Ethiopian Economics Association
(EEA)

Ethiopian Economic Policy Research Institute
(EEPRI)

Assessment of COVID-19 Effects and Response Measures in Ethiopia: Livelihoods and Welfare Implications

Degye Goshu, Mengistu Ketema, Getachew Diriba and Tadele Ferede

Policy Working Paper 04/2020

July 2020

Assessment of COVID-19 Effects and Response Measures in Ethiopia: Livelihoods and Welfare Implications[1]

Degye Goshu[2], Mengistu Ketema[3], Getachew Diriba[4] and Tadele Ferede[5]

Policy Working Paper 04/2020

July 2020

[1] This paper is released urgently to make it available for reference; hence it has not undergone a peer-review process.

[2] Senior Researcher, Ethiopian Economic Policy Research Institute, Ethiopian Economics Association (degyeabgos@gmail.com)

[3] Senior Researcher, Ethiopian Economic Policy Research Institute, Ethiopian Economics Association (mengistuket@gmail.com).

[4] Chief Executive Officer, Ethiopian Economics Association (gdiriba@yahoo.com).

[5] Associate Professor, Department of Economics, Addis Ababa University ((tadele.ferede@aau.edu.et)

Copyright © Ethiopian Economics Association (EEA)
All rights reserved.

ISBN: 978-99944-54-77-8

The views expressed herein are those of the authors. They do not necessarily reflect the views of the Ethiopian Economics Association, its Executive Committee, or its donors.

The works of Ethiopian Economics Association including this publication is made possible by the generous grans of the Bill & Melinda Gates Foundation (BMGF) and Open Society Initiative for Eastern Africa (OSIEA).

Table of Contents

List of Figures iv

List of Tables iv

Executive Summary v

1. Introduction 1

2. Knowledge on Response Measures 3

2.1. Dataset 3

2.2. Awareness on mitigation measures 4

2.3. Knowledge on containment measures 5

3. Income, Livelihoods and Coping Strategies 8

3.1. Employment dynamics 8

3.2. Income and livelihoods 12

3.3. Coping strategies 17

4. Food Insecurity and Welfare Assistance 18

4.1. Food insecurity situation 18

4.2. Welfare assistance 20

5. Impacts on Access to Basic Services 22

5.1. Impacts on health services 22

5.2. Effects on education 24

6. Conclusions and Recommendations 26

6.1. Conclusions 26

6.2. Recommendations 27

References 30

List of Figures

Figure 1: Awareness on mitigation measures against the virus (%) 5
Figure 2: Distribution of households' non-farm business by sector 10
Figure 3: Reasons for loss of jobs in non-farm business sector 12
Figure 4: Impacts of the pandemic on household total income by area of residence 15
Figure 5: Impacts of the pandemic on total income of households across regions 16
Figure 6: Reason for inability to buy enough medicine 23

List of Tables

Table 1: Regional distribution of sample households in the first round 3
Table 2: Knowledge on government containment measures 6
Table 3: Behavioral changes to reduce exposure since outbreak of the pandemic 7
Table 4: Employment condition of households 9
Table 5: Sectoral distribution of employment activities before and after the pandemic 11
Table 6: Impacts of the pandemic on income of households with different livelihoods 14
Table 7: Perception of households on non-farm business income decline since outbreak 15
Table 8: Adoption of household coping strategies against income loss since outbreak of the pandemic 17
Table 9: Food insecurity situation of households since the outbreak of the pandemic 18
Table 10: Access to food/main staples since outbreak of the pandemic 19
Table 11: Reasons for inability to buy staple food items 20
Table 12: Households receiving assistance since outbreak 20
Table 13: Cash and non-cash assistance since outbreak of the pandemic 21
Table 14: Household health conditions since outbreak of the pandemic 22
Table 15: Reason for inability to access medical treatment 24
Table 16: Educational activities since outbreak of the pandemic 25

Executive Summary

Incidence of COVID-19 pandemic that started in China in December 2019 and then spread to the entire world has adversely affected the world economy and threatened the welfare of populations. Since incidence of the first case on 13th of March 2020 in Ethiopia, the government has designed several mitigation and containment measures to reduce exposure and to control the pandemic. Awareness creation among the public was aggressively undertaken by the Government including the declaration and the enforcement of the state of emergency.

Following the issuance of 'Economic and Welfare Effects of COVID-19 and Responses in Ethiopia: Initial insights' in April 2020, and 'Economy-wide effects of the COVID-19 in Ethiopia: Policy and Recovery Options', July 2020, both by the Ethiopian Economics Association; this study is designed to assess the level and efficacy of awareness of mitigation and containment measures that have been intended to lessen the impacts of the pandemic on welfare of households. The welfare assessment mainly focuses on the dynamics of employment, livelihoods, income, coping strategies against income loss, food insecurity, social safety nets and access to basic services.

To assess public awareness and action to the pandemic, the first-round household-level baseline data collected by the World Bank using high frequency phone call between April 22 and May 13, 2020 is utilized. It covers 3249 households in all regions of the country (30 percent rural and 70 percent urban). The data is supposed to provide the Ethiopian government and other stakeholders timely information and to support evidence-based response to the COVID-19 crisis.

The results of the study confirm that knowledge on the pandemic has been created in both rural and urban areas of the country. Eight mitigation measures (avoiding travels and crowds/gatherings, avoiding touching faces, social distancing, avoiding handshakes/physical greetings, and handwashing have been well perceived by about 83 percent or more of rural and 95 percent or more of urban households. Although masks or gloves have been understood by rural (61 percent) and urban (77 percent) households, it is less so compared to other measures.

Households have also different levels of awareness on the containment measures taken by the government. The study assesses households' knowledge of 14 containment measures. One of the containment measures taken by the government to reduce exposure of citizens to the pandemic on which better understanding is created is 'stopping or limiting social gatherings'. About 79 percent of the households have knowledge on the benefits of this containment measure to control the pandemic. The top nine containment measures taken by the government, in order of awareness created, are the following:

1. Stopping or limiting social gatherings (79.3 percent);
2. Advice to citizens to stay at home (41.7 percent);
3. Closure of schools & universities (30.7 percent);
4. Creating hand washing kiosks or facilities (26.6 percent);
5. Dissemination of knowledge about the virus (24.3 percent);
6. Restricted travel within the country/area (21.1 percent);
7. Curfew or lockdown (14.4 percent);
8. Provision of food to the needy or vulnerable social groups (10.9 percent); and
9. Closure of non-essential businesses (10.2 percent).

More importantly, the greatest proportion of households have developed behavioural changes related to the most important habits: hand washing with soap (98.4 percent), avoiding physical greetings (96.1 percent), and avoiding crowds and gatherings (83.1 percent). To control the pandemic, these behavioural changes should further be practiced by all households in both rural and urban areas of the country.

The pandemic in Ethiopia has created substantial dynamics/changes in the spatial and sectoral distribution of employment conditions following the pandemic. The normal operation of nearly all sectors have been adversely affected since the outbreak of the pandemic.

Households reported that agricultural operations are less adversely affected by the pandemic at the time of the phone survey. Large majority of farm households (95.7 percent) responded that they are normally undertaking their agricultural operations, which is not a surprising response as the timing of the data collection represents the pre-*kremet* (main planting season). For various reasons, only 4.3 percent of the farm households were not able to run their farm operations normally. The top three reasons for their abnormal farm operations are

the government advice to stay at home (36.7 percent), agricultural labor shortage (28 percent), and problems related to weather conditions (19.3 percent).

Of those household members who lost their job, about 82.4 percent are due to the pandemic while the reaming 17.6 percent are for other reasons. Households employed in the non-farm business activity are differently affected by the pandemic. About 42 percent of the households engaged in the non-farm business activities are employed in wholesale and retail trade followed by agriculture (11 percent), public administration (10.4 percent), transport services (8.4 percent), and personal services (8.2 percent). The other sectors contribute to the remaining 30 percent of employment activities in the non-farm business sector.

