



COVID 19, ENVIRONMENT AND TECHNOLOGY IN ETHIOPIA

By

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ABSTRACT

Coronavirus disease 2019 (COVID-19) is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). It was first identified in 2019 in Wuhan, the capital of Hubei China, and has since spread globally, resulting in the 2019–20 coronavirus pandemic. The novel coronavirus pandemic, namely COVID-19, was first reported in Ethiopia on 14 March 2020 by WHO.

The challenges posed by the pandemic have revealed many facts about developing countries like Ethiopia. This study, based on digital archives and secondary sources, and using narrative synthesis, attempts to bring to light the nexus between Corona- Covid 19 and (its impact) on environment and technology in Ethiopia. COVID 19 has not only divulged the impact of globalization on a venerable economy but the chasm or gap between a developing economy and digitalized global economy and the capacity to respond to such shocks. The Corona pandemic has affected social life, productivity, movement, technological orientation, consumption patterns in Ethiopia in many ways. The study recommends provision of robust technological platforms for the development of science, technology and innovation in Ethiopia.

Key Terms - COVID 19, Corona, Environment, Science , Technology, Ethiopia , Pandemic

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INTRODUCTION AND SPREAD OF CORONAVIRUS (COVID -19) IN ETHIOPIA

Coronavirus disease 2019 (COVID-19) is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The disease was first identified in 2019 in Wuhan, the capital of Hubei China, and has since spread globally, resulting in the 2019–20 coronavirus pandemic.² The official names are: coronavirus disease (COVID-19) and the Virus name is severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

The major mode by which people are infected with SARS-COV-2 (the virus that causes COVID-19) is through exposure to respiratory droplets carrying infectious virus. Infections with respiratory viruses are principally transmitted through three modes: contact, droplet and airborne. The common symptoms of Covid-19 include fever, dry cough, and difficulty in breathing but muscle pain, sputum production, diarrhea, and sore throat are less common (CDC, 2020).

COVID-19, was first reported in Ethiopia on 14 March 2020 .The first corona virus death case was reported on 5April, 2020. Since then slowly but steadily the novel coronavirus is making inroads to every corner of Ethiopia. The current status of COVID-19 in Ethiopia can be gleaned from the official report of the Ministry of Health(Ethiopia) for 10 November 2020.³

² Hui, D. S., E., I. A., Madani, T. A., Ntoumi, F., Kock, R., Dar, O., et al. "The continuing 2019-nCoV epidemic threat of novel coronaviruses to global health. The latest 2019 novel coronavirus outbreak in Wuhan, China". *International Journal of infectious diseases*. 91s. (2020), p.264.

³ Given the limited surveillance, testing and medical care center in the nation, it is reasonable to assume far more cases than the number in official counts.



Figure 1. Daily report for COVID-19 cases in Ethiopia (10-11-2020), Source: - Ministry of Health, Ethiopia, 10-11-2020.

A cursory review of the above table reveals how the pandemic has become a real threat in Ethiopia.⁴ The fear of dealing with the virus in the context of weak health system and venerable economy has alarmed the country’s leadership and led to the early imposition of stringent measures. On April 10, a five-month state of emergency was declared. The government, taking its cue from the international response, organized itself in a whole –of government approach to economic and emergency management and adopted a raft of preventive measures. These includes suspension of international flights, quarantine, dissemination of world health organization recommended practices, free telephone line, information center (), closure of schools, avoiding overcrowding, and banning physical contact (maintaining social distance).

⁴ One of the limitation of table –based reports is that it can hardly capture a space time dependent phenomena, (patterns of spread in time and space) like that of COVID- 19. Maps, texts and multimedia are recommended as it helps more to present interactive narratives.

