

COPING WITH RAPID INCREASES IN FOOD PRICES: INSIGHTS FROM URBAN ETHIOPIA



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SUMMARY

In 2022, rapid food price increases raised interest in how such shocks impact markets and consumers—and how policy can mitigate them. To examine this, we undertook a detailed qualitative study in urban Ethiopia, a country particularly hard hit by food inflation. Over two periods in summer 2022, in-depth interviews were undertaken with 83 consumers and market vendors in Hawassa, a mid-sized city, including structured free-listing and ranking exercises.

All interviewees had observed considerable increases in food prices, and most had adapted their food consumption to respond, including by reducing purchases, shifting to cheaper foods, skipping meals, lowering food quality, and finding other sources. While market vendors were also found to adapt their offerings to maintain food access for lower-income consumers, several of the dietary changes cited, such as reducing consumption of nutrient-dense animal-source foods and reducing dietary diversity, could have negative implications for nutrition. The results underline the imperative to protect diet quality amid food price inflation and support several policy options for doing so: expanding social protection programs to be more nutrition-sensitive; putting in place short-term measures to make nutritious foods more affordable; and reducing price volatility.

KEY MESSAGES

- We examine informal market vendors' and consumers' responses to a period of rapid food price increases in Hawassa, Ethiopia
- Detailed qualitative data revealed that all vendors and consumers had observed considerable price increases for food they normally purchase.
- Adaptations included reducing purchases, skipping meals, and lowering the quality of products chosen.
- Several changes cited could have negative implications for nutrition, such as by reducing micronutrient intake.
- Policy interventions are needed to protect diet quality amid periods of rapid food price inflation.

BACKGROUND AND OBJECTIVE

Influenced by the lingering effects of COVID-19, the Russia-Ukraine war, high input costs, and climate-related shocks, the period of 2020-mid 2022 saw large food price increases globally, particularly for maize, wheat, and edible oils, with the FAO Food Price Index reaching its highest-ever level in March 2022 (1). This ignited considerable interest in better understanding how food price shocks impact consumers—and how policy can mitigate them: food price inflation was the focus topic of the 2025 State of Food Security and Nutrition in the World Report, which notes that food price inflation has significantly outpaced headline inflation, reflecting high volatility and multiple challenges affecting the world's food markets (2).

One country hit hard by the food price shock was Ethiopia. Global market dynamics, climate-related shocks to crop and livestock production, conflict in Tigray region, and currency devaluation resulted in year-on-year food inflation of 43.9% in May 2022 (3,4). This placed it among the top ten countries in the world in terms of nominal food inflation rates (5), with price increases being particularly high for cooking oils/fats, beverages, breads/cereals, fish, dairy, and meat (3). Oils/fats and breads/cereals are essential contributors to energy in Ethiopian diets, with up to half of the food budget typically spent on these two food categories alone (6).

While increasing food prices can have positive effects for net producers (7),¹ they can harm net buyers – including urban consumers (9,10). To protect food consumption, households can adopt non-food coping strategies, such as taking on debt, working more, selling assets, migration, cutting non-food expenditures (e.g., schooling), or seeking other income sources (11–14). They can also use food-based strategies of reducing quantity or quality of food consumed or shifting to cheaper alternatives (12,15). This coping generally follows a progressive pattern from minor changes, such as food substitutions, to major ones, such as entire days without eating (10,16). The result of these food-based strategies is often a decrease in diet quality, initially in terms of micronutrient consumption and progressing to energy deficiencies, increasing the risk of undernutrition (9,10). Recent analysis has shown that food inflation increases the risk of inadequate dietary diversity and wasting in children (17), and that recent food price inflation has likely undermined food security and exacerbated acute malnutrition (2). Understanding and reducing negative dietary changes is thus of paramount importance.

While initial simulations of the impacts of the 2007-8 food price crisis suggested serious impacts on food insecurity and poverty (15,18,19), later analyses of self-reported data found these to be more variable (20). For example, one analysis of African countries found increases in food security in many rural areas alongside decreases in food security in urban ones (21). For the 2022 price crisis, modelling suggested that in Ethiopia it would lead to increases of 3.2% in poverty rates, 2.1% in the prevalence of undernourishment, and 5.9% in prevalence of poor diet quality (22).

¹ In the 2022 price shock, this effect was somewhat offset by rising input prices (8).

Such simulations, while useful, capture general vulnerability based on models and prior data, as opposed to actual effects, and also take very high-level views, obscuring the specific behaviours of individuals as they attempt to cope with changes. Information on how people cope with price shocks was recognised as a critical research gap after the 2007-8 food price shocks (10) and largely remains so today. It is also one of policy relevance, as only by understanding how people respond to price shocks can policies be crafted to buffer against their negative effects without undermining existing sources of resilience.

This paper thus complements this macro-level and modelling work, and that on prior food price crises, with an in-depth qualitative examination of how people adapt food purchasing and selling practices in response to price increase, focusing on urban Ethiopia in 2022. While results can be applied to other urban low-income country settings, Ethiopia makes for a useful focus because of both the large price increases experienced there and the sensitivity of urban Ethiopian households to such shocks due to spending a large share of household expenditures on food, producing little food themselves, and having no formal insurance against such types of shocks (23).

METHODOLOGY

in central Ethiopia. Traditional food markets remain dominant sources of food in many low-middle-income countries and are particularly important for food-insecure populations and for highly nutritious foods such as fresh fruits and vegetables (24–27).

The study used a focused ethnographic approach (28,29), which was embedded within a large research project on food safety in traditional markets. Three data collection methods were used: semi-structured interviewing, ranking, and free-listing. In free-listing, informants are asked to name all items in a defined domain, which is used to create a composite list for the population: items frequently cited and among those first cited can be considered particularly salient. Semi-structured interviewing was based on a detailed interview guide, with flexibility for interviewers to deviate from it based on the respondent's remarks.