Sectoral distribution of employment has undergone significant changes since the outbreak of the pandemic. This employment dynamics is reflected in terms of changes in the number of jobs compared to the base period (before the pandemic). As expected, the service sector is the primary victim of the pandemic. The top six economic activities where substantial proportion of jobs are lost are the following:

1. Construction with 69 percent of jobs lost;
2. Hotel and Restaurants with 66 percent of jobs lost;
3. Wholesale and retail with 62 percent of jobs lost;
4. Industry/manufacturing with 42.2 percent of jobs lost;
5. Transport services with 37 percent of jobs lost; and
6. Personal services with 31 percent of jobs lost.

The top three reasons of job loss in the non-farm business activities include: Jobs lost due to the virus (62.5 percent), termination of causal employment contract (19.5 percent), and temporal absence (11.4 percent). Other non-farm business activities contribute about 7 percent jobs lost since the outbreak of the pandemic.

Impacts of the pandemic on income of households is varied across sectors, regions, and place of residence. About 58 percent of households engaged in non-farm business have experienced income loss, whereas 27.5 percent of them have lost their entire income since outbreak of the pandemic. The second source of livelihood adversely affected by the pandemic is remittance from abroad, 39 percent of the households reported near-total loss of their income. Other losses of livelihoods including farming (39.5 percent), investments and savings (34

percent), domestic remittance (33 percent), wage (21 percent), and NGO assistance (20 percent) are also adversely affected by the pandemic.

The study shows that 49.8 percent of rural and 52.4 percent of urban households faced income loss/reduction since the outbreak of the pandemic. However, total income loss is relatively higher among urban households (6 percent) compared to their rural counterparts (2 percent). The top five regional states with incidence of income reduction since outbreak of the pandemic are Somalie (83.7 percent), Harari (61.8 percent), Tigray (56.2 percent), Oromia (55.6 percent), and SNNP (49.7 percent).

Although the World Bank survey was conducted early in the progression of the pandemic in Ethiopia, nevertheless, 23.4 percent of the households reported shortage of food of which 21 percent reported lack of resources, and 14 percent reported being hungry. The reported incidence of food insecurity, in April and May which is a month later after the first cases of the virus was reported, is likely to be a reflection of an underlying chronic food deprivation than only caused by the COVID-19.

The other impact of the pandemic is related to access to health services and facilities. However, since the outbreak of the pandemic, about 13 percent of the households were not able to buy enough medicine. About 17 percent of the households required medical treatment but 86 percent of them had access to medical treatment. Households were not able to access medical treatment because of lack of money (41 percent), shortage of medical supplies (20 percent), lack of transportation (16 percent), closure of health facility (8 percent), and absence of medical personnel (7.5 percent). The top three reasons for households for their inability to buy enough medicine are decrease of regular income (69 percent), shortfall of supply at drug shops (12.6 percent), and price increase of medicine (8.3 percent).

Recommendations:

1. *Widening, strengthening and sustaining public awareness campaign*: the government, the media and other stakeholders must continue heightened public awareness campaign to further improve the knowledge about the proposed mitigation and containment measures both in rural and urban areas of Ethiopia.
2. *Continuing targeted government support to the functioning of vital sectors of the economy including agricultural activities, construction, manufacturing,*

services, and industries to an extent it is feasible and supported by both domestic and international markets: Greatest majority of households engaged in non-farm business sectors are more adversely affected by the pandemic. The trade sub-sector, wholesale and retail trade in particular, is the primary business activities where most urban households generate income and livelihoods. It is also the main marketing channel where the balance between the supply of and the demand for goods is maintained for minimizing demand and supply shocks and reducing welfare losses in both rural and urban areas. The government should continue to stabilize the smooth functioning of the marketing of major staples.

3. *Protection of jobs and creation of new ones:* In spite of government efforts and other stakeholders, job losses are widely reported in construction, hotels and hospitality, merchandising, education, and health. In addition to welfare transfers to households who may have lost jobs or unable to command purchasing power, the government and the private sector must work in tandem to maintain the functioning of key economic and service sectors.
4. *Rollout new and expand on the existing social assistance programs such as rural and urban safety nets:* The major livelihoods of households largely affected by the pandemic are non-farm business, remittance, and NGO and government assistance. Related to its fragile nature of livelihoods, greatest proportion of households in Somalie region also faced exceptionally higher incidence of income loss. The income of households living on these livelihoods has been significantly reduced. Particular focus and support are needed to urban households experiencing total loss of their income due to the pandemic. As the COVID-19 duration extends into July/August, the traditionally 'food deficit season', it is expected that increasing number of households will experience severe food deprivation. An extended relief measures for targeted households must be considered, including expansion of PSNP and direct emergency assistance.
5. *Continue to maintain an uninterrupted and integrated supply chain throughout the country:* Trade activities within a community, markets, across districts, and regions must be sustained not only to facilitate commodity exchange, but also to help create and maintain jobs. Price rise of major food items coupled with income loss by households has jeopardized significant proportion of such households. The government should design suitable

market stabilization measures to smooth supply and consumption of major food staples, essential medicines, and access to medical services.

6. *Maintain and strengthen access to health services for both the COVID-19 and other patients:* There is a need to balance and strengthen basic health facilities for the regular health services in parallel with combating the COVID-19. If this is not considered, there is a risk that more deaths could be recorded because of diseases other than COVID-19, such as other (non)-communicable diseases.
7. *Education system consideration: O*ne of the major impacts of the COVID-19 is its effect on the entire educational system. Advance planning and parental information are needed about the coming academic year, that is, when schools (kindergarten, primary, secondary, and university education) would be opened. If and when school opening is considered, the Ministry of education and Ministry of Science and Higher Education in collaboration with relevant stakeholders (e.g. health sector players) must provide guidelines and details about containment and protection measures.

1. Introduction

The COVID-19 pandemic presents a historic and unprecedented shocks in the entire world. The pandemic triggers multiple and reinforcing shocks simultaneously (Triggs & Kharas, 2020), namely health, economic, and social disruptions. The pandemic generates shocks to the economy through three sources. First, governments impose bans on certain types of business activities (e.g. restaurants, clubs, etc.). Second, firms take precautionary measures such as business closures and reduced operations. Third, individuals reduce trips to the market, travel, going out, and other social activities, affecting the demand side. These actions would adversely affect economic activity and changes the economic trajectory (Baldwin, 2020; Baldwin and di Mauro, 2020).

Following the first COVID-19 reported case in Ethiopia on 13 March 2020, the Government of Ethiopia has taken several measures to contain the spread of the virus. Government interventions are related to public health measures (e.g. awareness, isolation and quarantine, health screenings, testing, wearing protective gear), movement restrictions, economic measures (such as tax exemptions, fiscal stimulus, liquidity injection, interest rate reduction, loan rescheduling), social measures (e.g. physical distancing, public service closure, limit public gatherings, school closures), and governance and lockdown (e.g. partial lockdown, state of emergency, stay-at-home, etc.). Although the pandemic is still unfolding, it is necessary to know the effects of these interventions on household livelihoods. Using household survey data[6], this study seeks to provide empirical evidence regarding the effects of different measures related to the pandemic.

Following the issuance of 'Economic and Welfare Effects of COVID-19 and Responses in Ethiopia: Initial insights' in April 2020, and 'Economy-wide effects of the COVID-19 in Ethiopia: Policy and Recovery Options', July 2020, both by the Ethiopian Economics Association, this study is designed to assess the level and efficacy of awareness of mitigation and containment measures that have been intended to lessen the impacts of the pandemic on welfare of households. The welfare assessment mainly focuses on the dynamics of employment,

[6] The data used for this study is obtained from the World Bank, Microdata: www.microdata.worldbank.org, accessed June 2020.

livelihoods, income, coping strategies against income loss, food insecurity, social safety nets and access to basic services.

To assess public awareness and action to the pandemic, the baseline survey data (round 1) collected by the World Bank using high frequency phone call between April 22 and May 13, 2020 is utilized. It covers 3249 households in all regions of the country (30 percent rural and 70 percent urban). The data is supposed to provide the government and other stakeholders timely information and to support evidence-based response to the COVID-19 crisis in Ethiopia.