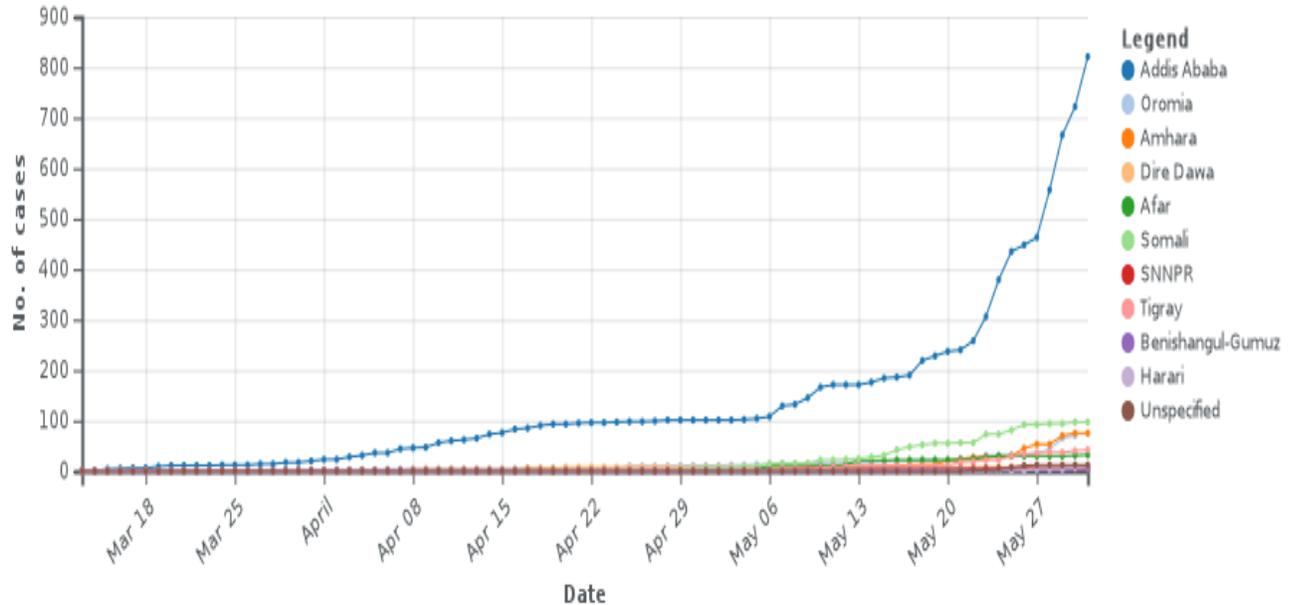


Figure 2. 1. A map showing the spread of the pandemic in Ethiopia (Source; COVID 19 pandemic in Ethiopia)

(Wikipedia. en.m.wikipedia.org).

One of the major challenges, in the effort to contain the spread of the pandemic, in Ethiopia, is lack of strict observance to the ban on social (physical) contact. This is mainly because in a tactile country such as Ethiopia, social and religious practices and daily culture entail physical contact, that are deeply embedded in communal eating habits and in the way of greeting. The prohibition of hand shaking, for fear of the spread of Corona 19, due to physical contact, has resuscitated traditional greeting styles or practices.

Ethiopia, like the rest of the world, is plunged in the clasps of this globe –throttling pandemic. The pandemic has shown how we are interconnected. In other words, it reminds the risks involved in the ever-growing worldwide interconnectedness of goods, services, capital and ideas.



COVID 19 AND ENVIRONMENT

Ethiopia needs to assess the impact of COVID -19 on environment or identify the relation between Covid-19 and environment. Mainly because the pandemic has implications for climatic change. Climate change and COVID -19 respect no boundaries.

Many researchers have implied that the lockdowns, shut downs of industries and traffic halt have resulted in climatic benefits including leap in air quality and drooping of greenhouse emissions.⁵ According to a global survey conducted by experts published by, Nature climate change, daily CO2 emissions have dropped by 17% worldwide. The report adds that 2020 will register the greatest reduction in in CO2 emissions in record: an 8% drop which is six times than the one caused by the economic recession in 2008.⁶

However, they contend that this is a short term change induced by behavioral changes such as less cars on the street, and closedown of factories and may be reversed in the post- COVID-19 era.

On the other hand , an environmental study conducted, in Ethiopia , reported that the concentration of PM2.5⁷ was higher during COVID-19 than before COVID-19. This study claimed that that COVID-19 has implications for the particulate matter (PM2.5) pollution in the metropolitan city- Addis Ababa.”⁸

On 3 June 2020, on the occasions of the World Bicycle Day, Ethiopia has launched a national policy, officially dubbed as the Non –Motorized Transport Strategy 2020-2029. The strategy

⁵ Ludmila Azo. “Africa: Covid -19 and the environmental crisis: towards a lower –carbon Recovery”, **African Arguments.**, 21 April 2020), p. 1.

⁶ Corinne Le Quere and Robert B. Jackson *etal*, Temporary Reduction in daily globalCO2 emissions during the COVID-19 forced confinement, **Nature climate change** 10(2020), p.647

⁷ PM2.5 refers to particles that have diameter less than 2.5 micrometers (more than 100 times thinner than a human hair) and remain suspended for longer. These particles are formed as a result of burning fuel and chemical reactions that take place in the atmosphere.

