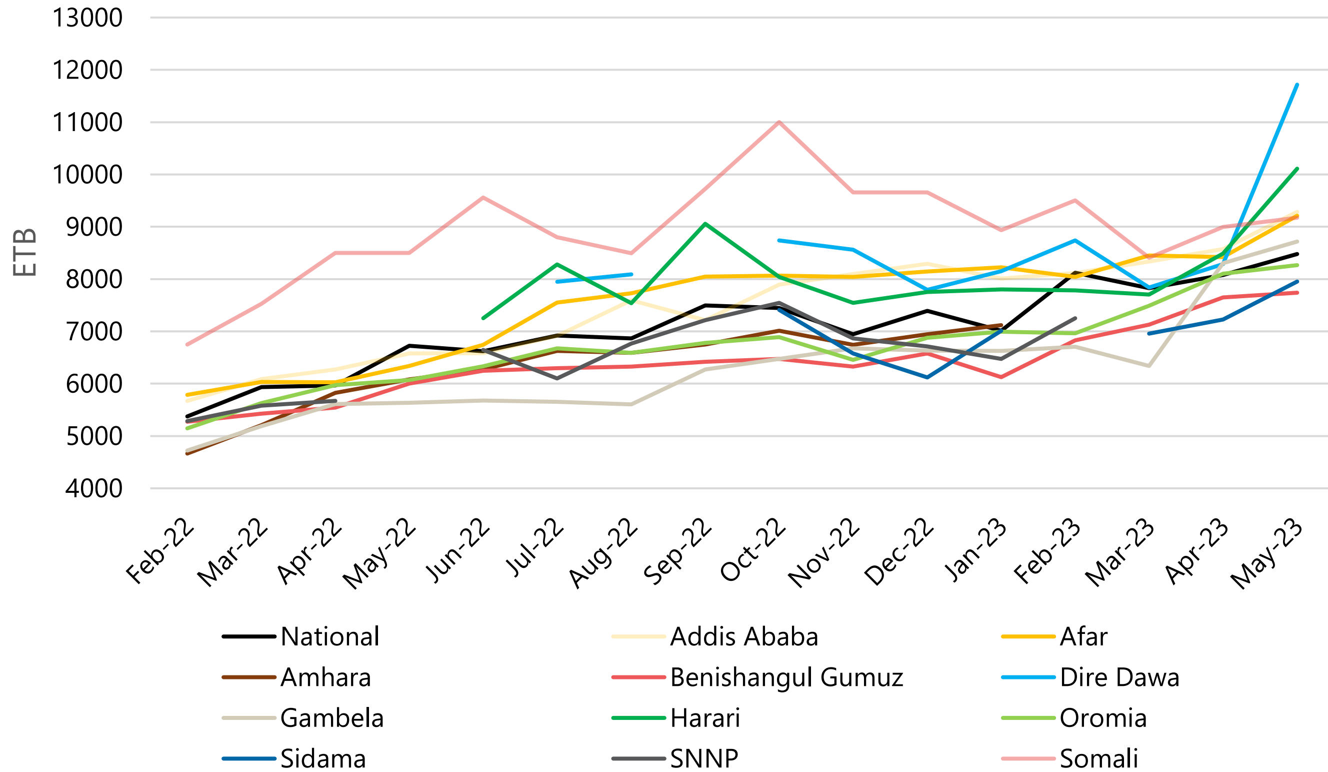
[70] ESS, Country and Regional Level Consumer Price Indices (CPI) (Addis Ababa 2022).
[71] S Berhane, "Global commodity price hikes threaten poor economies", The Reporter, 26 February 2022.

Figure 6: Trends in the JMMI full basket price between September 2021 and January 2022



The cost of JMMI basket has been fluctuating between February 2022 and May 2023, showing an overall increasing trend (Figure 8). During this assessment period, the Somali region exhibited frequent fluctuations in the cost of the JMMI basket, while the Benishangul and Sidama regions had relatively lower fluctuations.

Figure 7: Trends in the JMMI full basket price between February 2022 and December 2022



The rising foreign exchange rates, transportation difficulties, and seasonal factors have led to fluctuating and increasing prices of goods in the Ethiopian market. The depreciation of the Ethiopian birr has caused price hikes on imported goods and affected local producers who rely on imported raw materials. For instance, Birr has depreciated by a weighted average rate of 26% only between February 2022 and May 2022.[72] As a result, JMMI full basket median price increased with 25% in May 2022 compared to its value in February. Besides, most of the regions also experienced a price hike during the three-month period.