The paper is organized in six sections. Section 2 presents awareness and mitigation measures while Section 3 discusses income, livelihoods and coping strategies. Section 4 presents food insecurity and social safety nets. Section 5 presents access to basic services while Section 6 concludes the main findings of the study and recommends possible intervention measures to smooth the impacts of the pandemic on welfare of households.

2. Knowledge on Response Measures

2.1. Dataset

This study utilized the dataset collected by the World Bank using high frequency phone call survey. This phone survey was planned to be conducted for a total of seven rounds to track the impact of the pandemic for the purpose of providing data to the government and development partners in near real-time for supporting an evidence-based response to the crisis. A total of 3249 households selected from the fourth (2018/19) Living Standard Measurement Study (LSMS) samples were called back every three to four weeks for each survey round (World Bank, 2020).

This study is based on the household survey data generated from the first round (undertaken between April 22 to May 13, 2020) of phone survey consisting of 3249 households (about 70 percent from urban and 30percent from rural areas). Table 1 presents regional distribution of samples.

Table 1: Regional distribution of sample households in the first round

Region	Rural	Urban	Total
Tigray	136	196	332
Afar	63	132	195
Amhara	145	184	329
Oromia	227	221	448
Somalie	121	46	167
Benishangul Gumuz	77	127	204
SNNP*	76	132	208
Gambella	53	134	187
Harari	60	243	303
Addis Ababa	0	570	570
Dire Dawa	20	286	306
National	***978***	***2,271***	***3,249***
Share (%)	***30.1***	***69.9***	***100.0***

Note: * SNNP denotes Southern Nations, Nationalities and Peoples region.
Source: www.microdata.worldbank.org (17 June 2020).

2.2. Awareness on mitigation measures

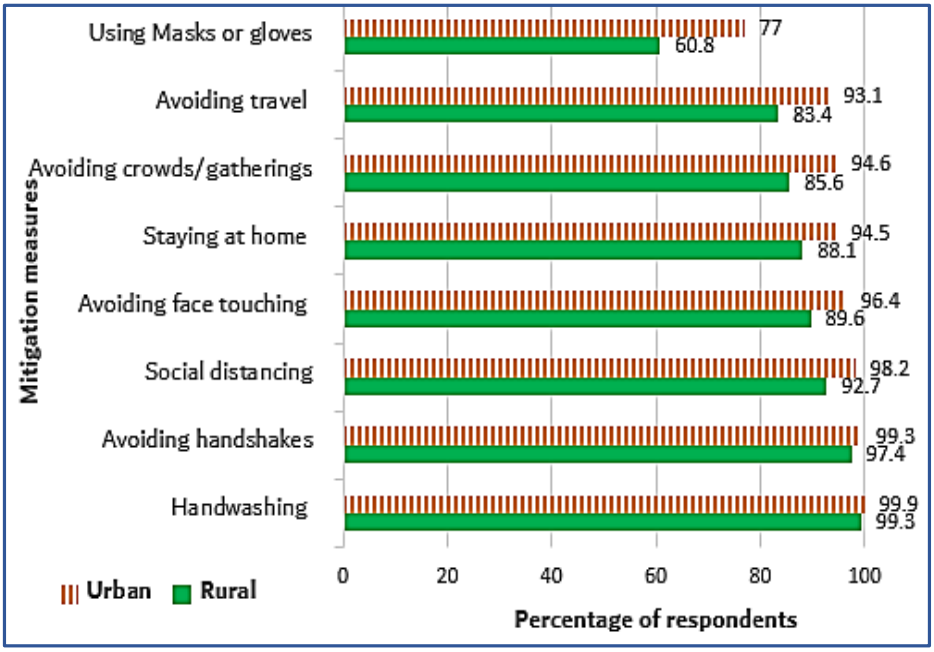
The COVID-19 pandemic is a major global threat. It creates health, economic, social, and financial shocks. It will not be possible to minimize both deaths from COVID-19 and the economic impacts of viral spread. Keeping mortality as low as possible will be the highest priority and hence government's efforts have been to curve the inevitable economic downturn. Controlling the pandemic as a priority regardless of its economic cost (Baldwin and Mauro, 2020) in developed economies has not been followed through strictly in Ethiopia. Instead, in Ethiopia where the health facilities are not adequate to treat patients and where self-isolation after being infected is not feasible because of economic and housing conditions, the most relevant and feasible option has been to control the pandemic and to limit the spread (Degye et al., 2020).

The spread of the pandemic has been checked by applying different control and mitigation measures. The mitigation strategies in controlling the pandemic include: using masks/gloves, avoiding travel, avoiding crowds/gatherings, staying at home, avoiding face touching, social distancing, avoiding handshakes, and frequent handwashing. Respondents were asked about whether or not they have the knowledge about these control measures.

Accordingly, the level of awareness about control measures is found to be generally encouraging. Awareness about handwashing, avoiding handshakes, social distancing, avoiding face touching, avoiding gathering, and avoiding travels as measures for controlling COVID-19 is high among urban respondents (77 percent) as compared to rural respondents (60.8 percent). This could probably be related to the fact that masks/gloves are fairly available in urban areas as compared to rural areas (Figure 1).

Overall, effective awareness creation activities have been done by the government early on, starting probably before the initial COVID-19 cases are reported in the country and fairly before this first round survey in April/May 2020 was conducted. However, it should be understood that awareness creation should not be an end by itself. Proper implementation of these mitigation measures is of paramount importance for controlling the virus.

Figure 1: Awareness on mitigation measures against the virus (%)



Source: Based on World Bank data (June 2020).

2.3. Knowledge on containment measures

Following the awareness questions on individual mitigation measures to reduce exposure to the pandemic, respondents were also asked about their knowledge on the benefits of containment measures taken by the government.

The result revealed that limiting social gatherings is a measure understood by majority of the population (79.3 percent), in both rural and urban areas, starting during the early detection reports. The government advice to stay at home is moderately understood by the population (41.7 percent). Though closure of schools and universities is one of the mandatory measures in the country as a whole, it has not been recognized by many respondents during this initial survey. The importance of creating hand washing kiosks or facilities was more prevalent in urban compared to rural areas.

Table 2: Knowledge on government containment measures

Containment measures	**Respondents' Awareness (**Percent)		
	Rural	**Urban**	**Both**
Stopping or limiting social gatherings	77.6	82.7	79.3
Advised citizens to stay at home	40.1	45.0	41.7
Closure of schools & universities	31.1	29.7	30.7
Creating hand washing kiosks or facilities	17.9	43.9	26.6
Disseminate knowledge about the virus	16.1	40.8	24.3
Restricted travel within country/area	22.3	18.7	21.1
Curfew/lockdown	17.7	7.8	14.4
Provision of food to the needy	9.8	13.0	10.9
Closure of non-essential businesses	7.7	15.3	10.2
Nothing	6.8	3.7	5.8
Restricted international travel	6.1	5.0	5.7
Open clinics and testing locations	1.4	4.0	2.3
Building more hospitals or renting hotels to accommodate patients	1.3	4.0	2.2
Other	0	2.2	0.8
Observations	***968***	***2265***	***3233***

Source: Based on World Bank data (June 2020).

The knowledge on the need to expanding treatment and retention centers through building more hospitals or renting hotels to accommodate patients and opening clinics and testing locations are at very lower levels. This implies that a lot has to be done in terms of increasing number of testing sites, treatment centers, and isolation and quarantine centers as the number of cases increase. It is also necessary for the government to enforce implementation of measures like curfew/lockdown, travel restrictions, and closure of some non-essential businesses wherever necessary.

Apart from awareness creation and enforcement of containment measures by the government, the public also demonstrate behavioral changes through self-motivated implementation of the feasible containment measures. In this regard,

hand washing with soap is being implemented by about 99 percent of respondents with little variation between urban and rural respondents (Table 3). As hand washing remains the first step for preventing the spread of COVID-19, when done properly and frequently with soap and water by all members of the community. When soap and water are not available, it should also be known that the next best option is to use an alcohol-based hand sanitizer (WHO, 2020).