The study included two phases. The first focused on a smaller sample of shoppers and vendors and covered the topic of inflation only in passing, to understand it as one motivator of purchasing choices among many. Phase 2 focused in depth on rising prices and is the source of most of the data used here. Ethiopia's food inflation rate peaked at 43.9%, year-on-year, in May 2022 (the first data collection period), after being near 40% for around 10 months (Fig. 1); by August 2022 (the second data collection period) it had fallen slightly but remained at 33.2%. Data collection was thus well timed to capture participants' experiences of a protracted period of anomalously high prices.



Figure 1. Food Inflation Rate in Ethiopia leading up to and during the study period. *Dashed vertical lines show the data collection periods. Data source: Ethiopia Central Statistical Agency.*

Respondents were recruited at the main market in Hawassa through random sampling in line with quotas for age group, gender, and (for vendors) product sold. The sample size for Phase 1 was 13 vendors and 16 shoppers; in Phase 2, 24 vendors and 30 shoppers participated in full-length interviews, with an additional 26 vendors and 20 shoppers undertaking only free-listing and ranking exercises. Interviews with vendors covered their role both as vendors and as shoppers/consumers of food. Total sample sizes are thus 83 for interview data and 50-100 for the free-listing and ranking data.

Interviews were conducted by trained local interviewers in Amharic, audio recorded, transcribed verbatim, and translated into English for analysis. Demographic data and ranking data were analyzed using Stata SE15, with poverty status estimated using the Poverty Probability Index (30). Text data from the interview transcripts were subjected to thematic analysis involving multiple passes (31,32), using the qualitative data software ATLAS.ti. Analysis of free-list data applied the approach described by Weller and Romney (33), utilizing Visual Anthropac 4.9 software. All data were treated with strict confidentiality, all respondents provided written informed consent, and the study protocol was approved by an IRB.

RESULTS

RESPONDENT DEMOGRAPHIC CHARACTERISTICS

Demographic characteristics of interviewees are summarized in Table 1. Of particular relevance for this study is the estimate that about 18% of the sample would be considered lower-income according to the World Bank income threshold of 3.20 PPP/person/day, but only about 5% would be according to the threshold of 1.90 PPP/person/day (30); the sample is thus largely middle class.

Table 1: Respondent demographic characteristics

	Vendors (n=63)	Shoppers (n=66)
Percent female	71.4%	50.0%
Median age (range)	28 (18 - 64)	30 (18 - 55)
Main language	Amharic (31.8%), Wolaitta (47.6%), Kebanta (6.4%), Hadiya (6.4%), Others (7.8%)	Amharic (61%), Sidama (15%), Wolaitta (13.6%), Kebanta (4.6%), Others (6%)
Median household size (range)	5 (1 - 13)	4 (1 - 10)
Pct. Owning	Television: 63.5%; Radio: 60.3%; Refrigerator: 22.2%; Car: 1.6%	Television: 83.3%; Radio: 62%; Refrigerator: 40.9%; Car: 1.5%
Pct. Living in Poverty	5.7% at PPP 1.90; 19.8% at PPP 3.20	4% at PPP 1.90; 17% at PPP 3.20
Pct. completing primary school	91.4%	95.5%
Pct. completing secondary school	44.4%	54.0%
Pct. completing tertiary school	12.7%	47.0%

Note: likelihood of living in poverty calculated using the Poverty Probability Index (PPI), using a threshold of PPP 1.90 or 3.20 per person, per day (30).

CHANGES SHOPPERS HAVE OBSERVED AND CITED CAUSES

All interviewed shoppers had observed considerable changes to prices, including food prices, over the past year. As one shopper explained, ‘There is nothing that hasn’t increased. The job [income] is the same, but the price is just increasing’ (2203, 30-year-old male). Inflation was a major challenge for both vendors and shoppers: in a free-listing exercise, it was listed as shoppers’ top concern, named by 80% of respondents, often first on the list (see Table 2). A closed-ended ranking question (Table 3) confirmed this finding, with all shoppers ranking rising prices among their concerns, and many ranking it, or the related issue of insufficient income, first or second. For food vendors, ranking showed high food prices to be second only to the related concern of insufficient capital for the business.

Table 2. Free-Listing: Main Challenges Shoppers Face in their Lives (n=50)

Challenge	Percentage naming	Avg. Rank	Saliency
Inflation/cost of living	80%	1.48	0.694
Insufficient income	34%	1.94	0.23
Unemployment	32%	2.06	0.21
War	6%	2.33	0.039
Public safety	6%	3.67	0.02
Housing	6%	2	0.037

Note: items named by <2 respondents are omitted. Saliency considers both ranking and frequency of mention and ranges from 0-1, with higher indicating greater saliency.

Table 3. Shoppers’ Ranking of Key Challenges (n=50)

	No. not ranking	No. ranking top	Average rank (among those ranking)
High prices	0	12	2.46
Insufficient Income	4	16	2.97
Jobs and opportunity	11	7	2.97
Conflict or political situation	12	8	3.68
Insufficient food availability	5	2	4.24
Local crime	23	2	4.41
Climate/weather issues	26	2	4.79
Health issues	21	1	5.41

The main foods named as having particularly large price increases over the prior year were edible oil, onions, teff, and maize, followed by lentil, tomato, garlic, pasta, peas, meat, flour, berbere spice, egg, and rice (Table 4). In contrast, for only very few foods—namely, potato and kale—were prices noted as having decreased over the same time period. For certain foods, respondents noted that, while the price had remained the same, the size had changed – for example, smaller bunches of leafy greens, or thinner *injera* flatbreads – making the per-unit cost more.

