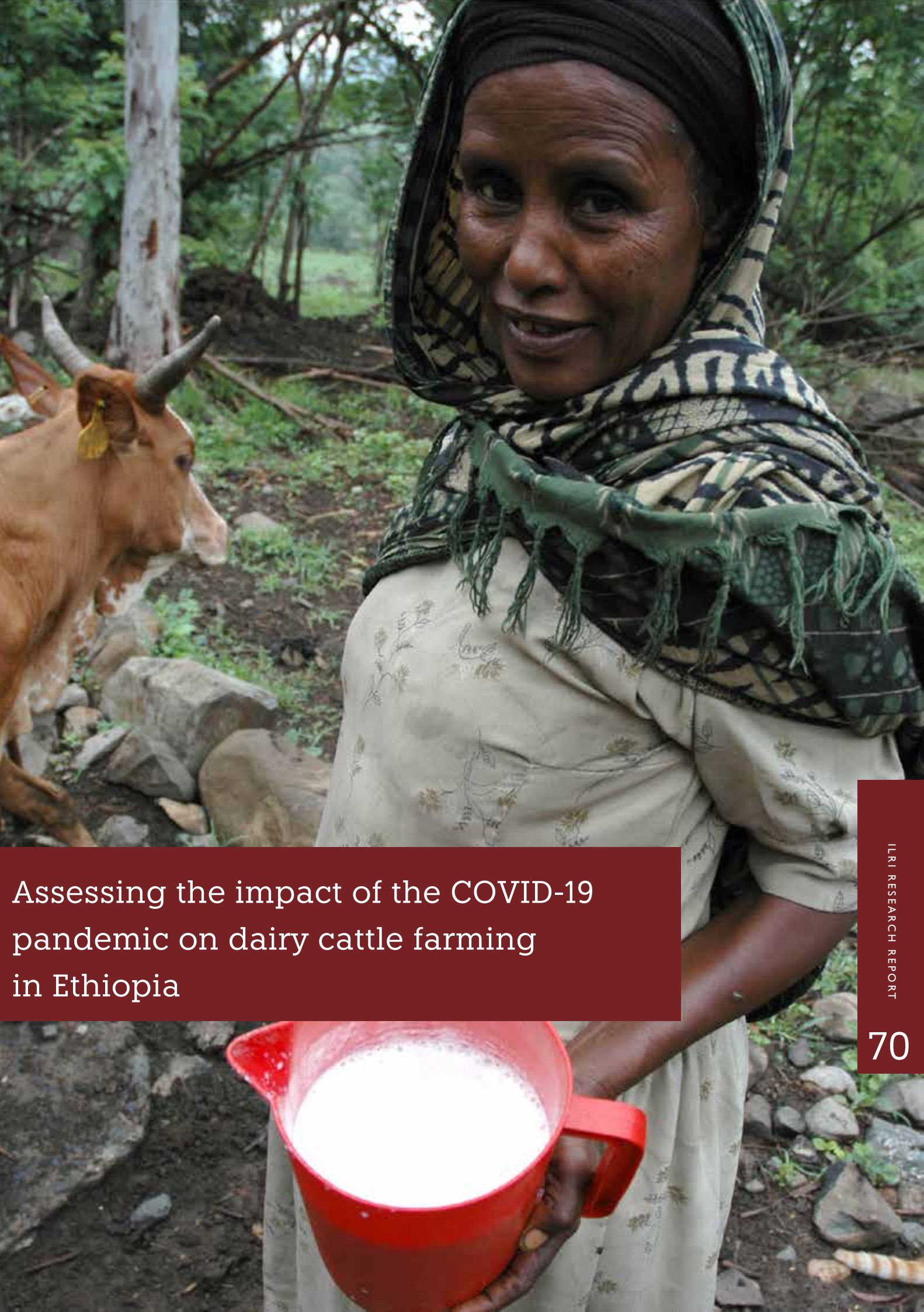




Assessing the impact of the COVID-19 pandemic on dairy cattle farming in Ethiopia

Assessing the impact of the COVID-19 pandemic on dairy cattle farming in Ethiopia