Furthermore, avoiding handshakes is being implemented by majority of the respondents. Handshaking is among the major ways for the spread of the viruses, since we touch our faces multiple times every hour as studies indicated (Elder et al., 2014). It is expected to be the same or even more serious for COVID-19 given the behaviors of the pandemic.

Avoiding crowds and gatherings are being implemented by about 98.4 percent of the households, with almost no difference between rural and urban dwellers. Although implementation of handwashing, avoiding handshakes, and avoiding gatherings is generally encouraging both in rural and urban areas in general, it is still necessary to enforce on those who are not implementing them yet.

Table 3: Behavioral changes to reduce exposure since outbreak of the pandemic

Basic habits	**Respondents (%)**		
	Rural	**Urban**	**Both**
Handwashed with soap more often since outbreak	99.1	99.1	98.4
Avoided handshakes/physical greetings since outbreak	95.8	96.6	96.1
Avoided crowds and gatherings since outbreak	81.1	86.9	83.1
Observations	***971***	***2267***	***3238***

Source: Based on World Bank data (June 2020).

3. Income, Livelihoods and Coping Strategies

3.1 Employment dynamics

The business operation of different sectors and the employment condition in these sectors have undergone substantial changes since the outbreak of the pandemic (Table 4). The majority of farm households (95.7%) responded that they are normally undertaking their agricultural operations. For various reasons, only 4.3 percent the farm households were not able to run their farm operations normally. The top three reasons for their abnormal farm operations are the government advice to stay at home (36.7), agricultural labor shortage (28 percent), and problems related to weather conditions (19.3 percent). As expected, in April and May 2020, agriculture is less adversely affected by the pandemic. The government should minimize the adverse effects of the outbreak in the upcoming farming seasons and compensate the income loss experienced in other sectors of the economy.

Considering the early stage of the pandemic, it is not surprising to note that about 98 percent of the households are operating in the same job before and after the pandemic. Before the pandemic, about 23.4 percent of the households were employed in non-farm business sector. Job losses experienced by non-respondent household members since outbreak of the pandemic are generally related to the pandemic. Of those household members who lost their job, about 82.4 percent are due to outbreak of the pandemic while the reaming 17.6 percent are for other reasons.

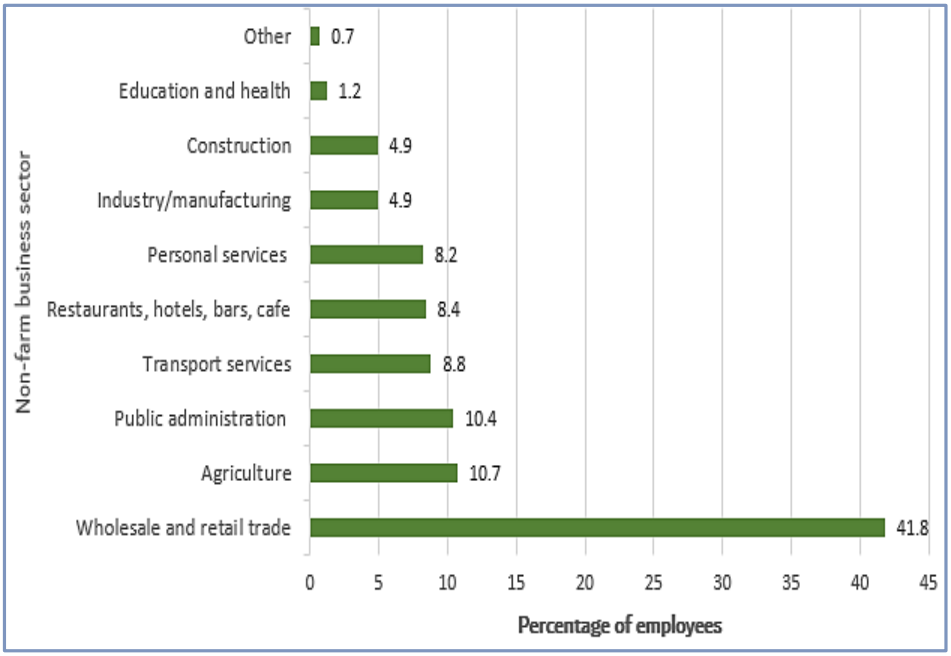
Table 4: Employment condition of households

Variables	Respondents (%)
Farm running normally since outbreak	95.7
Households farming before outbreak	66.4
Previously employed before outbreak	27.3
Similar job before/after the outbreak	98.0
Engaged in non-farm business before outbreak	23.4
Non-respondent household member wage-employed before outbreak	12.7
Non-respondent household member lost job since outbreak	24.4
Household member job loss related to COVID-19	
Related to COVID-19	82.4
Unrelated to COVID-19	17.6

Source: Based on World Bank data (June 2020).

About 42 percent of the households are employed in the wholesale and retail business where the adverse effects of the pandemic are more pronounced (Figure 2). The other five sectors that generate 46.5 percent employment include: agriculture (except farming), public administration, transport services, restaurants and hotels, and personal services). The remaining 11.7 percent of households are engaged in other non-farm activities including manufacturing and construction.

Figure 2: Distribution of households' non-farm business by sector



Source: Based on World Bank data (June 2020).

The COVID-19 pandemic, as expected, has adversely affected employment in almost all sectors (Table 5). Sectors adversely affected by the pandemic and substantial number of jobs lost include construction, hotels and restaurants, wholesale and retail, industry/manufacturing, transport and personal services. Employment in agriculture has increased after the pandemic. Although it is too early to conclude, it seems that agriculture has served as a fall-back activity as some workers who lost their jobs in other sectors tend to end up in agriculture. It should be noted that some sectors gain in employment while others experience a fall in employment. However, it is important to know the net employment gains at the country level as well as the return to labour as sectors differ in terms of their productivity and factor returns.

Households engaged in other sectors for their livelihoods, including transport services (36.7 percent) and personal services (31.4 percent), have also lost their jobs since the outbreak of the pandemic. A majority of farm households and related subsectors have been undertaking their normal agricultural operations since outbreak of the pandemic (13 March 2020).

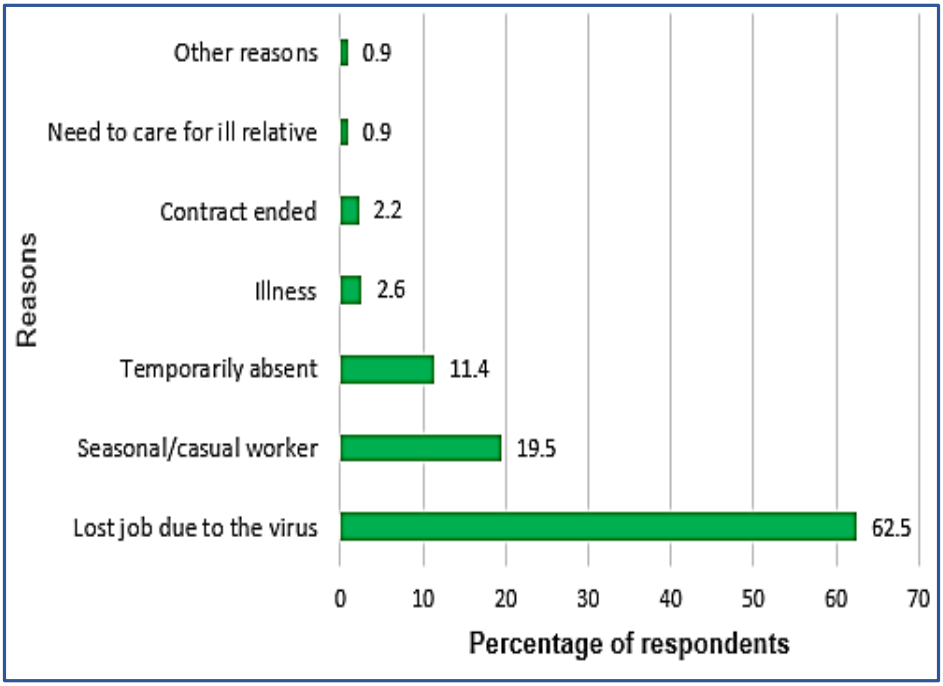
Table 5: Sectoral distribution of employment activities before and after the pandemic

Sectors	**Before**	**After**	**Change (%)**
Construction	12.2	3.8	-68.9
Restaurants, hotels	6.2	2.1	-66.1
Wholesale and retail	19.8	7.5	-62.1
Education and Health	2.9	1.1	-62.1
Industry/manufacturing	6.4	3.7	-42.2
Transport services	4.9	3.1	-36.7
Personal services	11.8	8.1	-31.4
Public administration	8.9	9.4	5.6
Agriculture	22.4	63.2	182.1
Other sectors	2.4	0.9	-62.5
Observations	***512***	***512***	-

Source: Based on World Bank data (June 2020).