Table 4. Foods with Largest Price Increases According to Shoppers and Vendors (n=100)

Food	Percentage naming	Avg. Rank	Saliency
Edible oil	85%	2.24	0.712
Onions	72%	4.01	0.457
Teff	68%	3.68	0.455
Maize	51%	4.63	0.291
Lentil	44%	5.3	0.216
Tomato	39%	5.21	0.209
Garlic	33%	5.24	0.171
Pasta	31%	5	0.157
Peas	29%	4.93	0.157
Meat	28%	5.29	0.144
Flour	26%	4.85	0.134
Berberere	26%	5.62	0.126
Egg	23%	7.26	0.077
Rice	20%	5.05	0.099
Butter	19%	6.58	0.082
Beans	17%	4.88	0.09
Chickpea	16%	5.06	0.087
Sugar	14%	5.71	0.069
Barley	14%	5.57	0.066
Coffee	10%	5.2	0.051

Note: items named by <10 respondents are omitted.

Shoppers named diverse causes for the price increases, with domestic conflict and profiteering by vendors and/or middlemen being most common, followed by a lack of government price controls and insufficient production. Currency depreciation or lack of foreign currency, high fuel prices, and weather shocks were also mentioned. Only two respondents cited the Ukraine war as playing a role. Vendors cited similar causes but also mentioned high input prices or lack of inputs. Both shoppers and vendors expressed considerable frustration at the government for either exacerbating the situation or failing to respond adequately, and shoppers voiced distrust of vendors to keep prices reasonable instead of taking advantage of the situation.

I think the high price increase basic cause is lack of control. There is no one who controls the vendors. If you have seen them, the vendors sell things as they please. If you go around and look at the market, there is a price difference from one place to another. This difference is seen because it lacks control. There is no one that controls it... I mean, if there is no governmental supervision, the vendors will have the right to do as they please. – 2216, 34-year-old female shopper

RESPONSES TO HIGH FOOD PRICES

Shoppers confirmed that rising prices had significant impacts on their quality of life, such as by causing stress and worry, limiting ability to save, and restricting social and family lives, and impacting food purchasing choices. Many also noted cutting back on non-food expenditures (e.g., clothing, sports, social events) to save money for food, but here we focus primarily on food-related adaptations.

Purchasing less food

All interviewed shoppers reported purchasing less food than prior to the inflationary period. These changes were reported for all types of food, but particularly for those with the largest price increases, such as oil, teff, and onions. Also commonly named were various 'optional' foods – like fruits, meat, cheese, fish, eggs, milk, spices, and butter, as well as less-common vegetables, like cauliflower or lettuce (Supplementary Table A7). Higher-priced options for starches (such as pasta) were also among the foods purchased in smaller amounts.

With these items purchased less often or in smaller amounts, people stretched the smaller amount to last longer, substituted with another product (discussed below), or did without some of the time. In particular, several respondents mentioned that items like meat or dairy had become foods only eaten on holidays. Over half of shoppers noted some foods they had quit purchasing altogether. These were typically the more optional foods, like fruit or butter, or the more expensive ones, like meat. As one 37-year-old male shopper succinctly put it, “it has moved from our shopping list to our wish list” (2235).

Once a week it was a must, we used to eat [meat]. But now we can't eat [it]... You will eat vegetables, but if you want to eat eggs, it's expensive. You might eat that once a week, if that. Otherwise, it's very expensive. You can't eat one egg for a family.... The things that are no longer in our diet are eggs, meat, these things... [and milk] is now expensive, so we don't use it. – 2250, 32-year-old female shopper

There were, however, certain foods (namely, onion and tomato) that shoppers were loath to stop buying altogether, as they saw them as integral to cooking. Respondents also

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noted that while they were cutting “optional” foods, such as dairy, they were protecting consumption of basic foods, including staples and cooking oil—for example, protecting consumption of teff (the most preferred grain) by cutting back on other types of grains (e.g., macaroni) and just eating teff/injera.

You won't think of lettuce, spinach, green beans, beetroots, etc. You may easily ignore them.... But, you won't abandon onion and tomato. It is a must. They have to be included everywhere. They can't be compromised. – 2207, 30-year-old male shopper

Items such as milk, cheese, yogurt and butter are not in our diet anymore.... There is a hierarchy among food items, the basics include “teff”, corn, onion, cooking oil, potato. Unless we fulfill these basic items, we cannot go to items such as milk products. – 2235, 37-year-old male shopper

Particularly with regards to oil and butter, respondents noted stretching the smaller amount to go further by using it more efficiently, reducing waste, and paying closer attention to how much was used. A handful of respondents noted that, while cutting back on consumption themselves, they had done what they could to protect their children's consumption of foods seen as particularly important for them, such as eggs or meat.

Before the inflation... at least once in two weeks we would have meat with potato. Nowadays if I buy half a kilo of meat, I will cook it with a kilo of potato and give it to the kids.... You cannot decrease the kids' things. For example, when I stopped making wheat bread, I made injera for me for breakfast and [still provided] bread for the kids. – 2223, 35-year-old female shopper

The price of eggs has also increased, [so] I only make eggs for my child. The rest of us usually have vegetables. – 2103, 26-year-old female tomato vendor

Reducing Dietary Diversity

Respondents also reported various ways in which they were reducing their dietary diversity in response to the price increases. This included eating less varied meals from one day to the next, eating the same types of food repeatedly within the day, making a simple few-ingredient recipe instead of a complex recipe, and simplifying meals to include just one or two things, as opposed to a variety of them. In particular, respondents spoke of relying heavily on cheap, filling foods like potatoes, **shiro** chickpea puree, or instant noodles, and eating these foods repeatedly instead of alternating with more expensive staples (like wheat or pasta) and legumes (like lentils), or having just a staple like **injera** flatbread, instead of diversifying flavors by adding vegetables or animal-source foods.