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Contents

Tables	iv
Figures	iv
Executive summary	v
Introduction	1
Methodology	2
Findings	3
Demographic information	3
Awareness of COVID-19 pandemic	4
Prevention of COVID-19	5
Impact of COVID-19	6
Impact of COVID-19 on dairy farming inputs supply and services	6
Impact of COVID-19 on milk production and milk sales	7
Conclusion and recommendations	9
References	10

Tables

Table 1:	COVID-19 prevention practices in Addis Ababa, cities, towns, and rural areas in percentage	5
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Figures

Figure 1.	Percentage of respondents in five regions and one city administration	2
Figure 2:	Age profile of the respondents	3
Figure 3:	Sex profile of the respondents	3
Figure 4:	Size of the family, number of respondents, per household	3
Figure 5.	Herd size, number of animals per household	3
Figure 6.	The level of concern among farmers about contracting COVID-19	4
Figure 7:	Means of COVID-19 transmission	4
Figure 8.	Impact of COVID-19 in general	6
Figure 9.	Impact of COVID-19 on dairy farming	6
Figure 10.	Trends of input supply during the COVID-19 pandemic	7
Figure 11:	Relative change reported in volume of milk sold from farms during the COVID-19 pandemic	7
Figure 12.	Demand of cow milk by the consumers/customers	8
Figure 13.	Trends on price at milk selling	8

Executive summary

The purpose of this report is to document the immediate impact of the COVID-19 pandemic on dairy cattle farming in Ethiopia and draw recommendations for enhancing dairy farming and the dairy sector's resilience to such pandemics and other market shocks. It presents the results of a rapid survey of the impact of the COVID-19 pandemic on smallholder and medium-scale dairy cattle farmers in Ethiopia during the period between 5 September and 11 October 2020. A total of 1,815 farmers who are part of the African Dairy Genetics Gains (ADGG) program from five regions of Ethiopia, and one city administration participated in the study. Majority of the respondents reported that dairy farming input supply and service provision such as feed, veterinary services, animal vaccines, artificial insemination, and daily hired labour had all decreased during the pandemic. More than half (60%) of the respondents reported a decrease in the total volume of milk produced per household, which was linked to the shortage of feed and other services. Forty-six percent of the respondents reported selling milk at a lower price compared to periods before the pandemic. Decreasing demand for milk by direct consumers, cooperatives and processors is one potential reason for the lower milk sales price. Thus, all service providers and input suppliers (both government and private sector) working in collaboration with the Ministry of Agriculture are important in safeguarding farmers from shocks which result from man-made or natural disasters such as those brought about by the COVID-19 pandemic. Additionally, supporting dairy cooperatives and processors to produce at full capacity and linking dairy farmers to microfinance providers so they can access credit will ensure sustained profitability of their dairy farms.