Households were asked to validate the main reasons for their loss of jobs in the non-farm business sector (Figure 3). The top three reasons of job loss covering 93.4 percent of the jobs lost include due to the virus (62.5 percent), termination of causal employment contract (19.5 percent); and temporal absence (11.4 percent).

Figure 3: Reasons for loss of jobs in non-farm business sector



Source: Based on World Bank data (June 2020).

3.2 Income and livelihoods

The dataset offers nine major household livelihood sources in Ethiopia to help assess the impacts of the pandemic on income of households. Households were asked to self-report the change in their income since outbreak of the pandemic: whether income was increased, remained the same, reduced or faced total loss. The level of impact of the pandemic on income generated from these livelihood sources us presented in Table 6. About 58 percent of the households engaged in non-farm business have faced income loss, whereas 27.8 percent have lost their entire non-farm income since the outbreak of the pandemic. The second source of livelihood adversely affected by the pandemic is remittance from abroad from which about 39 percent of households have lost their income.

Other sources of livelihoods including farming (39.5 percent), investments and savings (33.9 percent), domestic remittance (33.1 percent), wage (21 percent), and NGO assistance (20 percent) are also adversely affected by the pandemic. The top five household livelihood sources for which total income losses are reported:

(a) foreign remittance,
(b) non-farm business,
(c) NGO assistance,
(d) government assistance, and
(e) domestic remittance.

It appears that the total income of half of the households (50.7 percent) engaged in different activities has been adversely affected by the pandemic and about 4 percent have experienced loss of their total income.

In response to the adverse impacts of the pandemic on household livelihoods, NGOs (15.4 percent) and the government (12.5 percent) have assisted vulnerable social groups. The income of households from almost all sectors has been changed since outbreak of the pandemic. The total income of only 44 percent of the households has remained the same before and after outbreak of the pandemic.

Table 6: Impacts of the pandemic on income of households with different livelihoods

Livelihoods of households	**Observations**	**Respondents** (Percent)			
		Increased	**Unchanged**	**Reduced**	**Total loss**
Foreign remittance	212	1.0	36.5	23.8	38.7
Non-farm activity?	780	1.2	13.6	57.6	27.5
NGO assistance	52	15.4	42.7	20.1	21.6
Government assistance	226	12.3	59.3	12.9	14.1
Domestic remittance	255	3.1	52.1	33.1	11.7
Wage	1440	0.7	68.9	20.7	9.4
Properties, investments and savings	385	2.4	55.8	33.9	7.9
Farming	1025	1.9	56.6	39.5	1.8
Pension	190	0.6	95.4	3.9	0.0
Total	***3,249***	***1.3***	***44.1***	***50.7***	***3.9***

Source: Based on World Bank data (June 2020).

Income of households engaged in non-farm business activities have faced relatively higher income loss. They were asked to generally estimate the amount of income lost from non-farm activities (Table 7). About 41.1 percent household reported income loss of more than 50 percent and the other 33.9 percent lost about 50 percent of their income due to the pandemic.

Table 7: Perception of households on non-farm business income decline since outbreak

	Respondents (Percent**)**		
	Rural	**Urban**	**Both**
Decreased by about half of the usual	32.1	35.3	33.9
Decreased by more than half of the usual	36.0	45.0	41.1
Decreased by less than half of the usual	29.8	19.7	24.1
Observations	***90***	***373***	***463***

Source: Based on World Bank data (June 2020).

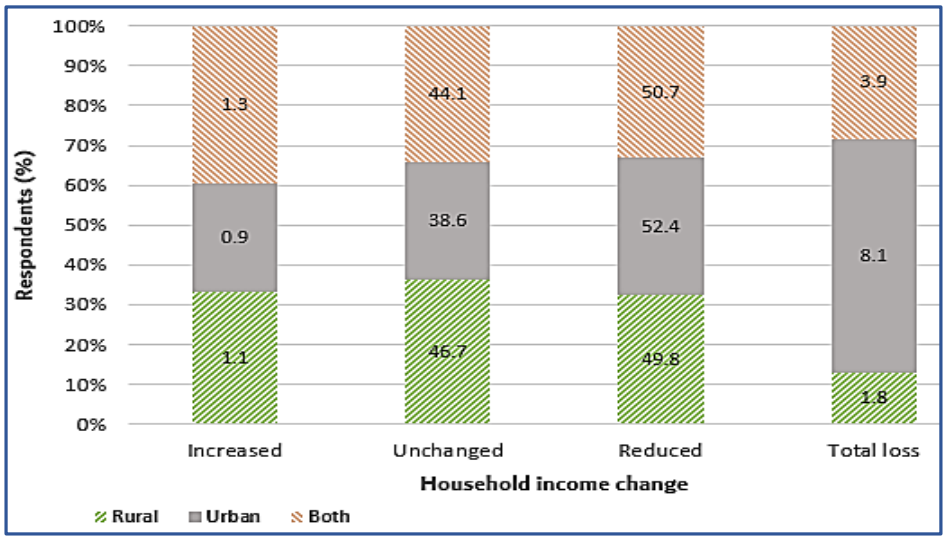
The impact of the pandemic on total income of households residing in rural and urban areas of Ethiopia was also assessed (Figure 4). The results show that about half of rural households (49.8 percent) and 52.4 percent of their urban counterparts have faced income decline since outbreak of the pandemic.

However, total income loss is relatively higher among urban households (8.1 percent) compared to their rural counterparts (1.8 percent).

Figure 5 presents household income reduction and total income loss due to the pandemic. The first radar graph of the figure shows the relative level of income reduction faced by households. The top five regional states with high incidence of income reduction since outbreak of the pandemic are Somalie (83.7 percent), Harari (61.8 percent), Tigray (56.2 percent), Oromia (55.6 percent), and SNNP (49.7 percent). The proportion of households in the other region facing income reduction rages from 38.1 percent in Gambella to 45.6 percent in Addis Ababa.

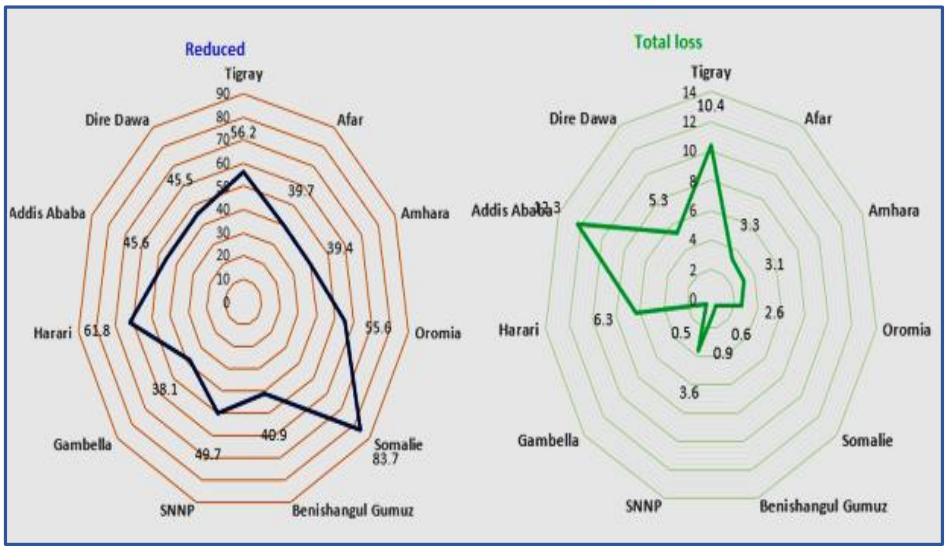
Second panel of Figure 5 depicts the total income loss faced by households across regions. As expected, households in urban centres are more susceptible to total income decline arising from job losses related to the pandemic. The top three regions with high total income loss are Addis Ababa (11.9 percent), Tigray (10.2 percent) and Harari (7.6 percent). Households in other regions have also experienced a loss in their total income.