Now, since all food items have become expensive, we eat “injera” for our breakfast, lunch, and dinner. – 2235, 37-year-old male consumer

You may not change what you are eating every day. You may eat shiro every day. Isn't that so? The children also tell you to change it at least once in a while. So, you will change it if you can. If you have nothing, then you will continue with that.... You get mad, worry, and stress yourself. – 2205, 35-year-old female shopper

Substituting Foods

Nearly all shoppers noted replacing one type of food with cheaper alternatives. Most commonly, substitutions entailed replacing the most desired staple grain, teff, used to make *injera* flatbread, with a cheaper starchy staple like maize or potato or replacing animal-source foods (ASF), such as meat, with legumes or vegetables. Indeed, almost all the top foods named as purchased *more* often as a result of price increases were vegetables, including tomato and kale (Supplementary Table A8). Shoppers explained that price increases were smaller for vegetables and they were generally cheaper than other foods, so they could be more readily used as substitutes for pricier foods such as lentils or meat. As one 55-year-old male shopper described it, “Since the price [of meat] is expensive now, they are all seeking refuge with the vegetables” (1201). In particular, the focus was on eating more locally produced and in-season vegetables, and thus had the lowest prices. Vendors also mentioned eating leftovers from their unsold produce instead of buying other foods.

Likely negative	Neutral or unclear
<p>Less of preferred grain, teff: rice, Corn or wheat replacing teff, or using a mix of different grains to add to teff flour and extend it</p> <p>Potato in place of legumes, or to extend legume dishes</p> <p>Potato in place of meat</p> <p>Legumes in place of meat</p> <p>Solid oil in place of liquid oil</p> <p>Vegetables in place of dairy, egg, other ASF, or legumes, or adding vegetables to legume, or ASF dishes to extend them</p> <p>Kale in place of cottage cheese</p> <p>Cheaper grains in place of legumes</p> <p>Cheese in place of meat</p> <p>Egg in place of meat</p>	<p>Maize flour mixed in to extend wheat flour</p> <p>Chickpea powder (shiro) in place of lentils, split peas, or beans</p> <p>Potato (in some cases with kale) in place of pasta and grains</p> <p>Other grains or potatoes in place of pasta</p> <p>Tomato in place of onion</p> <p>Oil in place of butter</p> <p>Garlic in place of onion (or vice versa)</p> <p>One type of vegetable in place of another (various)</p>
	<p>Likely Positive</p> <p>Reducing sugar use</p>

Figure 2. Common Food Substitutions, Classified by Likely Impacts on Diet Quality

Figure 2 lists the main substitutions named, organized by the likely impact on diet quality, given typical diets and nutritional status in Ethiopia; those in bold were more commonly cited. Some respondents interpreted the substitutions optimistically, pointing to reductions in oil or sugar use, or increases in vegetable use in place of more expensive foods, as changes that were healthy. However, as shown in Table 5, the changes generally suggest a negative shift for nutrition or one that is neutral or unclear; only the reduction in sugar use (which was not widely named) was likely positive. For example, ASFs are typically highly dense in protein and multiple micronutrients (e.g., iron, zinc, vitamin B₁₂; (34)). Compared to other grains, teff is a good source of protein and micronutrients such as zinc, magnesium, and calcium (35). The typical Ethiopian diet already tends to be lacking in several micronutrients, and micronutrient deficiencies are widespread in the country (36–39). The shifts away from ASF and teff thus generally represent shifts towards poorer diet quality.

For example, if the price of meat is increasing, you will decrease the amount of meat and buy potatoes in its place and cook a stew by mixing the meat and potatoes. – 2207, 30-year-old male shopper

I used to prepare eggs in the past for my children. I don't do that now. I would just fry cabbages and potatoes. It is because I can't afford to buy a single egg for 12 ETB. – 2118, 38-year-old female kale vendor

... we would be happy if we could always eat teff. But we cannot always eat teff alone, we add rice, corn, maize ... [because] we cannot afford it... We cannot do as we want, and as we say that a human being deserves. – 2202, 51-year-old female shopper

Skipping Meals or Shifting Them Later

At the extreme, about one fifth of interviewed shoppers reported sometimes skipping meals: skipping breakfast; going to bed without dinner; skipping snacks; eating just bread or a snack, in place of a meal; or eating only once a day. Some also described shifting meals to later in the day, to make it less apparent that meals were being skipped and long times spent without eating. A few respondents mentioned that they modified their meals in this way partly to protect the consumption of other family members.

I have faced a lot of things in life due to the high expense. I could eat breakfast and skip lunch at times because of how expensive life has become. If I eat lunch, then I would try to skip dinner. It is because the living expense is too much. [Crying] – 2249, 28-year-old female shopper

Most of the time I do not eat dinner; I have stopped. There are ten-birr cookies; you eat that, drink water, and sleep... Most of the time, this is dinner; it is not like before. – 2218, 32-year-old male shopper

Lowering Food Quality

About one third of interviewed shoppers cited reducing the quality of food purchased due to price increases. Choosing lower quality was most common for grains and legumes and encompassed a less preferred variety, variable size, those with impurities, coarser grains, or opting for locally produced as opposed to imported. Lowering quality of vegetables was also cited and included choosing those that were small, misshapen, dirty, in a group of varied sizes, or damaged (including, for example, broken carrots and bruised tomatoes – particularly for tomatoes that would be cooked, as opposed to eaten raw). Some respondents also cited buying solid palm kernel oil as opposed to the preferred liquid vegetable or palm oil, even though they were worried about potential health effects. A couple respondents mentioned opting for lower quality with meat (e.g., scrap meat) or spices (adulterated or cut with lower-price ingredients, like salt).