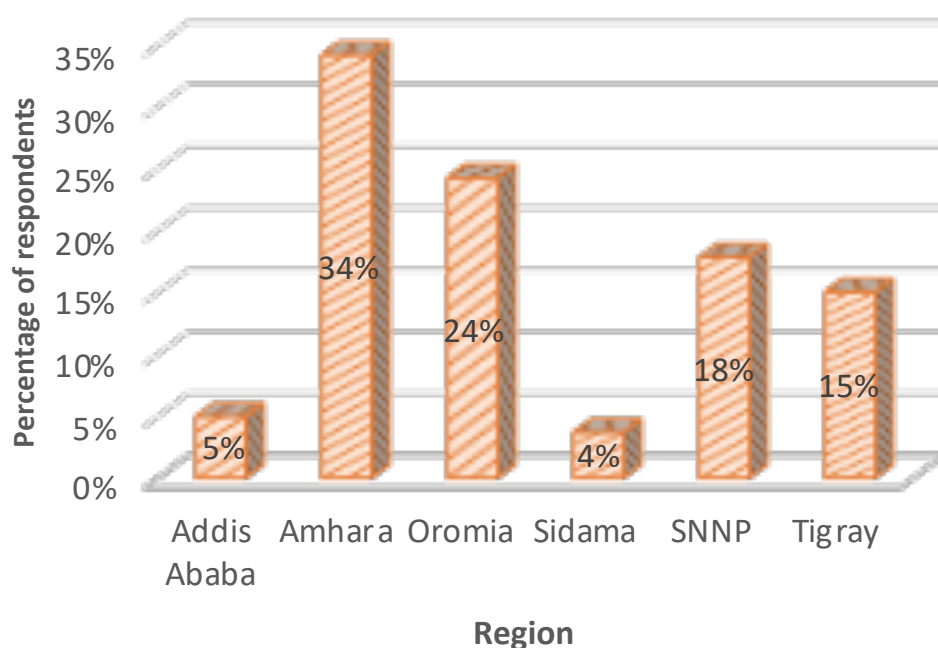
Introduction

The first case of COVID-19 in Ethiopia was officially reported on the 13 March 2020 by the Ministry of Health (WHO 2020). On the 8 April 2020, the Government of Ethiopia enacted a five-month state of emergency to control the spread of the disease and mitigate its impact. As at the time of compiling this report, the total number of cases reported in the country by Ministry of Health had surpassed 220,000 and the recovery and death percentage were about 75% and 1.4%, respectively, according to the Ministry of Health (<https://www.COVID19.et/COVID-19/>). The COVID-19 pandemic has had a negative impact on different industries across the country and worldwide including the dairy sector (Caffyn 2020; LAP 2020). The dairy farming sector in Ethiopia is fragile and is known to be very easily impacted by various external factors (Tesfaye et al. 2020). This survey was aimed at understanding the challenges posed by the COVID-19 pandemic on the Ethiopian smallholder and medium-scale dairy sector by assessing the pandemic's initial impact, and to propose possible solutions for enhancing dairy farming and the dairy sector's resilience to such pandemics and other market shocks.

Methodology

The study employed both quantitative and qualitative methods to assess the impact of COVID-19 on the smallholder and medium-scale dairy sector in Ethiopia. The survey was carried out between 5 September and 11 October 2020 in five regions (Oromia, Tigray, Southern Nations, Nationalities and Peoples [SNNP], Sidama and Amhara) and one city administration (Addis Ababa) and involved 1,815 dairy farmers (Figure 1). The study areas are categorized into capital of country, regions, and zones, and districts into Addis Ababa, city, town, and rural, respectively. The survey was conducted via Google Forms and was completed by African Dairy Genetic Gains (ADGG) program's performance recording agents (PRAs). The PRAs gathered the data through direct (i.e. in-person) interviews of dairy farmers drawn from randomly selected households, and the questionnaires from Google Forms were filled online. The primary data sources were therefore dairy farmers, and the study also analysed reports by the print and electronic media to understand the sector.

Figure 1. Percentage of respondents in five regions and one city administration



Findings

Demographic information

Most of the respondents were between the ages of 31 and 50 years (Figure 2), of which 75% were male (Figure 3). According to Centers for Disease Control and Prevention (CDC) reports, risk of severe illness and death from the COVID-19 virus increases with age. Results of our survey showed that most household members (80%), were outside the high-risk category.

Figure 2: Age profile of the respondents

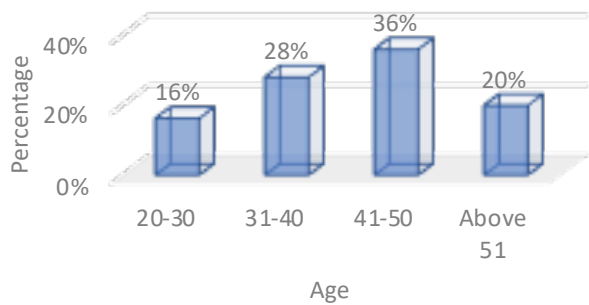
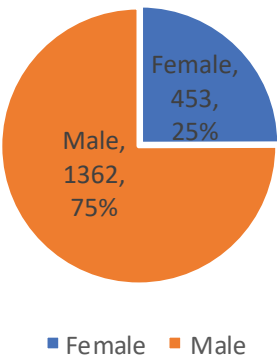


Figure 3: Sex profile of the respondents



Family size ranged between 1 and 13 persons per household with most (74%) of the respondents having family sizes of between 3 and 6 persons per household (Figure 4). Total number of cattle owned per household was between 1 and 65 (Figure 5). The higher proportion, 99.3%, of the respondents, keep between 1 and 5, and 6 and 30 cattle. A negligible fraction (0.7%) of the respondents own more than 30 cattle.