[72] F. Tadesse, "Black Market Currency Trade Thrives in Ethiopia as Economy Tanks", Bloomberg, 21 September 2022.

Additionally, the rising price of cars and the phased removal of the national fuel subsidy have made the transportation of products more difficult. Global increases in oil prices have also contributed to the rising prices.[73] Thus, the increase in national median price in July 2022, September 2022, February 2023 and May 2023 (Table 1) could be taken as part of the oil price hike explained in section 3. These factors have impacted the supply chain of commodities, leading to increased burdens on lower- and middle-class households. Furthermore, holiday seasons, such as the Ethiopian Easter and Eid al-Fitr celebrations[74], have exacerbated inflation. As a result, temporary price rises were observed in March and April 2022. In summary, the Ethiopian market has been affected by import dependency, rising foreign exchange rates, transportation difficulties, and seasonal factors, leading to fluctuating and increasing prices of goods.

The fluctuation in basket median prices has also been observed in the majority of regions which can be attributed to various factors. In Harari, for instance, the highest price hike in July 2022 was followed by a 9% reduction in August and a 20% rise in September. Similarly, Afar experienced a 12% increase in July, while SNNP saw an 8% fall in July followed by an upward shift in August. Somali region peaked in September with an increasing rate of 14% and experienced a constant decline for five months thereafter. The overall rise in these months was mainly due to road blockages caused by heavy rains[75] in the summer season and widespread conflict in Oromia and northern portion of the country. From the start of 2023, prices began to increase overall, with some regions such as Sidama, Benishangul-Gumuz, Amhara, Gambela, and Dire-Dawa experiencing the highest rates of increase from January to May. The fluctuation in regional prices can

[73] H. Dadhi, "Fuel Subsidies to Go Goose Egg Next Year", Addis Fortune, 22 January 2022.
[74] R. Taye, "Holiday Exhibitions Short-Lived Hiatus No Match for Galloping Inflation", Addis Fortune, 16 April 2022.
[75] UNICEF, Ethiopia Humanitarian Situation Report No. 8 (Addis Ababa 2022).

also be attributed to various factors including holidays, cultivation of crops during the winter season, and limited transportation of crops like teff to and from Amhara region.

5. Supply Chain Analysis (SCA)

5.1 Background of SCA

REACH conducted the SCA in March 2022 in selected woredas in order to map supply chains and assess barriers and market integration targeting 4 selected food and non-food items (maize, meat, laundry soap and charcoal). The woredas selected for this assessment were particularly those categorized under IPC phase 3.[76] The SCA aimed to provide a market network baseline by connecting different types of market actors to guide evidence-based response actions by cash actors in Ethiopia. For this assessment, 11 woredas, 1 from each of the 11 regions assessed, were selected using IPC and number of populations of woredas. After analysing the typical consumption habits of individuals in various areas, maize, meat, laundry soap, and charcoal were identified to be the four essential food and non-food items for this assessment. For each selected key commodity, REACH interviewed a minimum of 15 consumers, 4 retailers, 3 wholesalers, and 3 transporters along the supply chain in each assessed woreda, resulting in a minimum of 100 total interviews per woreda. The data cleaning and analysis process took place after data collection. Median of median measurement was implemented to aggregate the woreda level data at regional and national levels. Finally, a total of 11 factsheets were prepared for all assessed regions and an additional factsheet was prepared for the national level. These factsheets were then published and disseminated to the humanitarian actors working in Ethiopia mission (see annex 2).