When asked if they would, generally, accept lower quality in exchange for a lower price, most interviewed shoppers agreed they did this at least occasionally. Asked in a ranking exercise to explain what they would do if they did not have enough money to buy the food they had planned, about a third of respondents (14 of 50) named opting for lower quality as their top option, and all but four considered it a viable option, though the most popular choice was purchasing less of the same product (Table 4).

Table 4. Ranking Approaches for Dealing with Insufficient Budget to Purchase Planned Foods (n=50)

Strategy	No. Not Ranking	No. Ranking Top	Avg. Rank (among those ranking)
Purchase smaller amount	0	31	1.56
Purchase lower quality	4	14	2.07
Purchase other type of food	10	6	2.65
Take out credit	26	2	3.25
Purchase nothing	28	0	3.86

Note: two respondents included multiple 'top' ranked options.

If you cannot afford certain items, then you have no choice but to go for the cheaper items. You will go against your preference.... I might want to buy the number-one-quality white Teff. But I might not be able to afford that. So, I will instead go for the cheaper lower-quality Teff. I might not be able to afford flour. So, I will use [mixed] wheat and corn powder. – 2119, 37-year-old female kale vendor

Well, I will buy what I can afford.... They have standards: onion has a standard, tomato has a standard.... There are some that have been eaten by worms and that have been squashed. People who have low economy might buy the ones that are crushed and squashed. If I do not have food, that is what I will do; I have no other option. – 2218, 32-year-old male shopper

Shoppers also named strategies of buying at the end of the day when vendors are eager to sell and will lower prices, buying from unauthorized vendors (who do not pay taxes/fees and can charge lower prices), or seeking a particular market section (known as the '*gultit*'), where items were sold in piles of varied quality at a cheaper price.

When the price of carrot reaches 40 birr, there are different piles or bands having three carrots or consisting of broken and lower-quality carrots which is sold with 10 birr... Similarly, if I don't have the capacity to buy one kilogram of pepper between 70 to 80 birr, I will buy one pile sorted out between 5 to 10 birr. – 2105, 21-year-old female lettuce vendor

In the market, price discounts are observed after 5PM; before that the authorities are on their duty of keeping the illegal food item dealers out of the street. After 5PM, all these dealers will come out to the street and begin their retail sales. I purchase tomato from such traders, for their price is cheap, and the quantity is high. Nonetheless, about 70% of this high quantity exhibits signs of rotteness, burst or related types of defects. – 2235, 37-year-old male shopper

Vendors agreed that lower-quality products were more in demand in the present context of rising prices. But they were somewhat divided on whether they purposively purchased lower-quality products with this goal, with only some noting that they were happy to choose lower-quality products to meet the demand. The types of lower quality accepted included small, thin, and slightly discolored vegetables, though a couple mentioned accepting those with visible insect damage, broken lettuce leaves, or bruised tomatoes.

People purchase food products from us according to their desire. For example, there are poor people who buy the lower-quality type of kale we pick from the quality kale at a price of 5 or 10 birr. Such types of poor shoppers willingly

purchase lower-quality food items for a significantly cheaper price, so we sell to them a lower-quality food item by reducing its selling price..... –2112, 30-year-old female kale vendor

The number of customers who are buying lower-quality foods is increasing in the past one year because the cost of living is increasing... they [shoppers] only have the option to buy lower-quality foods with cheaper price. – 2105, 21-year-old female lettuce vendor

However, many respondents were adamant that they would not choose to buy lower quality food if there was any way they could avoid it. Among those who did not choose to lower quality, they cited not wanting to have waste (e.g., if the product spoiled quickly), being worried about food safety, finding lower-quality versions unpalatable, and pride. The reluctance to opt for lower quality was particularly true for fresh vegetables, due to concern about their safety; limited perceived difference in quality or price; seeing vegetables as cheap to begin with, so little savings could be obtained; poorer-quality versions quickly spoiling and risking waste (i.e., lost money); and them being “optional”, such that people would choose to just not eat them instead. Indeed, only a few respondents were willing to accept lower-quality vegetables in ways that might compromise food safety (e.g., being a few days old, wilted, or dirty; with insects, holes or cuts).

Reducing the Social Use of Food

A few respondents noted reducing the social use of food to cut expenses. For example, they cited not inviting guests over; not going out to restaurants to meet people socially; and not treating themselves to special meals to mark social occasions. Others mentioned that they no longer visited relatives due to the travel expense or the expectation that they not come empty-handed.

Sometimes, when guests come to my house, I do not want to brag, but I like to cook a meal for them. But now it is completely changed.... Because when living costs escalate, you compromise many things. You do not invite guests over.... I've limited my friends and family because I cannot do anything [to feed them well]. – 2201, 32-year-old female shopper

Rarely used Strategies: Government Support, Taking Out Credit, Increasing Income

A few respondents noted purchasing discounted goods through government-organized ‘consumer protection associations’. These had been organized in response to inflation to sell basic goods, often of a different type than the market standard (e.g., unbleached as opposed to bleached flour; solid palm kernel oil instead of liquid palm oil), at a moderately discounted price (about 20% in the examples cited by interviewees). However, some also noted some barriers to accessing the association, as one needed to be officially registered as a local resident (as opposed to being an unofficial migrant, for example), and it covered only limited food items, such as flour, oil, and sugar. Other than this, no respondents reported relying on government support, including social protection programmes.

Taking credit to buy food was also not a common strategy, cited by only four shoppers; indeed, people were just as likely to report using credit **less** than normal due to the price increases than using it more. This arose for a few reasons. First was an inability (or perceived inability) to access credit: vendors were reported as hesitant to provide in the

current context, or to provide it in smaller amounts or with tighter repayment terms (which several interviewed vendors confirmed). Second, the amount of credit needed to cover costs was now seen as too large, such that shoppers worried about being unable to repay. Third, some shoppers saw credit as constraining their choices (e.g., requiring buying from a particular vendor instead of shopping around, or making it so they couldn't demand quality). Finally, some expressed pride at not being a person who took credit and thus exhausted other options first. Similarly, few mentioned asking relatives or friends for loans.

