

## The quest for safer foods:

### The COVID-19 crisis and dairy value chains in Ethiopia

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May 13<sup>th</sup>, 2020

#### Highlights

- *The share of households consuming dairy products in Addis Ababa has dropped by 11 percentage points since the COVID-19 crisis, seemingly linked to perceived risks of consuming dairy products. All income groups declined their consumption, except for the richest quintile where the share of consuming households changed little.*
- *More than half of the consumers in Addis Ababa reported to avoid the consumption of animal-source foods due to the COVID-19 risk. There is however strong heterogeneity in the type of dairy products that are affected. We find a significant drop in the demand for raw milk, a steady - or even higher - consumption of pasteurized milk, and an increase in purchases of powdered milk, as the latter two are considered safer by consumers.*
- *This change in consumer preferences is passed down through the dairy value chain with those distributors, collectors, and rural farmers involved in the raw milk value chain severely affected by the COVID-19 crisis. The latter are less able to sell their milk. As a consequence, butter prices significantly decreased in rural areas, due to more processing of milk and therefore an excess butter supply. Some dairy households further indicated losses, and some indicated increasing their own consumption.*
- *Prices of liquid milk stayed stable in urban retail markets and producer prices for those producers that supply dairy processing plants did not change. Marketing margins did not change very much either.*
- *On the input side, widely used feed prices – wheat bran and oilcakes in particular – did temporarily increase by 30 to 40 percent but prices came down because of the reduction in demand linked to the start of rain and the shift to grazing for cow feed for some producers. Prices of veterinary medicines increased also by 20 percent since the COVID-19 crisis started, possibly because of interrupted international supply chains for such medicines.*
- *Dairy production has not been affected by the crisis.*

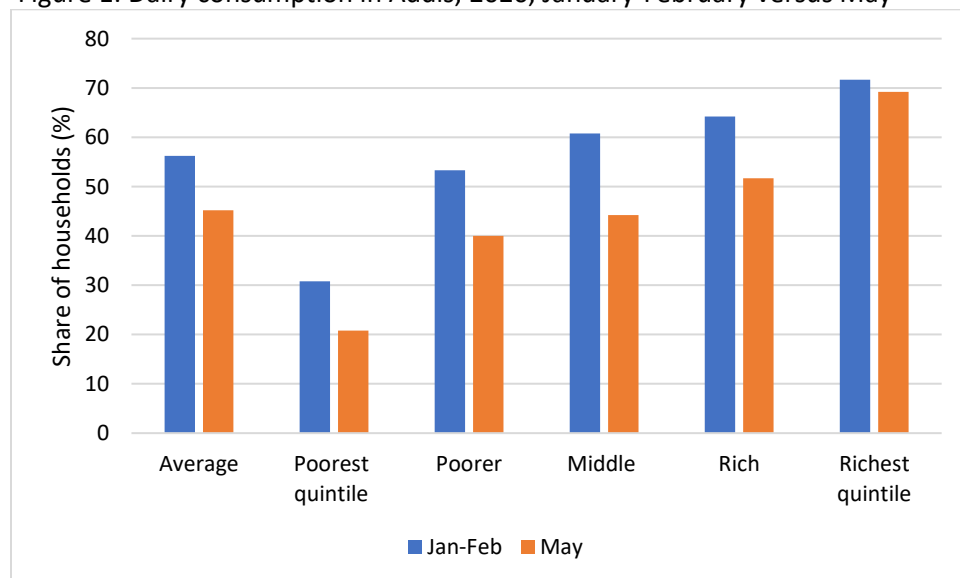
## Introduction

To understand the effects of the COVID-19 crisis on the dairy sector in Ethiopia, we conducted a qualitative appraisal of the dairy value chain supplying the city of Addis Ababa. Between April 15<sup>th</sup> and May 10<sup>th</sup>, we interviewed a number of commercial and small dairy farmers in urban and rural areas, dairy processors, traders, development agents, urban retailers, and consumers. Given that this assessment was done based on a non-representative number of interviews, caution is warranted for the extrapolation of our observations. They should be seen more as hypotheses of impacts of COVID-19 on dairy value chains.<sup>1</sup> However, given the large number of stakeholders that were interviewed (almost 100), we are confident that it is a reasonable assessment of the major trends seen after the onset of the COVID-19 crisis.