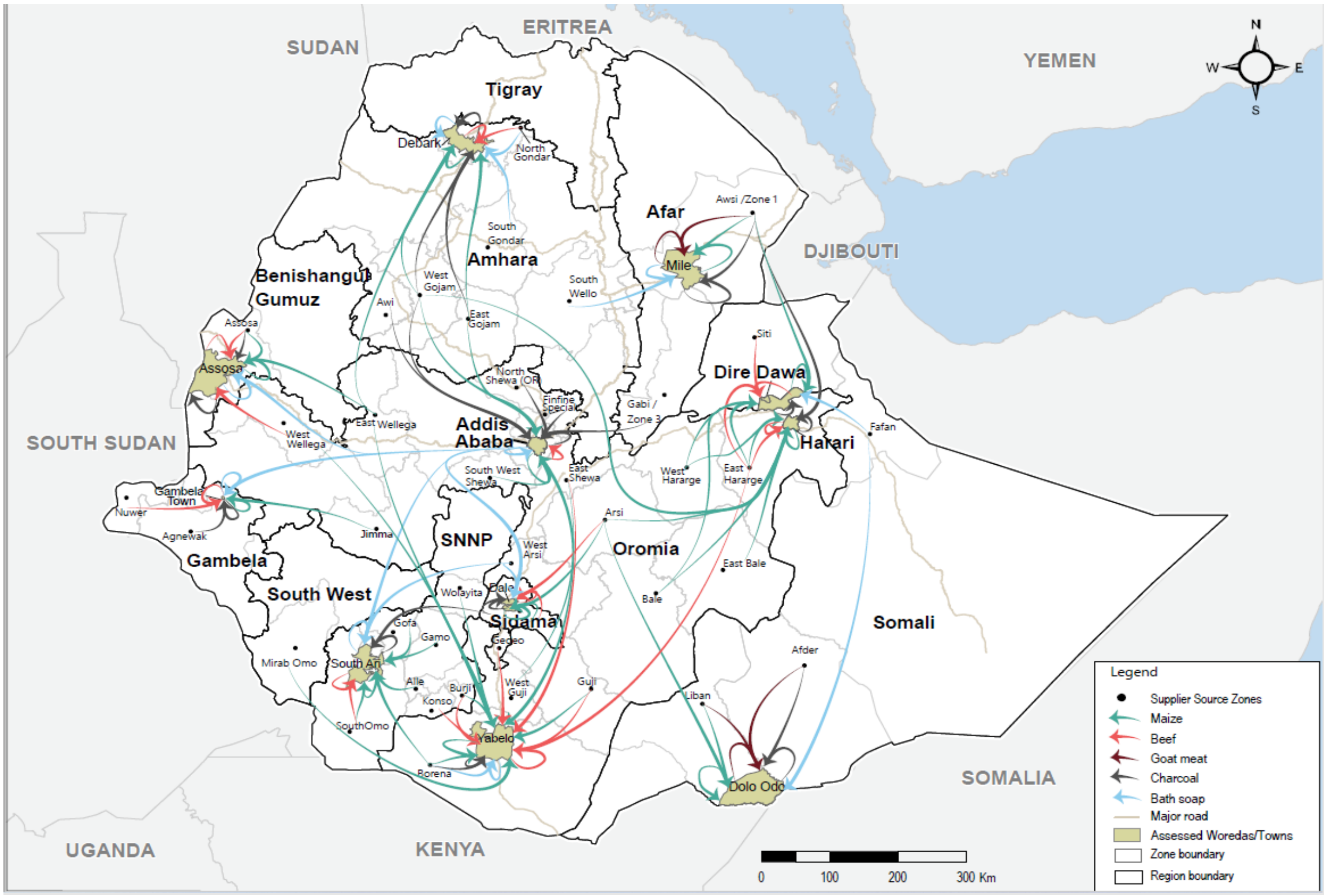
[76] Other criteria, mainly accessibility and population size, were also considered when IPC information was not available.

5.2 Supply sources

This section looks at where retailers and wholesalers most frequently sourced basic food and non-food items during the assessment period. The majority of the respondents reported that they almost exclusively purchase their items from domestic suppliers, as shown on the route mapping below.

Supply route mapping was also conducted as part of the supply chain analysis (SCA) and the result showed that the assessed items were sourced locally (Map 2). According to the route mapping, vendors, except those in the Somali region mainly obtained bath soap from other regions. In contrast, maize was transported across different regions, suggesting that vendors in various regions had access to maize from different areas. On the other hand, the information states that charcoal, goat meat, and beef were sourced from local suppliers. This suggests that vendors in all regions sourced charcoal, goat meat, and beef from suppliers within their respective regions.

Map 2: Supply route mapping done under the supply chain analysis in March 2022



5.3 Stock levels and time needed to restock

Median stock levels and median restock durations were calculated using estimated number of stock days and the number of days required to restock items, respectively. Stock balance was calculated as the difference between stock levels and restock duration and it indicates availability of items in the market. Positive stock balance shows enough supply in the markets and negative stock balance shows shortage of items. The SCA data has shown positive balance between the number of days required to restock and the number of stocks available for most of the items. In this assessment meat, maize, charcoal and bath soap were reported to be in sufficient stock levels in all assessed locations. However, the wholesalers involved in this assessment did observe an anomaly in the beef stock balance. The shortage and limitation on meat products could certainly be influenced by the fasting season during the data collection period. During fasting periods, such as Lent, many individuals abstain from consuming meat or certain types of meat so that vendors did not have to stock these items.