Figure 4: Impacts of the pandemic on household total income by area of residence



Source: Based on World Bank data (June 2020).

Figure 5: Impacts of the pandemic on total income of households across regions



Source: Based on World Bank data (June 2020).

3.3. Coping strategies

Households are expected, based on local conditions, to search for and adopt methods or strategies deemed relevant to mitigate the economic effects of the pandemic. About 15 potential coping strategies were listed by households to smooth the adverse income effects of the pandemic (Table 8). Unfortunately, majority of the households (55.2 percent) do not have coping mechanisms to cushion the negative income effects of the pandemic. Close to 59.1 percent rural households reported being more vulnerable to income loss compared to 48.4 percent urban households.

The first top three coping strategies adopted by households are reliance on savings (19.5 percent), reduction of food (19.5 percent) and non-food consumption (12.8 percent), suggesting increased vulnerability of households to food insecurity and other dimensions of poverty. Coping mechanisms adopted by households also differ by geographic location. In urban areas, main coping mechanisms include reliance on savings (33.8 percent), reduction of food (16 percent) and non-food consumption (11.5 percent). Small proportion of rural households are also forced to rely on their savings (11.3 percent) and to reduce their food (11 percent) and non-food (9.1 percent) consumption.

Table 8: Adoption of household coping strategies against income loss since outbreak of the pandemic

Coping strategies[7]	**Respondents (%)**		
	Rural	**Urban**	**Both**
Do nothing	59.1	48.4	55.2
Reliance on savings	11.3	33.8	19.5
Reduced food consumption	11.0	16.0	12.8
Reduced non-food consumption	9.1	11.5	10.0
Assistance from friends & family	0.9	7.3	3.2
Borrowing from friends & family	4.0	3.7	3.8
Sale of assets	5.9	0.7	4.0
Additional income generating activities	2.9	2.6	2.8
Sale of harvest in advance	4.9	0.8	3.4
Observations	***551***	***1268***	***1819***

Source: Based on World Bank data (June 2020).

[7] Other coping strategies include credited purchase, assistance from government, delayed payment of obligations, assistance from NGO, loan from financial institutions, advanced payment form employer, and insurance.

4. Food Insecurity and Welfare Assistance

4.1. Food insecurity situation

Food insecurity is generally defined as a lack of consistent access to enough food for an active, healthy life. To assess vulnerability to food insecurity, households were asked to recall their access to food in the last 30 days (Table 9). There was time that about 23.4 percent of the households have run out of food or at least worried about not having enough food to eat in the last 30 days. There were times when about 21 percent of the households were hungry but unable to eat healthy and nutritious/preferred foods in the last 30 days. Due to lack of resources, there were also times in the last 30 days when 14 percent of them were hungry but unbale to eat for a full day.

These self-reported food poverty situation (24.1 percent in rural and 22 percent in urban) is comparable to the food poverty rate in rural (27 percent) and urban (15 percent) estimated by the government before five years (in 2015/16) (FDRE, 2018). As expected, urban poverty is aggravated by the pandemic and significant proportion of households are experiencing food insecurity and falling under the food poverty trap.

Table 9: Food insecurity situation of households since the outbreak of the pandemic

Food insecurity indicator	**Respondents (%)**		
	Rural	**Urban**	**Both**
Times in the last 30 days when households ran out of food	24.1	22.0	23.4
Times in the last 30m days when adults were hungry but did not eat	21.7	20.5	21.3
Times in the last 30 days when adult hungry but did not eat for a full day	14.5	12.5	13.8
Observations	***978***	***2271***	***3249***

Source: Based on World Bank data (June 2020).

To assess households' self-reported access to food since outbreak of the pandemic, four basic food staples were identified (teff, wheat, maize, and edible oil). Households were asked to express their ability and access to buy basic food staples widely marketed and consumed in Ethiopia. Since outbreak of the pandemic, about 21 percent of the households were not able to buy enough teff/injera and edible oil (Table 10). Households have limited access to manufacturing products like wheat flour/bread (28.5%), maize (26%), and edible oil (52%). Significant proportion of households are not able to buy enough teff (10%), wheat (6.5%, maize (4.3%), and edible oil (15.2%)[8].

Table 10: Access to food/main staples since outbreak of the pandemic

Major food stables	**Percent of households reporting**	
	Yes	**No**
Able to buy enough teff or injera	20.6	9.9
Able to buy enough wheat products (flour/grain/bread)	28.5	6.5
Able to buy enough maize	25.9	4.3
Able to buy enough edible oil	52.0	15.2
Observations	**939**	**297**

Source: Based on World Bank data (June 2020).

Table 11 presents reasons for households' inability to buy enough food staples. The two most important reasons for households' inability to buy enough food staples are price rise of food staples and income loss by households. For example, 27.3 percent to 55.3 percent of households reported a decline in their regular income. Other factors, like supply shortfall and closure of local markets, have also contributed to the problem. The results suggest that both supply and demand sides of the food market are adversely affected by the pandemic, leading to net welfare loss to households. It should be noted that the extent of price increases as a result of the COVID-19 not stated in the survey. Importantly, neither transportation nor commodity supply, nor movement restriction were reported as a major factor.

[8] It is not evident, however, if the reported inadequacy of access to food was due to the COVID-19, or due to the underlying chronic food deprivation, or both.

Table 11: Reasons for inability to buy staple food items

Reasons	Respondents (Percent)			
	Teff	**Wheat**	**Maize**	**Edible oil**
Increase in prices	31.0	38.4	40.9	45.2
Decrease in regular income	55.3	37.0	31.4	27.3
Shops run out of stock	2.0	9.0	6.8	8.3
Local markets not operating or closed	7.4	6.4	12.9	4.6
Limited / no transportation	0.3	4.2	0.9	3.2
Restriction to go outside	1.2	2.2	-	0.6
Observations	***297***	***157***	***87***	***303***

Source: Based on World Bank data (June 2020).

4.2. Welfare assistance

To smooth the adverse impacts of the pandemic on household welfare, the government and humanitarian partners are assisting vulnerable groups of the society. A small percentage of responding households received free food (3.7 percent) and cash transfer (3 percent) in both rural and urban areas (Table 12). Though significant proportion of households are vulnerable to, food insecurity challenges since outbreak of the pandemic, this assistance is inadequate to smooth the adverse impacts. About 91 percent did not get assistance since outbreak of the pandemic.

Table 12: Households receiving assistance since outbreak

Types of assistance	Respondents (Percent)		
	Rural	**Urban**	**Both**
None	89.1	96.1	91.4
Free food	4.4	2.1	3.7
Direct cash transfers	4.0	1.0	3.0
Food or cash-for-work	1.7	0.2	1.2
Observations	***978***	***2271***	***3249***

Source: Based on World Bank data (June 2020).

The share and sources of the various forms of assistance received by vulnerable households in different social groups are summarized in Table 13. Productive Safety Net Program (PSNP) covers 24.5 percent of recipients of free food assistance and the remaining 75.5 percent is from other sources of assistance. The government covers about 50 percent of the non-PSNP source of free food assistance and 65.4 percent of cash transfers. The average total monthly value of free food assistance received by households is ETB 561, while the total monthly value of cash assistance is ETB 1517.

With daily income requirement of ETB 67[9], the amount of food and cash transfer to households is very low compared to the expected level of assistance required by households who lost their jobs due to the pandemic. With the average household size of 4.4 for the sample households, the total monthly value of per capita free food (ETB 127.6) and cash assistance (ETB 344.8) received by vulnerable households is by far lower than the minimum amount to sustain life.