Figure 4: Size of the family, number of respondents, per household

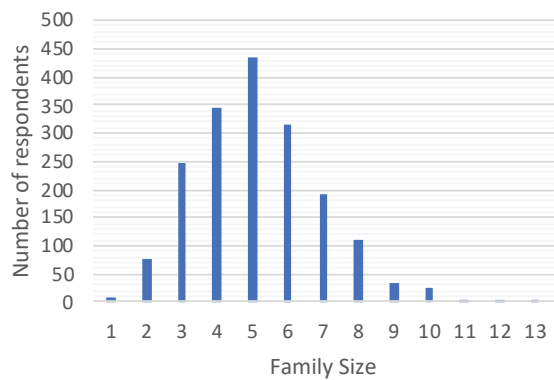
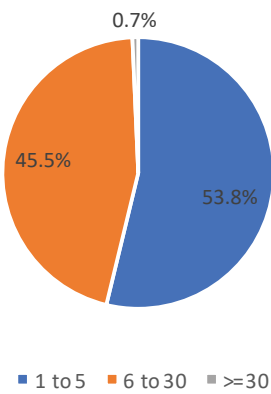


Figure 5: Herd size, number of animals per household

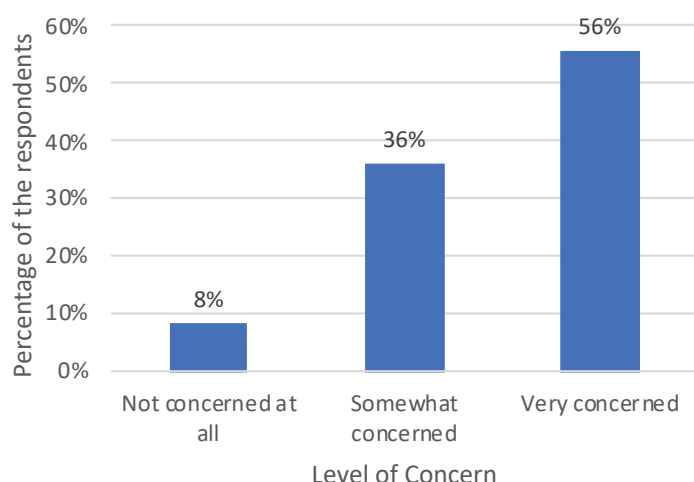


Awareness of COVID-19 pandemic

All dairy farmers interviewed in this survey were aware of the ongoing COVID-19 pandemic. Though farmers receive information on the pandemic from various sources, most information is from government agencies and offices. Agricultural/livestock offices in regions and districts use extension personnel to make farmers aware of the pandemic and COVID-19 prevention measures. The sources of information on symptoms, mode of transmission and prevention of COVID-19 are diverse and include television, radio, social media, health centres, family, neighbours, and local communities. In response to the pandemic, Ethio telecom is creating awareness across the country via free SMS messages and cellphone call-progress tones have been replaced with COVID-19 prevention messages and related information. About 82% of the respondents felt enough information has been made available about COVID-19 to reduce the risk of getting sick during the pandemic.

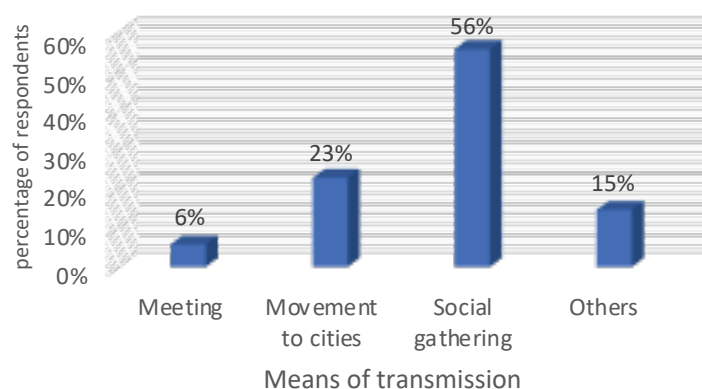
Majority (92%) of the respondents were concerned about the possibility of becoming sick with the coronavirus (Figure 6). Only eight per cent of the farmers were not concerned about the health risks of the disease for them, their family and dairy workers, even though they have access to COVID-19 pandemic information from different sources including the media. More than 50% of farmers expressed concern about getting sick while working in the dairy farm with different workers.