## Downstream – urban retail and consumption

The comparison of data from two recent large-scale household surveys in Addis Ababa indicate that the consumption of dairy products decreased since the start of the COVID-19 crisis. While 56 percent of Addis’ residents indicated in January-February 2020 - before the COVID-19 crisis - that they consumed dairy products in the 7 days before the survey was fielded, this percentage had on average declined, by 11 percentage points, to 45 percent of the interviewed households in May 2020 (Figure 1). The biggest change in consumption has happened over the three-month period for the four poorest quintiles - with the share of households that consume dairy products declining by between 10 and 17 percentage points - while the share of the richest quintile only declined slightly (-2.5 percentage points). Hirvonen et al. (2020) further show that the mean number of days that household consumed dairy foods between these two periods declined on average from 2.2 to 1.6, even though there were no fasting requirements in May in contrast to the January/February period.<sup>2</sup>

Figure 1: Dairy consumption in Addis, 2020, January-February versus May



Source: Wolle et al. (2020); Hirvonen et al. (2020)

<sup>1</sup> It is our intent though to substantiate these findings with more representative surveys in the near future.

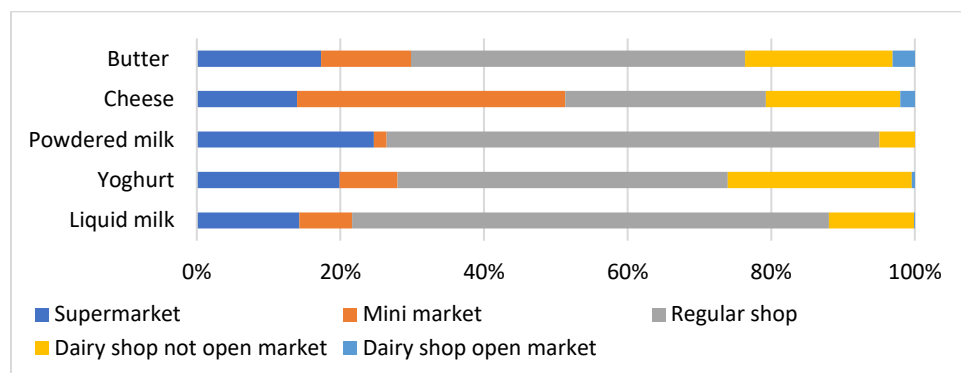
<sup>2</sup> On Wednesdays and Fridays for the 60 days that follow Easter, there is no fasting expected and therefore, there are 2 more milk-drinking days per week.

To understand the effects that COVID-19 might have had on the dairy value chain supplying the city of Addis Ababa, two important facts matter. First, the onset of the COVID-19 crisis was in the midst of the lent fasting period when a large majority of Orthodox Christians practice fasting, and therefore abstain from the consumption of animal-sourced foods (ASF). [This therefore leads every year to an important reduction in the consumption of dairy products during that period](#) and the reduction in dairy consumption seen in the period that the COVID-19 crisis hit Ethiopia was therefore partly related to the abstinence from ASF. Second, Hirvonen et al. (2020) show that more than 50 percent of the urban population shied away from the consumption of animal-sourced foods (ASF) to avoid the risk of COVID-19. This seemed to have been linked to the information in the media at the beginning of the outbreak indicating that consumption of fish and animal-sourced products (meat, milk, yoghurt, cheese) was associated with higher chances of infection with the coronavirus.

While that information has been corrected in the media since for the case of dairy products, there is seemingly still a widespread belief - linked to ongoing media reports, as it was part of the message transmitted by the Ministry of Health related to the consumption of raw forms of food because of fear of contamination through droplets coming from the food handler - that the consumption of especially raw animal-sourced food is linked to infection by the virus. This belief has then had effects on the type of dairy product that is demanded, with a significant reduction seen in the consumption of raw milk and a stable - or even increased - consumption of pasteurized milk.<sup>3</sup>

Figure 2 shows the importance of different outlets for the distribution of different types of dairy products in normal situations. “Dairy shops” - where people can buy milk and/or yoghurt, but there is also often space to sit and eat in the shop - are estimated to distribute 11 percent of the liquid milk, for a large part in raw form, and more than 25 percent of the yoghurt in Addis. Interviewed dairy shop owners or managers all complained about a sharp reduction in consumers, because they are often located in areas that are now less busy – such as around universities as students have gone home –, because people are recommended to sit far apart and these shops often lack space, and/or because the raw milk, or the yoghurt made from raw milk, is perceived to be linked with an increased risk of contracting the virus. Given the measures imposed by the government on distancing and their effect on the service sector, we also see a drop in demand by coffee houses and pastry shops, an important outlet for milk products as well.

Figure 2: Share of different outlets for the distribution of dairy products in Addis Ababa



Source: Authors’ calculations based on ESSP/LSIL dairy value chain survey, 2018

<sup>3</sup> Pasteurization is a process that kills off harmful bacteria and that allows for a longer shelf life. Raw milk that is not pasteurized is associated with quick bacterial and other pathogen growth and [is therefore considered an unsafe food](#).