Table 13: Cash and non-cash assistance since outbreak of the pandemic

Types of assistance	**Value**
PSNP free food recipients (Percent)	24.5
Non-PSNP source of free-food (Percent)	
Government	49.6
NGO	26.6
Religious organization	11.6
Volunteers or youth volunteer group	11.8
Non-PSNP source of cash assistance (Percent)	
Government	65.4
NGO	29.4
Volunteers or youth volunteer group	3.7
PSNP food or cash for work recipients (Percent)	77.3
Recipients of PSNP cash assistance (Percent)	79.7
Total monthly value of free food (ETB)	561.4
Total monthly value of food-for-work (ETB)	503.5
Total monthly value of cash-for-work (ETB)	926.3
Total monthly value of cash assistance (ETB)	1516.9

Source: Based on World Bank data (June 2020).

[9] Based on US$1.9 a day (International poverty line) (1US$= ETB 35).

5. Impacts on Access to Basic Services

The effect of the pandemic on community's access to basic services like health and education is very huge. The effect could be because of direct effect of the pandemic or because of indirect effect through implemented containment measures. Brief accounts of these effects on health and education are presented in the subsequent sub-sections below.

5.1. Impacts on health services

Health impact is among the major shocks induced by COVID-19. Following the pandemic, people requiring treatment, test, quarantine, and isolation all require health facilities and services. On the other hand, people who need treatment and medicine for other diseases may not get adequate services in a timely manner (Degye et al., 2020).

Respondents were asked about whether they were able to buy enough medicine within one week prior to the survey. Only 12.8 percent of them were able to buy enough medicine. About 16.9 percent of the households, on the other hand, have indicated that they needed medical treatment after COVID-19 outbreak. However, about 85.7 percent of them had access to medical treatment. This means, about 14 percent who needed medical treatment could not get the service due to the COVID-19 effect (Table 14).

Table 14: Household health conditions since outbreak of the pandemic

Health indicators	**Respondents (%)**
Able to buy enough medicine	12.8
Household member needed medical treatment after outbreak	16.9
Able to access medical treatment	85.7
Observations	***979***

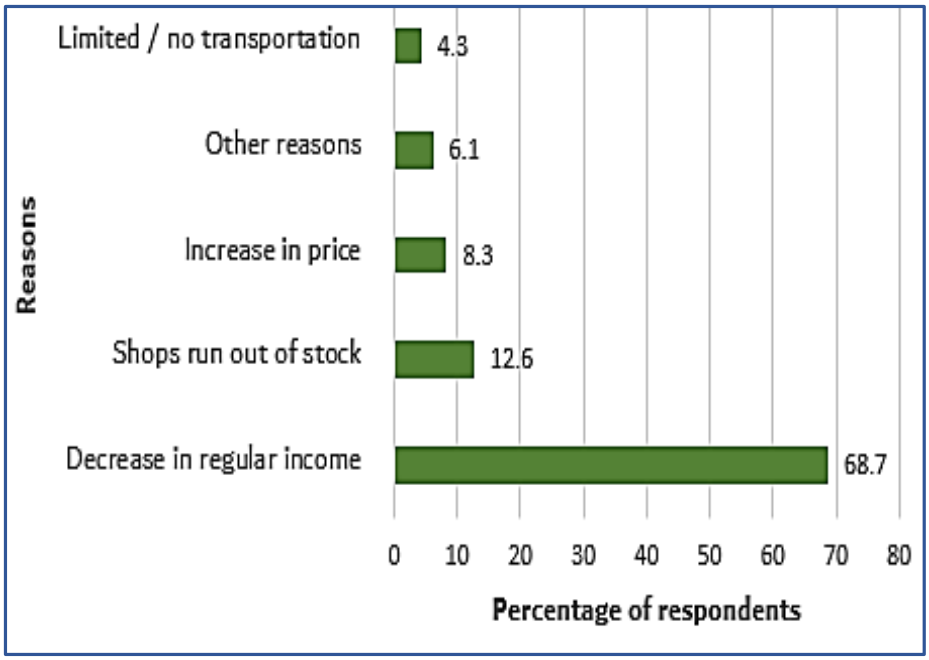
Source: Based on World Bank data (June 2020).

Those who were not able to buy medicine have provided different reasons: experienced reduction in income (68.7 Percent); shops run out of

stock (12.6 Percent); and increase in price of medicine (8.3 Percent); and limited/no transportation (4.3 Percent) (Figure 6). Since outbreak of the pandemic, about 4.3 percent of the households were not able to buy medicine because of other reasons.

Generally, COVID-19 negatively affected the availability and prices of medicines, purchasing power and movement of respondents to get medicines. The implication calls for the need to strengthen basic health facilities for the normal health services in parallel with the focus on battling with spread of the pandemic. If this is not considered, more deaths could be recorded because of diseases other than COVID-19, especially because of non-communicable diseases.

Figure 6: Reason for inability to buy enough medicine



Source: Based on World Bank data (June 2020).

Access to medical treatment has been adversely affected by the pandemic mainly because of the containment measures and shift of focus from non-communicable diseases to COVID-19 pandemic. For various reasons, households were unable to access medical treatment (Table 15). Significant proportion of households (40.8 percent) were not able to get access to medical treatment due to

shortage of income. Other reasons include shortage of health institutions (20.3 percent), lack of transportation (15.6 percent), closure of health services and facilities (8.2 percent), absence of medical personnel (7.5 percent) and other reasons (7.6 percent).

Table 15: Reason for inability to access medical treatment

Access indicators	**Respondents (***Percent***)**
Lack of money	40.8
Hospital/clinic not having enough supply	20.3
Lack/Limitation on transportation	15.6
Turned away because facility was closed	8.2
No medical personnel available	7.5
Other reasons	7.6

Source: Based on World Bank data (June 2020).

5.2. Effects on education

The other important sector adversely affected by the pandemic is the education sector. Schools and universities were closed from early on as soon as few cases were confirmed in Ethiopia. Following this decision, students are forced to stay at home during which they are expected to involve in some educational activities using different media platforms including online and radio learning programs, although its outreach and efficacy is doubtful.

Households were asked about whether their children are involved in educational activities including completing assignments, watching educational TV programs, listening to educational radio programs, using mobile learning applications, and whether they have been meeting with their tutors.

Depending on the nature of media suitable to rural and urban areas, 84.4 percent of the students in rural areas listen to educational programs on radio compared to the national rate (49.3 percent) (Table 16). Following closure of schools due to the pandemic, only 23.3 percent of the students have completed assignments provided by their teachers with significant variation between rural (6.7 percent) and urban (37.7 percent). Similarly, there were large variations between rural (8.6 percent) and urban households (34.4 percent) in terms of

watching educational TVs nationally (22.5 percent), for the fact that access to TV programs is very low in rural areas of Ethiopia. Use of mobile telephone applications for learning also varied in a similar way between urban and rural dwellers.

Because of less access to electricity, internet connectivity, and mobile telephone signals, the proportion of rural students using TVs and mobile applications for educational purposes are very low as compared to their urban counterparts. This leads to differential educational attainments of students between rural and urban because of COVID-19. The implies the need to expand rural electrification and ICT infrastructure for facilitating online teaching and learning process throughout the country.

Table 16: Educational activities since outbreak of the pandemic

Educational activities	**Respondents (**Percent**)**		
	Rural	**Urban**	**Both**
Children attended school before outbreak	92.2	89.0	91.3
Listened to educational programs on radio	84.4	19.1	49.3
Completed assignments provided by the teacher	6.7	37.7	23.3
Watched educational TV programs	8.6	34.4	22.5
Children engaged in learning activities after outbreak	12.4	38.9	19.6
Used mobile learning applications	7.6	16.6	12.4
Session/meeting with lesson teacher (Tutor)	5.9	15.2	10.9
Observations	***101***	***526***	***627***

Source: Based on World Bank data (June 2020).