Figure 6. The level of concern among farmers about contracting COVID-19



The respondents prioritized factors that accelerate the spread or transmission of the COVID-19 virus as: majorly social gathering (56%) followed by movement to big cities (26%) (Figure 7).

Figure 7: Means of COVID-19 transmission



Prevention of COVID-19

COVID-19 prevention practices implemented on the dairy farms included: social distancing, providing employees with face masks and advising them to always wear them, instructing employees to wash hands regularly, providing hand sanitizer, advising animal handlers to clean animals before milking, and ensuring clean milk equipment and a clean environment for the dairy cows as presented below in the Table 1. Overall, more than one third of dairy farmers from rural areas and towns did not regularly practice COVID-19 prevention measures. Particularly, 36% and 23% of employees from rural and town dairy farms, respectively, were not wearing face masks. A significant percentage of dairy farm workers, above 80%, from rural areas were not well instructed on the need for frequent handwashing. Thus, more effort is needed to reach more than quarter of the farmers in small towns and rural areas with information on basic COVID-19 preventive measures. Governmental and non-governmental organizations need to create platforms to teach/train these farmers on how they can make reusable face masks from locally available clothing materials and ensure distribution of detergents and hand sanitizer from local producers at a reasonable price that rural communities can afford.

Table 1: COVID-19 prevention practices in Addis Ababa, cities, towns, and rural areas in percentage

Item	Addis Ababa			City		Town			Rural		
	Yes	No	Not feasible	Yes	No	Yes	No	Not feasible	Yes	No	Not feasible
Social distancing	79	14	7	99	1	80	19	1	59	31	10
Wear mask	96	4		99	1	77	22	1	64	27	9
Instruct employees to wash hands frequently	100			100		91	7	2	19	7	74
Provide hand sanitizer/disinfectant	92	8		80	20	74	23	3	61	28	11
Clean animal before milking	99	1		100		99	1		88	9	3
Clean milk equipment	98	2		100		99	1		93	5	1
Clean cow environment	98	2		100		84	16		77	11	12

Impact of COVID-19

Results from the survey showed that majority (86%) of dairy farmers are concerned about the impact of the COVID-19 pandemic in general (Figure 8), and three out of four dairy farmers reported on the negative impact of the COVID-19 pandemic on their dairy farming businesses (Figure 9).

Figure 8. Impact of COVID-19 in general

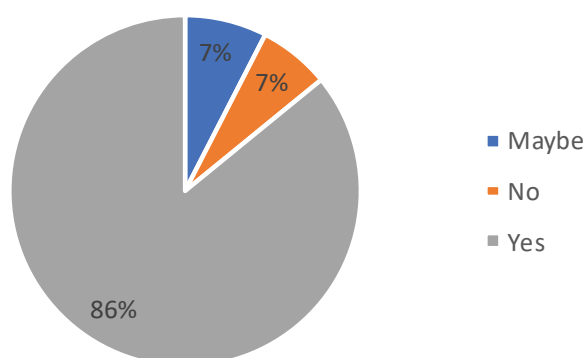
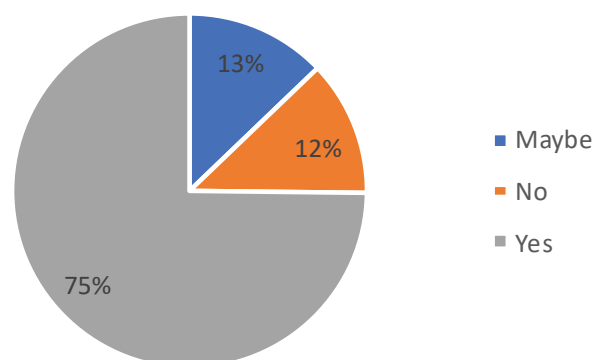