We further see a decrease in activities by small informal distributors of raw milk. Typically, they sell raw milk, mostly from urban dairy farms and also partly from small-scale milk collectors, that they then commonly supply to urban residents in plastic jerrycans of 10 to 20 liters. They often also use public transport. The consumer-clients that we talked to indicated that they were scared due to the risk of COVID-19 of buying from such vendors. The reasons mentioned were the number of visits of different houses by such traders, the few precautions by them, and therefore the perceived likelihood of them spreading the virus, and fear of contamination of utensils used by collectors, milkmen, or vendors across this raw milk marketing chain.

Interviews with owners of regular shops - that are very important for the distribution of dairy products in Addis (Figure 2) - and of supermarkets indicate that demand was down, as usual, during the fasting period but that it has gone back to the same levels of before, or that it was even up compared to the same period in other years. Some indicated that they were running out of supplies. Moreover, they all indicated that the demand of powdered milk, that [normally makes up almost 10 percent of the dairy expenditures of urban households in Addis](#), significantly increased as consumers believed that such processed product was less risky compared to raw milk and as they also allow for longer storage, important given the uncertainty surrounding the stay-at-home measures, the risk associated with leaving residences, reduced mobility<sup>4</sup> as well as the fear of discontinuity in the functioning of food supply chains. We also assessed effects in the important butter markets but did not find significant disruptions of those, at least in urban areas.

#### **Midstream – dairy processing companies and collectors**

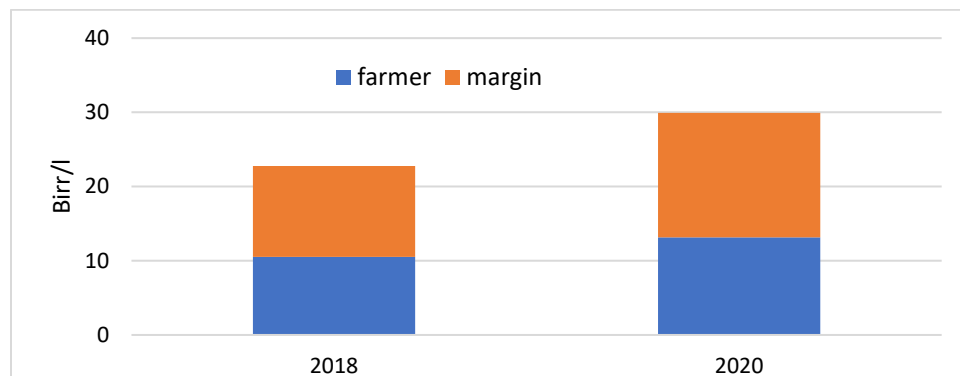
All the dairy processing companies that we contacted indicated that they were affected by the fasting period but that demand for their products has increased since and is back to normal levels, or even higher. These dairy processing companies collect milk themselves or they work with independent, usually larger, and better organized collectors. Those collectors have therefore been relatively less impacted. On the other hand, the smaller collectors that often are involved in raw milk value chains have been affected in an important way given the large drop in demand from dairy shops, coffee houses, cafés, and pastry shops.

We further looked at the marketing costs midstream in the value chain. To do so, we built [on a value chain survey that we did about two years ago](#) when we interviewed a large number of farmers and retailers. In the follow-up, we asked a (small) number of producers from that survey about the prices that they were getting as well as a (small) number of urban retail shops about retail prices. That allows us to compare the price evolution between those two periods. The results in Figure 3 show that milk retail prices have increased by 30 percent in nominal terms over a two-year period. [Given that overall and food price inflation have been at similar levels as those noted for milk over that period](#), it does not seem that there are any abnormal effects in these rises. It is to be noted that the prices for farmers as well as marketing costs both increased. The former however increased less (25 percent) than the margins (37 percent). Stakeholders involved in trade and processing indicated that margins were similar in May as before the start of the COVID-19 crisis and might therefore not have been driven by specific effects linked to the recent COVID-19 crisis.

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<sup>4</sup> As public transportation, such as taxis, are ordered to work at half capacity (load only half the people) and charge double the price and private cars can only be driven every other day, this has reduced mobility in an important way, increasing incentives for the purchase of goods that can be stored.