Finally, only three respondents mentioned attempting to find another job or earn more income – though this may have been because these were not seen as realistic options, given the local economy.

PRICE INCREASES, MARKET RELATIONSHIPS, AND MARKET DYNAMISM

Considering how price increases were impacting larger market dynamics, few shoppers reported that the increases had impacted their choice of markets, as the main market had long been thought the best option for finding both quality and low-cost products. However, about half noted that inflation had encouraged them to compare prices among vendors, as opposed to going to a few 'usual' vendors whom they trusted.

Regarding how vendors were adopting their market offering to take account of the price increases, nearly all interviewed vendors reported increasing their prices and decreasing the quantity they purchase, with some reducing the size per unit price (e.g., where kale was sold by the bundle of leaves, reducing the size of the bundle). Only a few (5 of 24) reported decreasing the quality of the products they sell or stopping stocking certain more expensive products (e.g., zucchini) altogether due to a lack of buyers. Almost none had changed their sources. Most reported selling less and earning less.

In addition, both vendors and shoppers widely mentioned that price increases created greater tension between vendors and shoppers in the market. Some shoppers blamed vendor profiteering for the price increases, while others understood that the vendors were in a difficult situation and were forced to increase prices. Many shoppers also noted that the vendors had become more short-tempered or less willing to bargain.

I sometimes think it is something the vendors are intentionally doing [it]. When I come to think of it, I think they just call one another and decide to raise the price themselves. – 2252, 28-year-old female shopper

Vendors, in turn, noted that shoppers were now quicker to become upset about price increases and potentially to blame them for it; as one 34-year-old female shopper described it, "the environment there [in the market] is anger" (2216).

People argue and complain about the price increment. If the price increases when they come tomorrow, people would not be in a good mood, and they usually ask or complain why the price has increased overnight... Some people insult us vendors and go without buying due to the price increment. – 2113, 30-year-old female kale vendor

However, vendors also generally recognized that their customers—particularly lower-income customers, or those with large families—were suffering due to the high prices.

Vendors generally had empathy for the plight of poorer shoppers and would try to accommodate them if possible (e.g., by offering credit or discounts). Many reported sometimes selling at a loss to avoid losing loyal customers or to help out poorer customers.

It is sad to see a mother unable to buy something and feel depressed after she asked a price and just leave away.... She might be disgraced to take a small amount of items with the money she has at hand. When I get elderly mothers who are unable to buy something, I use to give them a kilo or two of something for free.... It is satisfying. –1121, 26-year-old male tomato vendor

I feel sorry when customers are coming to buy foods and go back without buying when they don't have money.... When customers are coming with the expectation of buying the foods with 15 birr and the actual increased price of food is 20 or 25 birr, I may intentionally sell the foods for what they have in their hands.... Customers will consider this as a favor and build a long-term relationship with us; when customers come and get what they need, it is an accomplishment. We want our customers not to feel disgraced by realizing that they can't buy because they don't have money... – 2105, 21-year-old female lettuce vendor

To better understand how the market adapted to meet the needs of those facing affordability constraints, while avoiding the stigma around personally admitting to certain coping strategies (e.g., choosing low-quality products), both shoppers and vendors were asked what options a hypothetical low-income shopper would have if they did not have enough money to buy what they wanted in the market. Nearly all mentioned that such a person could buy lower-quality products sold at a discount, with buying a smaller amount also being a commonly named strategy. A few also mentioned taking credit or buying cheaper alternatives (e.g., potato instead of legumes). Indeed, discounted low-quality vegetables were noted to be readily available in the market, in the abovementioned 'gulit' section (where vegetables were sold by the pile as opposed to by weight), and could include vegetables that were near expiring or damaged. Some also mentioned purchasing at the end of the day, before vendors would discard any food that would soon spoil; getting leftover products on sale on non-main-market days; or purchasing from untaxed informal/unlicensed vendors, often selling on the street as opposed to in main market areas. As one 35-year-old male shopper put it, the market was “the mother of the poor” in its ability to provide food accessible to nearly all (2246).

DISCUSSION

This study examined how markets and individuals cope with rapid, unexpected increases in food prices, focusing on market vendors and shoppers in Hawassa, Ethiopia, during the 2022 food price crisis. The results revealed a clear set of food-based coping strategies, which are illustrated in Figure 3, with those cited most and least commonly signified with bold and italic text, respectively.



Figure 3. Summary of strategies used for dealing with increased food prices. The strategies cited most and least often are shown in bold and italics, respectively; those likely to reduce diet quality in red; and those likely to increase exposure to foodborne disease in blue.

These results generally align to prior research, confirming that households tend to first reduce consumption of ‘luxuries’, such as sweets and eating out, and of comparatively expensive ‘optional’ foods, protecting consumption of ‘essential’ staple foods, with strategies such as skipping meals less common (9,10,16,40). Encouragingly, and in line with this largely middle-class sample, no interviewees mentioned going entire days without eating, and the diets of young children were noted as prioritised for nutritious foods (as found elsewhere, (10)). However, it is important to reiterate that this sample was relatively middle class, and in an area of Ethiopia that faces only moderate food insecurity challenges, compared to the severe ones faced in other regions (41). Coping strategies used by lower-income households and in more vulnerable areas are likely more drastic: in general, the poorer a household is, the less margin they will have for adapting to higher food prices (Ruel et al. 2010).