Figure 9. Impact of COVID-19 on dairy farming

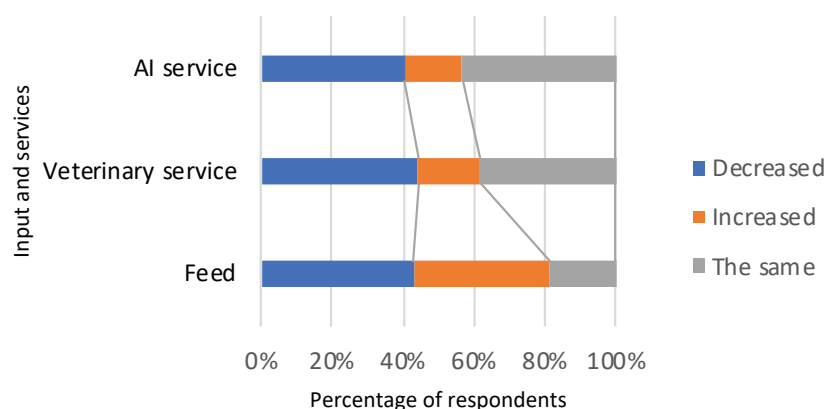


Impact of COVID-19 on dairy farming inputs supply and services

The state of emergency between April 2021 and August 2021 led to a doubling of the cost of transportation because of the new national transport policy that required passenger loads to be reduced by half to effectively enable appropriate social distancing. This higher cost of transport and restriction of movement led to a decrease in dairy farm inputs supply. Shortages of feed supply, mainly industrial by-products were experienced in the local markets. Artificial insemination (AI) service delivery and provision of animal health services such as vaccine and any other treatment also decreased, with more than 40% of dairy farmers reporting such decreases during the period (Figure 10). Mitigative actions are, therefore, required to ensure that input supply and essential services are not significantly disrupted and are continuously provided to the farmers. Additionally, 45% of the respondents indicated that availability of farm labour also decreased. Dairy farming is labour intensive, and shortage of daily labour supply has affected daily farm management activities such as cleaning, hand milking, fresh feed processing and other farm activities.

Most (82%) respondents indicated that the cost of dairy farming inputs and services has risen compared to the past five months ago. The higher price is associated with shortage of input supply and services, and restricted movement.

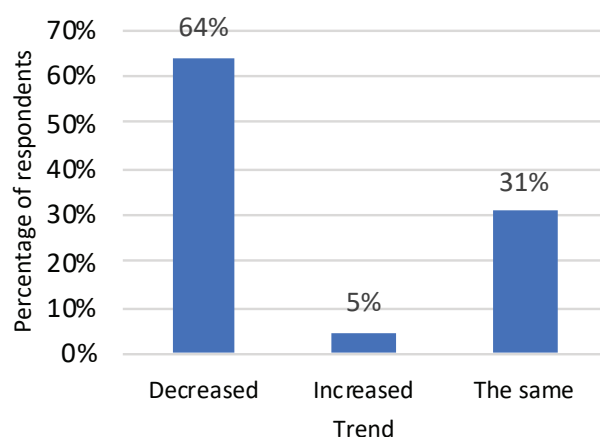
Figure 10. Trends of input supply during the COVID-19 pandemic



Impact of COVID-19 on milk production and milk sales

Herd and individual cow milk production decreased over the period. About 60% of the respondents reported such decreases. The reduction of milk production is directly related to shortage of dairy farming inputs and services, and the associated higher input/service prices. However, 38% of dairy farmers indicated that supply had not changed over the COVID-19 pandemic period. In terms of sales, 64% of the dairy farmers reported total milk volume sale to processors and local market has decreased (Figure 11). The surplus milk was being used for home consumption by the majority of dairy producers (74%).