Table 1: Stock balance in number of days (difference between stock days and the number of days required to restock)

Item	Median level of stock remaining in store (days)	Time needed to fully restock (days)	Stock balance
Retailers			
Maize	20	7	13
Beef	2	2	0
Goat meat	1	1	0
Charcoal	6	4	2
Bath soap	9	2	7
Wholesalers			
Maize	20	7	13
Beef	3	4	-1
Goat meat	1	1	0
Charcoal	7	5	2
Bath soap	12	7	5

White = no issues (remaining stock > time needed to restock); Tan = supply chain limitations (remaining stock = time needed to restock); Red = imminent shortage (remaining stock < time needed to restock)

5.4 Market Barriers

Different indicators were used to assess market functionality in selected woredas of the assessment. Financial, physical and social aspects of the market were taken into account to determine the accessibility of a given market, as well as the overall market situation in assessed woredas. The data collected on supply chain barriers was organized along the type of respondent and nature of barrier. Respondents from all categories indicated that curfew and limited transportation options were the most widely reported physical barriers to market accessibility. Additionally, the majority of wholesalers, retailers and transporters agreed on the market accessibility impact of time restrictions in marketplaces.

Respondents reflected their experience of prejudice and hostility just because of their cultural or ethnic background. Out of the total key informants interviewed, only 12% of consumers, 10% of retailers, 19% of transporters, and 12% of wholesalers reported that they have faced cultural and/or ethnic prejudice.[77] This implies that social barriers were not the main barriers to market accessibility. However, about a fifth of the transporters reportedly experienced hatred due to their cultural and/or ethnic background likely because of their movement to another location away from their areas of origin.

Financial barriers also reportedly affected market accessibility. The high cost of transportation of items, as well as vendors limited financial capacity, were the most frequently reported financial barriers that affected the ability of market actors to operate in the market. However, it was found that 41% of transporters experienced increasing cost of fuel as a financial barrier.

[77] Cultural prejudice is defined as a negative opinion or attitude about people based on their culture. Ethnic prejudice is defined as a negative opinion or attitude about people for belonging to a specific ethnic group.

6. Conclusion

Ethiopia has been experiencing multifaceted crises, ranging from natural to manmade hazards. Response decisions to those crises require well-rounded and reliable information. Understanding this need, REACH Initiative joined the Ethiopian humanitarian platform and launched the Joint Market Monitoring Initiative (JMMI) in September 2021, aiming to track prices, availability of items and contribute to a broader understanding of the market environment in Ethiopia. The objective of this report is to provide explanation of the Ethiopian JMMI findings from September 2021 to May 2023 and the results of SCA, by corroborating with various secondary sources.

The JMMI findings show that prices of all items in all assessed areas exhibited an overall increasing trend, with varying rates and fluctuations. As discussed in the fourth section of this report, the continuous increase in prices of basic food and non-food items has had a significant impact on the cost of living. This price hike can be attributed to disruptions in the supply chain caused by local and global incidents. For instance, the war in Ukraine has had a direct effect on the availability and cost of certain commodities. Locally, conflicts in Tigray and parts of Oromia have further exacerbated the situation. Conflicts impacted agriculture and caused displacement, increasing demand for food and non-food assistance. This hostile security situation, coupled with restricted commodity movement, created a supply-demand gap, leading to high prices aggravated by drought caused market inaccessibility. This has further exacerbated the already dire situation and has had a disproportionate impact on socio-economically disadvantaged sections of society. Women and children, in particular, have been exposed to increased food insecurity and forced households to make unfavourable decisions such as food consumption reduction and child marriage. In general, the combined effect of these factors have resulted in a significant rise in the number of individuals requiring humanitarian assistance.