Several strategies pursued by this study’s respondents suggest negative implications for diet quality (shown in red text in Figure 3). In particular, foods often omitted from the diet to reduce cost often included highly nutritious foods such as meat, dairy, fruit, and eggs. Such foods are comparatively expensive to begin with (42), and it is generally found that their demand is particularly responsive to price increases (9,12,43,44). In Ethiopia, these shifts are likely to lead to decreased diet quality, as ASF are critical sources of micronutrients often missing from Ethiopian diets (34,36–39), and more diverse diets are more likely to be nutrient adequate (45). Deficiencies in these nutrients can lead to decreased immunity and higher susceptibility to disease, anaemia, decreased work productivity, blindness, and increased mortality; when occurring during critical periods of life, consequences can include birth defects, reduced growth, and cognitive impairment (46).

Substituting foods with poorer-quality versions was also common—though only a minority reported doing so to date, most cited it as a viable strategy to pursue if needed. While mentioned in prior literature (9,10,14), prior analyses have usually not provided clear descriptions of how such products are inferior. Due to the in-depth qualitative nature of this study, its results are able to indicate specific ways in which quality is worsened. Some of these have little impact on diet quality or nutrition (e.g., misshapen or smaller grains or legumes), whereas others may. In particular, several respondents (both shoppers and vendors) cited ways in which quality changes might increase exposure to food safety hazards, such as through buying damaged, adulterated, or near-expiring goods. Foodborne disease is already a widespread challenge in Ethiopia and other lower-income countries, associated with a large and costly burden of disease, which is often borne disproportionately by young children and those on low incomes (47–51). The possibility that food inflation could exacerbate this situation is worrying and calls for policy interventions.

The study results also highlight a factor not widely examined in prior analyses of food price shocks: the ways in which the market responds. At the local level, markets are comprised of individual vendors and suppliers with agency to adapt choices in the face of rising prices. The results here show examples of lowering prices or providing free goods to adapt to low purchasing power of particularly poor shoppers as well as ensuring that lower-price options are available, including through selling lower-quality goods and unlicensed vendors. These latter strategies may have some negative implications for health (in the case of low quality) and longer-term sustainable economic development (in the case of untaxed, unlicensed vendors), and reducing informal/illegal vending and increasing safety are often key focuses of urban food policy (52). However, it is essential to recognize their importance in creating an informal safety net for the most vulnerable during inflationary times.

There are several limitations to this study. First, it focused on only one city (though one representative of urban Ethiopia, a country of high relevance in food policy discussions). The research was not comprehensive in coverage of topics, with non-food-related coping strategies covered less than those related to food. The analysis was primarily descriptive, and it is not possible to attribute observed results to determining factors. Data were self-reported, not observational, indicating that there may be some response biases, particularly for coping strategies seen as socially undesirable.

POLICY IMPLICATIONS

It is clearly imperative to protect diet quality amid food price inflation, and, considering this study's results in context of the literature, we suggest three main areas for doing so. First, providing social protection to increase the resources available to households to purchase nutritious foods can reduce the negative effects of price volatility (11). In this study, no respondents noted reliance on social protection programmes. This is not surprising, given that Ethiopia's social protection effective coverage rate is just 7.4%, compared to the global rate of 46.9% and the African rate of 17.4% (53). Analysis of the impacts of the COVID-19 pandemic on food and nutrition security in Ethiopia found that the main social protection programme – the Productive Safety Net Programme (PSNP) – significantly protected participants from negative effects on food security (54). However,

the PSNP focuses on rural areas and covers only about 2% of the urban population (53), leaving a large coverage gap, as the urban population is 22% of the country and rapidly growing (55). Closing this gap by expanding coverage is particularly important in the context of food price volatility, as higher food prices have often been shown to disproportionately hurt those in urban areas (10,56).

In strengthening social protection programmes to respond to food inflation, it will be important to ensure that such approaches are nutrition sensitive by targeting the most vulnerable (e.g., young children, pregnant women), adjusting for inflation, and complementing cash transfers with nutrition-focused social and behaviour change communication (17,57–59). On the later, this study's findings suggest the value of communication to raise households' awareness on food substitutions that do not decrease diet quality and the most affordable nutrient-dense foods (e.g., in Ethiopia, beef or chicken liver are considerably more affordable nutrient sources than beef or chicken meat; (60)). To reduce long-term vulnerability to food price shocks, however, it will also be important to create more well-paying and secure jobs in urban Ethiopia (23).

Second, dedicated efforts are needed to make nutritious foods more affordable in the face of global (or national) food price increases, such as price caps or food subsidies. In the long run, such policies can lead to economic distortions or limit the potentially positive impact of high prices on producers (61), but in the short run, they can play an important role in buffering temporary high inflation. Evidence from Egypt during the 2022 food price crisis suggests that poor households reduced consumption of some government-unsubsidized nutritious foods (such as meat and milk) while consumption of subsidized foods (such as bread, sugar, and oil) remained unaffected, suggesting an important role for the country's food subsidy program (62). Here, also, households were found to use subsidized food sources where available – but these covered only limited foods, rarely the most nutrient-dense ones. Including nutrient-dense foods such as vegetables and ASF, and excluding less-nutritious foods like sugar, would help increase the nutrition-sensitivity of policies like subsidies and price caps. Food safety policies can also be reexamined to ensure access to sufficiently safe food without eliminating sources on which lower-income consumers rely for nutritious foods at affordable prices, like informal market vendors. This includes through 'right fit' regulations that are inclusive of informal vendors and capacity-building to support compliance amid limited resources (63).

Third, it will be important to reduce food price volatility. This includes through investments in agricultural research and extension to increase productivity and production stability amid shocks; grain stocks; rethinking biofuel policy; international agreements and structures to support the flow of food and fertilizer out of conflict areas; and restrictions on detrimental trade policies such as export restrictions (11,17,18). As policies must respond to multiple types of price shocks – including those caused by climate, conflict, political instability, and supply chain disruptions – it is likely that a diverse portfolio will be needed. There is also a need to invest in greater tracking (perhaps using crowd-sourced data and that which can be automatically pulled from eCommerce sites) of food prices, including of nutrient-dense non-staples, to prepare to deploy policies and raise early warnings of high volatility.