Figure 3: Share of farmer and marketing costs in final retail prices in Addis Ababa, nominal, 2018, 2020



Source: Calculations authors, based on ESSP/LSIL dairy value chain surveys in 2018 and 2020

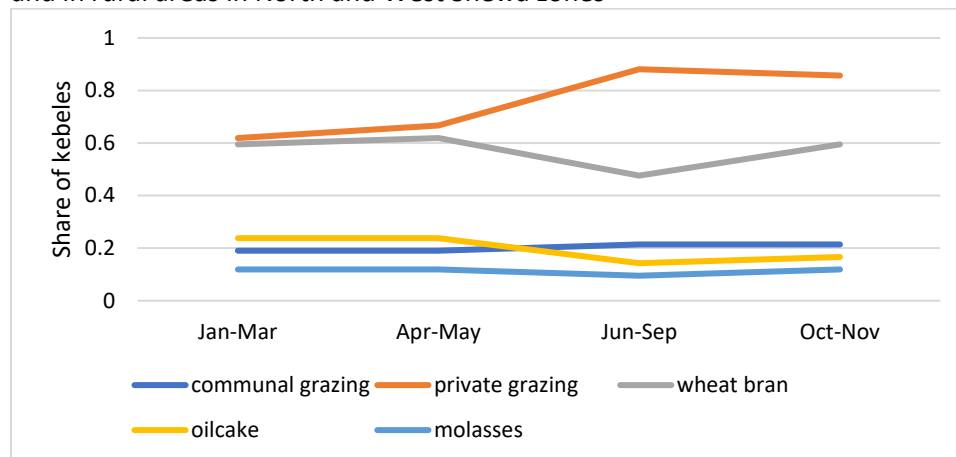
### Upstream – producers

[Smallholder dairy farms supply most of the liquid milk to Addis.](#) Their share is evaluated at almost 90 percent of all the milk supplied to the city. However, we see increased upscaling, especially so in suburban areas. More than 100 commercial dairy farms are now actively supplying Addis and it was estimated that they made up 11 (16) percent of the liquid (pasteurized) milk supply to the city in 2018. Given that these commercial farms are often involved in supplying dairy processing companies, which largely produce pasteurized milk whose demand was little affected, they seem to have been little impacted by the COVID-19 crisis. Moreover, urban dairy farms are also important. It has been estimated that there are around 30,000 dairy cows in the city supplying 31 percent of all the urban liquid milk. As the urban farms often have direct linkages with consumers, they reported that they also have been little impacted. It seems that those urban farms involved in longer raw milk value chains - relying on milk vendors for marketing - suffered more.

The big heterogeneity in impact is seen with smallholders in rural areas. Those that supply the dairy processing plants have not been impacted while those involved in the raw milk value chain to urban centers have clearly lost out. Those farmers that are well connected to modern processing firms seem to have been able to continue selling their milk. However, those farms that depend on the more traditional milk value chain complained about the difficulty of finding buyers and they have therefore resorted to increasingly convert their liquid milk to butter that they can then store for a longer period. Because of this increased processing, we do see effects on the butter prices that have dropped significantly in rural areas. Some farmers also reported an increase in losses because of the lack of buyers, especially in the beginning of the lockdown measures. Some dairy households also reported to increase their own consumption of dairy products.

On the cost side, farmers saw initially an increase in the feed price – especially of wheat bran and oilcake – that increased by 30 to 40 percent over the last months. This increase was partly linked with wheat factories that had less supplies from rural areas and/or that reduced operations and put some of their workers on leave due to the risk of COVID-19. There might also have been some transportation problems. However, that price increase was apparently short-lived. The more recent price decrease is partly driven by the reduced demand for these feeds as rain has started in the producing areas and a number of the producers there have switched from these commercial byproducts as feed to grazing during this period (Figure 4). Overall, all farmers indicated that there has been no reduction in production since the COVID-19 crisis.

Figure 4: Use of different feeds for average households in 42 kebeles in suburban areas around Addis and in rural areas in North and West Shewa zones



Source: Authors' calculations based on ESSP/LSIL dairy value chain survey, 2018

Finally, we assessed access to veterinary medicines. They seem to be less available in public pharmacies but can still be found in private pharmacies. However, stakeholders in rural production areas indicated that prices had gone up by 15 to 20 percent since the start of the COVID-19 crisis. Prices often increased because prices by distributors had increased, as their international supply channels might have been disrupted.

## References

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This report relies heavily on Agajie Tesfaye, Updates of emerging issues of the urban sector, EIAR, May 2020. The full report can be obtained from the author at [agajie@yahoo.co.uk](mailto:agajie@yahoo.co.uk). We thank Anne Bossuyt (IFPRI), Fantu Bachewe (IFPRI), Kaleab Baye (Addis Ababa University), and Rinus van Klinken (SNV) for comments on an earlier version of this blog.

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This work was funded in whole or part by the United States Agency for International Development (USAID) Bureau for Food Security under Agreement # AID-OAA-L-15-00003 as part of Feed the Future Innovation Lab for Livestock Systems, which is implemented by the Institute of Food and Agricultural Sciences of the University of Florida in partnership with the International Livestock Research Institute (ILRI). Any opinions, findings, conclusions, or recommendations expressed here are those of the authors alone.