The JMMI findings have been used by humanitarian actors to calculate Multi-Purpose Cash transfer value for their assistance programs in seven regions of Ethiopia. This report will also allow humanitarian actors to capture the overall trend in the JMMI basket costs and further develop their interventions. Through its participation in national and sub-national Cash Working Group meetings, REACH has recognized the need for revision of items contained in the JMMI basket and the increasing interest from various organizations to get involved in the JMMI process. Due to the absence of a commonly accepted and regularly used MEB, REACH faced limitations in providing consistent data on a monthly basis, as well as addressing key clusters like shelter, education and health. As a result, REACH intends to actively engage in the development of a standardised and unified basket. Moreover, in light of the increasing need for reliable information, REACH is committed to furthering its collaborations with various organizations and discovering new marketplaces that have yet to be explored. The fluctuation in prices observed in certain items such as barley and enset can, in part, be attributed to limited coverage. By expanding its partnerships and venturing into additional marketplaces, REACH will potentially mitigate these sudden price fluctuations.

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Annexes

Annex 1: JMMI methodology

JMMI basket contents

In February 2022, as a result of REACH monthly reviews of JMMI basket relevancy to the Ethiopian context, adjustments were made as follows: water[78] was excluded; eggs, tomatoes, potatoes, onions, camel meat and laundry soap[79] were included as new items and adjustment on meat was made based on regional availability.

JMMI Food Basket			
Cereals and root crops	72 kg	Cooking oil	5.86 L
Meat	2.7 kg	Onions	5 kg
Eggs (local)	18 eggs	Tomatoes	5 kg
Green leafy vegetables	5 kg	Potatoes	3 kg
Full JMMI Basket			
Bath soap		3x 125 g bars	
Laundry soap		6x 200 g bars	

Assumptions:

1. The meat component is equally distributed among beef, goat, and camel when calculating the national-level JMMI basket. At regional, zone and woreda levels, meat was assessed as follows:

[78] Water was removed from the basket, while packed water is not common among ordinary people.
[79] On the other hand, potatoes, tomatoes, onions, camel meat and laundry soap were added as new items by taking the significance of these items for regional MPCs into account.

Beef	Addis Ababa, Amhara, Benishangul Gumuz, Gambela, Oromia, Southern Nations, Nationalities, and Peoples region (SNNP), Harari, Dire Dawa, Sidama, South West[80], Tigray[81]
Beef and goat meat	Afar
Camel and goat meat	Somali

2. When calculating the national-level JMMI basket, the cereal and root crop component is equally distributed among all seven staple cereals and root crops monitored (10.3 kg each). At regional, zone, and woreda levels, this component is equally distributed among the four specific staple cereals and/or root crops included in the basket for each region (18 kg each). KIs were queried about the cereal prices relative to their region as follows:

Maize, sorghum, teff, wheat	Addis Ababa, Gambela, Oromia, Amhara, Benishangul Gumuz, Harari, Dire Dawa, Tigray
Maize, sorghum, wheat, rice	Somali
Maize, sorghum, teff, barley	Afar
Maize, teff, barley, enset	Southern Nations, Nationalities, and Peoples region (SNNP), Sidama, South West

Data collection and geographical scope of JMMI

The JMMI data is collected by CCD members using a joint, harmonised methodology and data collection tool during a unified data collection window. CCD members have formed a JMMI taskforce which reviews and validates the collected data each month. The JMMI

[80] No presence of data collection partners in South West region and it was not covered.
[81] REACH could not get data in Tigray due to the conflict and inability of partners to collect data.

Taskforce determines these priority areas based on a combination of the locations with the greatest number of persons of concern and those with the greatest presence of humanitarian actors.

The assessment centres on individual interviews (IIs) with retail vendors in markets frequented by average households. The interviews are held on a voluntary basis and at their own facilities to reduce inconvenience. Data was collected on the first week of every month using smartphones equipped with an offline data collection app called KoBoCollect. Data collectors were trained to ensure an effective and quality-centered data collection process. Paper based data collection was used when and where the implementation of the mobile application became difficult (such as during electric blackouts), although the final data was in those instances converted into KoBo. Enumerators managed to address vendors in person except in some instances where physical access was restricted due to road blockage and insecurity. In those situations, data collectors gathered all the necessary information through phone interviews.

For the purposes of the Ethiopia JMMI, a marketplace is defined as an area with a relatively sizable concentration of traders in close proximity to each other. Within each target marketplace, field teams are responsible for identifying a sufficient number of traders to interview who sell directly to consumers, who sell at least one item of that region's JMMI Basket and who are patronised by average consumers in the area.