Figure 11: Relative change reported in volume of milk sold from farms during the COVID-19 pandemic



The majority of dairy producers said reasons for the reduction in volume of milk sold were reduced demand for cow milk because of the fear that COVID-19 could be transmitted via contaminated milk at farm level or during transaction. Reduction in milk supply was recorded in most cooperatives and milk processors particularly at the onset of the COVID-19 pandemic in Ethiopia (Figure 12). About 75% of the respondents claimed that movement restriction was one of the key reasons for the reduction of the volume of raw milk available for sale. Additionally, the sale prices for milk to consumers/processors had significantly decreased, with 46% of the farmers and respondents reporting such decreases (Figure 13). This was attributed to reduced demand. The finding from this survey agrees with other reports. For example, the livestock agribusiness profiling (LAP) project reported that 46% of dairy companies were operating below 40% of their capacity during the same periods (LAP 2020).

Figure 12. Demand of cow milk by the consumers/customers

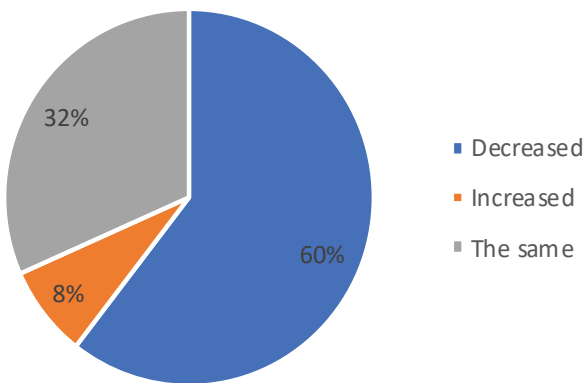
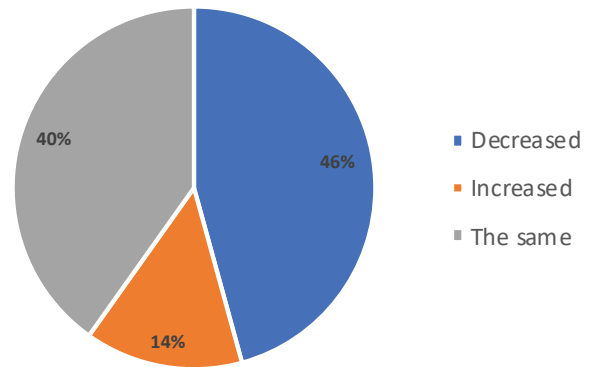


Figure 13. Trends on price at milk selling



Conclusion and recommendations

This survey showed that the COVID-19 pandemic has significantly and negatively impacted smallholder and medium-scale dairy farming in Ethiopia. Dairy producers experienced reduced availability of inputs and limited access to services, leading to reduced production of milk. Besides, the demand for dairy products and prices offered by processors also declined. The net result of all the above was reduced profitability of dairy business for both medium-scale and smallholder farmers. Therefore, the impact of the COVID-19 pandemic on the dairy farming sector needs to be closely followed up by the government and key stakeholders, such as non-governmental organization, farmer associations and cooperatives, and immediate actions need to be taken to mitigate the negative effects of the pandemic on the sector.

Recommended actions for mitigating the impact of the COVID-19 pandemic and future shocks in the dairy sector in Ethiopia include:

- Preparation of targeted printed and voice messages and their dissemination using telecommunication platforms in local dialects to help dairy stakeholders understand the COVID-19 pandemic and its impact.
- Provision of simple television adverts or leaflets on how face masks could be made locally and used by farmers.
- Strengthening milk processing milk cooperative to process long-life and improving the profitability of dairy farms by building the capacity of farmers in converting milk to butter, cheese and yoghurt.
- Promoting insurance and financial services in rural areas through cooperatives and micro-finance institutions.
- Empowering cooperatives /producer organizations to improve collective marketing.
- Creating platforms for e-commerce to allow the supply of farm inputs and local dairy products.
- Promoting the local sourcing and production of animal feed, inputs and supplements.
- Introducing price controls to reduce inflation on critical input supplies and services.
- Providing subsidies to agri-food sectors to maintain activities during lockdowns.

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