6. Conclusions and Recommendations

6.1. Conclusions

The Government of Ethiopia has taken various measures to contain the spread of the pandemic. These mitigation interventions include public health measures (e.g. awareness, isolation and quarantine, health screenings, testing, wearing protective gear, etc.), movement restrictions, economic measures (such as tax exemptions, fiscal stimulus, liquidity injection, interest rate reduction, loan rescheduling, etc.), social measures (e.g. physical distancing, public service closure, limit public gatherings, school closures, etc.), and governance and lockdown (e.g. partial lockdown, state of emergency, stay-at-home, etc.). The main objective of this study was to provide empirical evidence regarding the effects of these interventions on household livelihoods.

Assessment of the phone interview reveals that the level of awareness about mitigation and control measures is found to be generally encouraging. Awareness about handwashing, stay at home, avoiding handshakes, social distancing, avoiding face touching, avoiding gathering, and avoiding travels as measures for controlling COVID-19 is high in both rural and urban households. In terms of awareness about using masks/gloves, urban respondents are by far better informed compared to rural respondents. This could probably be related to the fact that masks/gloves are fairly available in urban areas compared to rural areas. Overall, public awareness of health-related mitigation is encouraging.

The pandemic has affected households engaged in different sectors. Sectors hit-hardest by the pandemic include construction, hotel and hospitality, wholesale and retail, education and health, and manufacturing. The COVID-19 pandemic has adversely affected employment in selected economic sectors.

Households also experienced income loss as about 58 percent of the households engaged in non-farm business have faced income reduction, whereas about 27.8 percent have lost their entire non-farm income since outbreak of the pandemic. In addition, about 39 percent of households have lost their total income from foreign remittance. Other sources of livelihoods including farming, investments and savings, domestic remittance, wage, and NGO assistance have declined due to the pandemic. The top three livelihood sources from which income of households has been totally lost include foreign remittance, non-farm

business, and NGO assistance. It appears that the pandemic has adversely affected income of half of the households engaged in different livelihood activities, including farming.

The pandemic has also adversely affected access to social services such as health services. Households experienced difficulty in buying medicines since the outbreak of COVID-19 due to reduction in income, shortage of medical personnel, shortage of medicine and high prices of medicines.

Because of limited access to electricity, internet connectivity, and mobile telephone signals, the proportion of rural respondents using TVs and mobile applications for educational purposes is inadequate. This could trigger differential educational attainments between rural and urban students.

6.2. Recommendations

The government and other stakeholders still need additional effort to improve the knowledge about mitigation and containment measures and to enforce their implementation in both rural and urban areas of Ethiopia. This requires identification and design of appropriate methods of creating awareness and sustained behavioral changes in rural and urban areas, especially ensuring widespread and effective awareness campaign in rural areas. The following key priorities measures are proposed:

1. *Deepening, strengthening and sustaining public awareness campaign*: The government, the media and other stakeholders must continue heightened public awareness campaign to further improve the knowledge about the proposed mitigation measures both rural and urban areas of Ethiopia.
2. *Continuing targeted government support to the functioning of vital sectors of the economy including agricultural activities, construction, manufacturing, services, and industries to an extent it is feasible and supported by both domestic and international markets:* The majority of households engaged in non-farm business sectors are more adversely affected by the pandemic. The trade sub-sector, wholesale and retail trade in particular, is the primary business activities where most urban households generate income and livelihoods. It is also the main marketing channel where the balance between the supply of and the demand for goods is maintained minimizing demand and supply shocks and reducing welfare losses in both rural and urban areas.

The government should continue to stabilize the smooth functioning of the marketing of major staples.

3. *The government must protect job losses, and create new ones:* In spite of ongoing efforts, job losses are widely reported by households working in construction, hotels and hospitality, merchandising, education, and health. Particular focus and support are needed for urban households who are faced with partial or total loss of income due to the pandemic. In addition to welfare transfer to households who may have lost job or unable to command purchasing power, the government and the private sector must work in tandem to maintain the functioning of key economic and service sectors.
4. *Rollout new and expand on the existing social assistance programs such as rural and urban safety nets:* The major livelihoods of households largely affected by the pandemic are non-farm business, remittance, and NGO and government assistance. Related to its fragile nature of livelihoods, greatest proportion of households in Somalie region also faced exceptionally higher incidence of income loss. The income of households living on these livelihoods is reduced and/or totally lost. Particular focus and support are needed to urban households experiencing total loss of their income due to the pandemic. As the COVID-19 duration extends into July/August, the traditionally 'food deficit season', increasing number of households will experience severe food deprivation. An extended relief measures for targeted households must be considered, including expansion of PSNP and direct emergency assistance.
5. *Continue to maintain an uninterrupted and integrated supply chain throughout the country:* trade activities within a community, markets, across districts, regions must be sustained not only to facilitate commodity exchange, but also to help create and maintain jobs. Price rise of major food items coupled with income loss by households has jeopardized the livelihoods of significant proportion of such households. The pandemic has induced both supply shortage and rising prices of essential commodities which have adversely affected the most vulnerable social groups. There is a need to pay attention in stabilizing the prices of basic commodities and providing adequate flow of essential commodities. The government should design suitable market stabilization measures to smooth supply and consumption of major food staples, essential medicines, and access to medical services. The pandemic has induced both supply shortage and rising

prices of essential commodities which have adversely affected the most vulnerable social groups. There is a need to pay attention in stabilizing the prices of basic commodities and providing adequate flow of essential commodities.

6. *Maintain and strengthen access to health service for both the COVID-19 and other patients: there* is a need to balance and strengthen basic health facilities for the regular health services in parallel with combating the COVID-19. If this is not considered, there is a risk that more deaths could be recorded because of diseases other than COVID-19, such as other (non)-communicable diseases.
7. *Education system consideration:* One of the major effects of the COVID-19 is its effect on the entire educational system. Advance planning and parental information are needed about the coming academic year, that is, when schools (kindergarten, primary, secondary, and university education) would be opened. If and when school opening is considered, the Ministry of education in collaboration with relevant health sector players must provide details about containment and protection measures.

References

Baldwin, R. (2020). "Keeping the lights on: Economic medicine for a medical shock", Vox EU.org, 13 March.

Baldwin, R. and di Mauro, B. (2020). Introduction. In: Baldwin and di Mauro (eds.): Mitigating the COVID Economic Crisis: Act Fast and Do Whatever It Takes, A CEPR Press VoxEU.org eBook.

Degye Goshu, Tadele Ferede, Getachew Diriba, and Mengistu Ketema. (2020). Economic and Welfare Effects of COVID-19 and Responses in Ethiopia: Initial insights, Policy Working Paper 02/2020, Ethiopian Economics Association, Addis Ababa, Ethiopia.

Elder, N. C., Sawyer, Will. Pallerla, H., Khaja, S., and Blacker, M. (2014). Hand Hygiene and Face Touching in Family Medicine Offices: A Cincinnati Area Research and Improvement Group (CARInG) Network Study. JABFM, 27(3): 339-346.

FDRE (Federal Democratic Republic of Ethiopia). (2018). Poverty and Economic Growth in Ethiopia (1995/96-2015/16), Planning and Development Commission, Addis Ababa, Ethiopia.

Triggs, A. & Kharas, H. (2020). The triple economic shock of COVID-19 and priorities for an emergency G-20 leaders meeting. Available at: https://www.brookings.edu/blog/future-development/2020/03/17/the-triple-economic-shock-of-covid-19-and-priorities-for-an-emergency-g-20-leaders-meeting/

WHO. (2020). WHO Save Lives: Clean Your Hands in the Context of COVID-19. A brochure prepared by WHO.

World Bank. (2020). Ethiopia- COVID-19 High Frequency Phone Survey of Households, Baseline (Round 1) available at www.microdata.worldbank.org on (17 June 2020).

Inquiries should be addressed to:

Ethiopian Economics Association (EEA)
Ethiopian Economic Policy Research Institute (EEPRI)
P. O. Box 34282
Tel: 011 645 32 00, 3329, 3041
Fax: 011 645 30 20
e-mail: eea@ethionet.et
Website: www.eeaecon.org