Data analysis

Availability: Availability is defined categorically (available, limited, unavailable) for each item. If an item is available as normal from at least one surveyed trader, it is considered available in the location; if an item is not available as normal from any surveyed trader, but is available on a limited basis from at least one trader, it is considered to have limited availability in the location; if an item is not available either on a normal or a limited basis from any surveyed trader, it is considered to be unavailable in the location.

- **Prices**: Using prices collected from individual traders, median prices are calculated for each item within each assessed woreda. National and regional medians are then calculated using a "median of medians" approach, i.e., by taking a second median across all of the woreda-level medians calculated across the country or across the region.
- **Stock levels**: For each item, the median stock level is calculated across all surveyed traders in the woreda. National and regional medians are then calculated using a "median of medians" approach, as above.
- ***Ability to* restock:** If at least one trader is able to restock an item, the woreda-level aggregate will be "yes", else "no" (if the item is normally sold at all).
- **Restock duration:** The median restock duration across all traders in the woreda is calculated for monitored food and non-food items.
- **Location of food/NFI supplier:** The most commonly named location is taken as the location of the woreda's main suppliers for each category of monitored items.

The unit of analysis for this assessment is the woreda (Admin 3), representing both the administrative level on which most humanitarian assistance in Ethiopia is planned and the largest administrative level across which partners can be confident that markets will be fully integrated. All data were aggregated first to the woreda level, then upwards to the regional and national levels.

Annex 2: SCA methodology

Methodology overview

The SCA was conducted to provide information on market supply routes and disruptions affecting supply chains in all regions of Ethiopia. This assessment used structured quantitative method to contextualize the data from the Ethiopia JMMI since the findings were mainly used to support the JMMI.

REACH devised the research design, data collection tools, guidance documents, training materials, analysis, and outputs that could help to effectively carry out the assessment. With full support and supervision from the Addis Ababa office, REACH's field officers took charge of coordinating the data collection process, while field enumerators were assigned to specific areas for data collection. Structured interviews were then conducted with 4 retailers, 3 wholesalers, 3 transporters, and 15 consumers for each item. The data collection period took place from 1 to 30 March 2022 in 11 woredas. Each woreda, selected based on IPC phase 3 categorization, population size, and accessibility, represented one region in Ethiopia.

Data Collection

In each targeted area, enumerators identified KIs using the following criteria:

- Retailers who directly sell at least one or more of the assessed commodities to consumers.
- Wholesalers who commonly sell at least one or more of the assessed commodities to other traders/retailers.
- Transporters who move the target commodities through, into and out of Ethiopia.

- Consumers who buy at least one or more of the assessed commodities only for consumption purpose.

REACH enumerators interviewed a minimum of 15 consumer KIs and 10 market (wholesalers, retailers and transporters) Kis per each key commodity (maize, beef/goat meat, charcoal, and bath soap) in each woreda. A total of 100 KIIs were conducted in each woreda.

Data Processing and Analysis

As part of data processing, REACH database officer held data check and cleaning at the end of each data collection session. The data checking process was conducted to:

- Check the number of KIIs for each item.
- Check legitimacy of submitted data.
- Ensure only anonymized dataset is shared.
- Check overall data quality.

Data cleaning was conducted in line with IMPACT's Data Cleaning Minimum Standards Checklist. After cleaning, the data has been aggregated at regional and national levels. However, findings would not be considered as representative, but indicative of supply chain situation. Finally, 12 factsheets were prepared, 1 for each assessed region and 1 factsheet for the national level.

Annex 3: JMMI regional coverage

JMMI regional coverage from September 2021-May 2023

	Sep 2021	Oct 2021	Nov 2021	Dec 2021	Jan 2022	Feb 2022	Mar 2022	Apr 2022	May 2022	June 2022	July 2022	Aug 2022	Sep 2022	Oct 2022	Nov 2022	Dec 2022	Jan 2023	Feb 2023	Mar 2023	Apr 2023	May 2023
Addis Ababa	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Afar	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Amhara	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Benishangul Gumuz			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Dire Dawa						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Gambela											X	X		X	X	X	X	X	X	X	X
Harari	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Oromia										X	X	X	X	X	X	X	X	X	X	X	X
Sidama	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X
SNNP												X		X	X	X	X	X	X	X	
Somali	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X
Total regions	**6**	**6**	**6**	**6**	**7**	**8**	**8**	**8**	**7**	**9**	**10**	**11**	**9**	**11**	**11**	**11**	**12**	**10**	**10**	**11**	**10**