⁸ Tadesse Weyuma Bulto *etal*, ‘Implications of COVID-19 on The of Fine Particulate Matter (PM2.5) in Ethiopia”. **Research Square.** (September 2020), p.1.



aimed at encouraging walking and cycling in an effort to reduce risks of catching the virus in public transport.⁹

Among the irregularities witnessed during the COVID-19, in some parts of Ethiopia, one is heavy summer rain fall. In north Central Ethiopia, the heavy rains has caused swelling of Lake Tana and the flooding of nearby areas including Fogera , Libo Kem kem and Dembia (in Gonder)¹⁰. Similar incident was also reported in the Awash River in the Afar region. Conversely ,the increase in the volume of rainfall has also led to the rebirth of such lakes as Haramaya¹¹ (once died up), and L lake Abijata.

The Locust invasion that occurred during the COVID -19 pandemic has taken a toll of crops in different Parts of Ethiopia. Most of these can be seen as impacts of climate change. It must be noted that, Ethiopia was struggling with a large scale locust invasion even before the pandemic struck.

By and large, the pandemic has illustrated how Ethiopia, a developing poor country, needs to protect the public from health security threats by focusing on environment and climate change.

COVID 19 AND TECHNOLOGY IN ETHIOPIA

The significance of technology for development and improving human life is immense. Yet, it has made a slow progress and less impact in Ethiopia. There are a number of factors accounting for it. The most outstanding of this are lack of knowledge, technical skill, skilled manpower and lack of capacity. Ethiopia is trying to raise the low level of technology in the country through education and vocational trainings.

⁹ The programme was inaugurated by Her Excellency, Dagmawit Moges , Ethiopia's Minister of Transport .

¹⁰ Ethiopia –Floods (DG, ECHO, UN, OCHA, INGOs, government. (ECHO Daily Flash of 16 August 2019).

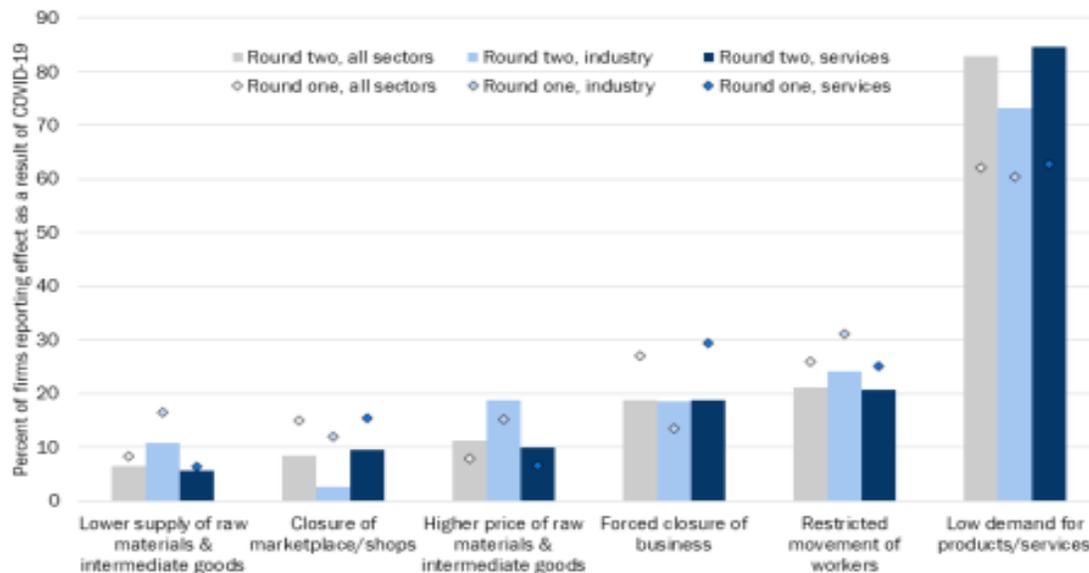
¹¹ Konjit Teshome ." The resurrection of Lake Haramaya: Hope and Challenges ", *ETHIOPIA OBSERVER* September 20, 2019.



CORONA AND INDUSTRY IN ETHIOPIA

The pandemics has affected productivity mainly through a substantial decrease in demand for their products or service. The impact of COVID 19 on firms varied depending on the sector of the firm. Firms in industry are affected more than firms in the service.

Figure 1. Ways in which Ethiopian firms are affected by COVID-19



Source: Data from World Bank, Monitoring COVID-19 Impacts on Ethiopian Firms, 2020.