This study used detailed qualitative data from urban Ethiopia to offer new insights into how individuals cope with rapidly rising food prices. The results make it clear that many—even middle-class shoppers—adopt coping strategies that can lower diet quality, with

potential negative long-term consequences for nutrition and health. Given recent increases in food price volatility and the expectation of more in the future amid climate change and conflict pressures, it will be important to enhance local, national, and international food policy frameworks to reduce such volatility and its effects on vulnerable households.

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ANNEX

Table A7. Foods Shoppers Report Buying Less of (Phase 2; n=50)

Food	Frequency	Avg. Rank	Salience
Edible oil	48	3.5	0.288
Teff	48	3.92	0.272
Onions	44	3.41	0.281
Meat	40	2.8	0.292
Garlic	30	4.2	0.164
Tomato	30	3.47	0.183
Egg	28	4.5	0.141
Lentil	28	2.71	0.195
Pasta	26	3.92	0.142
Butter	20	3.1	0.145
Berberere (hot pepper)	18	4.11	0.099
Maize	14	4.29	0.079
Shiro {Chickpea puree}	12	4.33	0.069
Barley	12	2.33	0.087
Carrots	12	4.33	0.071
Peas	10	3	0.065
Rice	10	4.2	0.053
Milk	10	3.8	0.052
Cabbage	10	5.6	0.046
Beans	10	4.6	0.055
Flour	8	4.5	0.045
Sugar	8	5.25	0.028
Banana	8	3	0.053
Lettuce	6	4	0.024
Beetroot	6	6	0.018
Potato	6	2.67	0.049
Grains	6	4.33	0.036

Note: items named by <2 respondents are omitted.

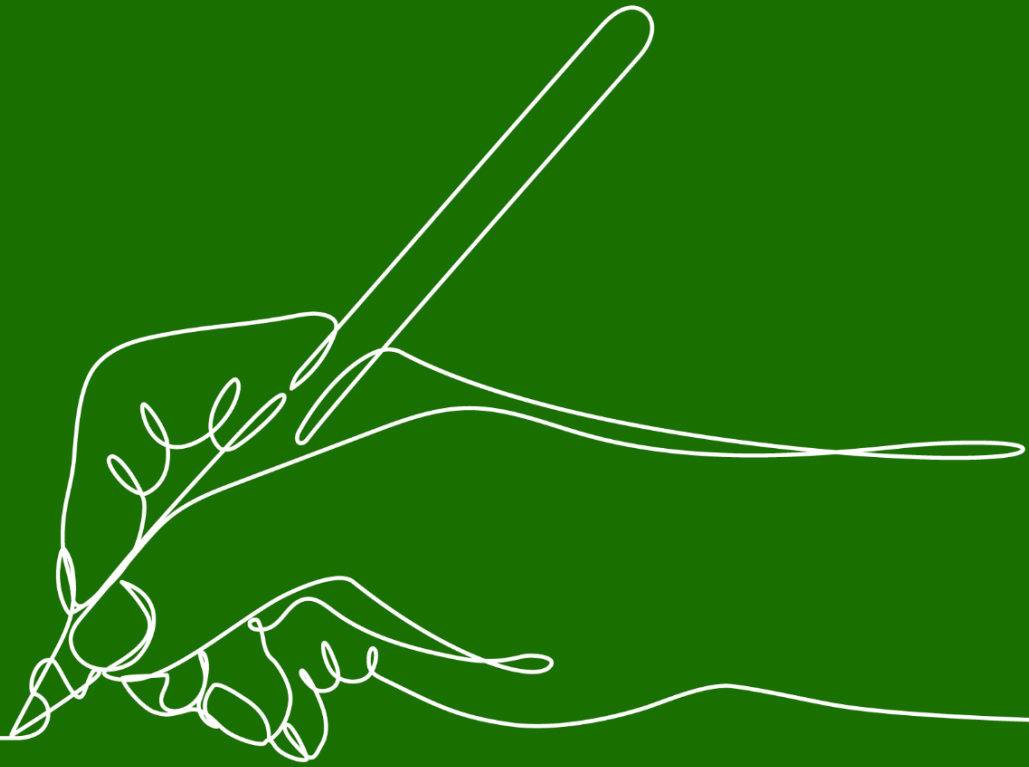
Table A8. Foods Shoppers Report Buying More of (Phase 2; n=50)

Food	Frequency	Avg. Rank	Salience
Potato	58	1.79	0.476
Tomato	36	2.22	0.254
Kale	34	3	0.184
Cabbage	16	3.13	0.093
Lettuce	16	3.5	0.081
Pasta	14	2.57	0.075
Carrots	12	2.5	0.079
Spinach	12	4.17	0.055
Rice	12	2.33	0.096

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Chickpea	10	2.8	0.06
None	10	1	0.1
Flour	10	2.6	0.067
Maize	8	3.75	0.048
Beetroot	8	3.25	0.036
Edible oil	6	1.67	0.047
Barley	6	2.67	0.043

Note: items named by <2 respondents are omitted.



ABOUT GAIN

The Global Alliance for Improved Nutrition (GAIN) is a Swiss-based foundation launched at the UN in 2002 to tackle the human suffering caused by malnutrition. Working with governments, businesses and civil society, we aim to transform food systems so that they deliver more nutritious food for all people, especially the most vulnerable.

ABOUT THE GAIN WORKING PAPER SERIES

The GAIN Working Paper Series provides informative updates on programme approaches, research and evaluations, and on topics of relevance for our work. The full series may be accessed at <https://bit.ly/gainpub>

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