Note: Other ways firms are affected by COVID-19 were marginal in terms of importance and are not shown in the table. Respondents were asked to select from a list of potential effects of the pandemic on their businesses. More than one answer could be chosen.

BROOKINGS

According to a world Bank study (2020), the pandemic “has hit total household incomes hard: “55 percent of respondents report that household incomes were either reduced or had totally disappeared.”. The study has identified Tourism, construction, and wholesale and retail as areas that are hit hard in terms of job losses.¹² It also adds that, since the outbreak the outbreak of COVID-19 in Ethiopia, 3 percent of respondents lost their job (18 percent in urban areas and 10

¹² Christina Wiese *et al* , Monitoring COVID-19 Impacts on Households in Ethiopia: Results from a High-Frequency Phone Survey of Households. **World Bank Group**, (June 4, 2020)., p. 1.



percent in rural areas) while 8 percent of households (10 percent of rural and 3 percent of urban) have received assistance from government, NGOs, or religious institutions.

The situation has catalyzed some deep rooted social, economic and political contradictions. For instance, in Bishoftu, the frustration caused by the loss of jobs and interruption of production, in a certain Chinese owned company, has served to spark off a resistance by the youth- *qero*. The city government had to provide buses to ensure the safe return of employee to their families. Comparatively speaking, women suffered most from the shutdown of factories.

Conversely, the manufacturing industry has fairly responded to COVID- 19 suggesting some flexibility. This includes the chemical industry (in the production of sanitizers), textile industry (in the production of mask) and mechanics (hand washing machines). Strides in technological innovation, such as smart hand wash machines, were also reported.

The most important question to ask here is how did technology respond to the impact of COVID - 19 in Ethiopia, on higher education, industry and business? It is important to note that the lockdown has stimulated the incipient digitalization and digital economy in Ethiopia .¹³ In fact a digital strategy ,digital technology –based economy was ratified by the council of Ministers on Monday 15 June 2020 .¹⁴

COVID -19 has not only implied the necessity of digitalizing the economy in many ways, it has highlighted the importance of science, technology and innovation and the need for building a much stronger, much more collaborative scientific technology industrial base. That caters the demand of the country.

While the focuses on power, communication and transport is commendable, the level of technology needs to be upgraded and tailored to fit the immediate needs so that it can respond to situations or shocks.

¹³ Digitalizing Ethiopia economy. Ethiopia Press Agency Press

¹⁴ Getachew Bayissa, *etal*. Status of digitization process in selected institutions of Ethiopia: A baseline stakeholders' analysis survey report, Ethiopia, *Journal of Education and Science*, 5(2) (2010), p.1; Federal Democratic Republic of Ethiopia, "Digital strategy takes root in Ethiopia." *Digital Ethiopia 2025: A Digital strategy for Ethiopian inclusive prosperity*.



Comparatively, the information and communication technology has made important contributions in disseminating information on COVID – 19 and several issues. Yet, the lack of access to reliable internet connection in many parts of the country has undermined the effort to digitalize higher education (offering on line class for undergraduate students) and activities in other sectors of the economy. ¹⁵

The effort exerted by Addis Ababa Science and Technology University in producing smart tap system hand washing machine, sanitizers ¹⁶ and the UV-disinfectant device by Jimma University are some of the daring responses of science and technology by higher education institutions in Ethiopia. The role of the private sector in this regard, namely innovation and technology, has yet to emerge. e Advances in such technological areas like robotics,¹⁷ are very critical’ as science, technology and innovation is at the heart of not only recovery from the devastating coronavirus (COVID-19) pandemic but Ethiopia’s ability to create sustainable jobs.

In addition to this, Ethiopia needs to join hands with other African countries to see how it can be part of the big drive to find a vaccine for COVID-19 and other diseases afflicting the continent. The current effort shall not be seen as a “strategy for growth,” of science, technology and innovation as the provision of robust technological platforms is fundamental for such pursuits.

Generally speaking, the outbreak of COVID - 19 and its challenges have shown many gaps and limitations that need to be studied in detail and addressed. It has shown how fragile our system is and how our perspective on technology, is still traditional, and less elaborate.

¹⁵ Addis Ababa science and Technology has made pioneering efforts in this regard using Google class room.

¹⁶ www.aastu.edu.et/category >page

¹⁷ For efforts on robotics in the pre corona Ethiopia please see, Samuel Alemu. AI, robotics and the future of manufacturing job in Ethiopia. **The Reporter in Ethiopia**, 26 March 2018.



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