



## Understanding the Multisectoral impacts of COVID-19 in Africa

Munjeji Edmore<sup>1\*</sup>, Maswazi-Mbara T<sup>2</sup>, Sibanda V<sup>3</sup> and Ngulube V<sup>4</sup>

<sup>1</sup>Accounting and Finance, BA ISAGO University, Botswana

<sup>2</sup>Accounting and Auditing, Zimbabwe Open University, Zimbabwe

<sup>3</sup>Business Management, BA ISAGO University, Botswana

<sup>4</sup>Risk Management, Insurance and Actuarial Science (RIMIAs), Botswana

\*Corresponding Author: Munjeji Edmore, Accounting and Finance, BA ISAGO University, Botswana.

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### Abstract

The outbreak of coronavirus (COVID-19) in the world has negatively affected the African multisectoral pillars of the economy as well as agriculture which is regarded as a backbone of Africa. The crisis from a multisectoral perspective includes revenue losses, travel restrictions and cancellation of international flights. The spread of COVID-19 globally, has paralysed every facet of the economy. It has proved beyond doubt that COVID-19 affected the whole world and the developing countries will heavily feel the shocks. The aim of this paper is to understand multisectoral effects of COVID-19 through the detailed assessment of the pandemic from an African context. The paper adopted an extensive literature review in order to address the academic gap. This paper has established that COVID-19 will have short to long term negative impacts on African economies.

**Keywords:** COVID-19; Multisectoral; African Countries; Socio-Economic; GDP

### Introduction

On March 1, 2020, the World Health Organisation (WHO) declared coronavirus disease 2019 (COVID-19) a “pandemic” [1-4]. Statistics show that more than 2,084,744 people have been infected with more than 134,685 deaths and 515,475 recoveries world wide (WHO Situational April 16, 2020, 07:23 GMT). The World Health Organisation (WHO) recommended a number of containment policies/measures such as lockdown, shutdown, social distancing, stay home, travel restrictions in order to curb the possibility of spreading the novel pandemic [5,6]. Globally, the leaders responded to this pandemic by implementing prescribed WHO measures to mitigate the potential impacts of COVID-19 on the global health as well as on socioeconomic development [7,8]. There is little doubt that such actions presented detrimental effects on the economy [9]. It is universally agreed that the world is in the midst of a COVID-19 pandemic and researchers are still searching for the evolution of the pandemic [10]. Many theories and hypotheses have been formulated to aid researchers in finding a solution to the pandemic.

Extant literature shows that the control measures to arrest the pandemic will have substantial disruptive effects on a multisectoral dimension [8]. Empirical evidence on the disruptive impacts of pandemic on the economy in general justifies the efforts to con-

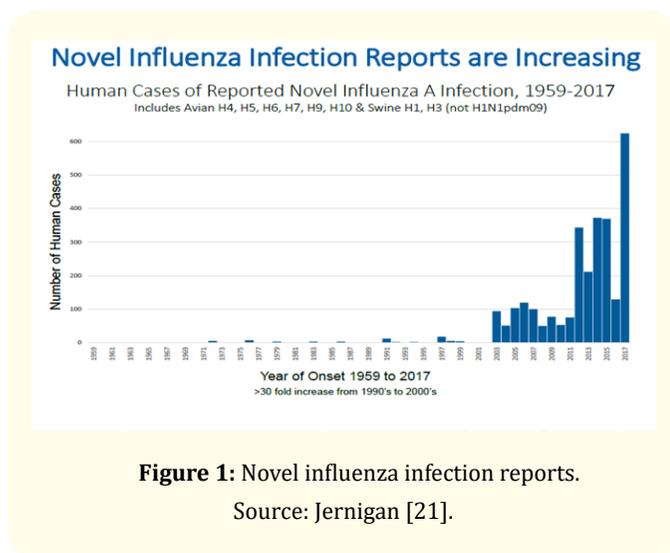
tain it at national and international level [7]. The available evidence shows that a lot have been reported on the pandemic mainly focusing on the monetary impacts and neglecting other pillars of the economy. As a result of limited focus, this in turn, has contributed to widespread failure to prevent the novel virus. It appears that scholars are ignoring substantial uncertainty about COVID-19 on other variables such as education, agriculture, mining, people’s lives and livelihoods [11]. The impact of COVID-19 should be looked at beyond the economic lens. The purpose of this study is to understand multisectoral effects of COVID-19 through the detailed assessment of the pandemic and interventions in place to address the problems presented by the pandemic in Africa.

### Understanding of pandemic and Coronavirus

Theoretically, the word pandemic was used around 1666 [12] and later on endorsed by WHO in 1999 [13]. By that time it was referred to as “a Pandemick or Endemick or rather a Vernacular Disease (a disease always reigning in a country)” [12]. There is no standard definition of pandemic found in the literature or provided by WHO [14]. Various scholars used different epidemiologic variables to try to explain pandemic such as (i) wide geographical extension, (ii) person to person transmission, (iii) high attack rates and explosives, (iv) minimum population immunity, novelty (new), (v) very infectious, (vi) contagious, (vii) severity or fatal disease [12]. Last (2001) cited in Kelly [15] defines a pandemic as “an epidemic occurring worldwide, or over a very wide area, crossing

international boundaries and usually affecting a large number of people". In other words, a pandemic is global epidemic [16]. Various scholars consent that the following diseases met the definition or guidelines of pandemic: acute hemorrhagic conjunctivitis (AHC), AIDS, cholera, dengue, influenza, plague, severe acute respiratory syndrome (SARS), Corona virus, scabies, Ebola, HIV/AIDS, West Nile disease, and obesity [7,10,12,13].

Researchers confirm that the cholera pandemic (1831-1832), influenza (1889), Spanish flu (H1N1) (1918), Asian Flu (H2N2) (1957), Hong Kong flu (H3N2)(1968), Russian Flu (H1N1) (1977) and Swine flu (H1N1) (2009), Ebola (1976; 2014) were the most extensively pandemic in the history of mankind [13,17-19]. History and science suggest that pandemic "will strike again" [20-22]. Dosho [13] describes the desruptive effects of these pandemics as severe, exceptional, comapratively mild, substantial pandemic, huge economic and social disruption, moderate, benign pandemic and largely reassuring clinical picture. Researchers predicted an increase in the novel contagion around the world [21] as shown in figure 1. This calls for disaster preparedness [20] failure of which will result in 20 - 30% infection of the world population [21].



Researchers traced the genesis of coronavirus with little success. Bits and pieces of evidence suggest that COVID-19 was a result of SARS-CoV-2 virus [10]. This virus is highly contagious (Ibid). COVID-19 was first identified in Wuhan city, China in December 2019. It is argued that Wuhan city then referred to as the epicenter of the pandemic [10]. Available evidence suggests that the virus is transferrable from person to person through direct contact. Currently the virus has widely spread and has affected over 185 countries [2-4]. WHO [2-4] states that COVID-19 infects all people (white or black; young and old), however, the most vulnerable

groups are "old people and those with underlying medical conditions".

The Coronavirus disease has become a severe pandemic and poses many serious challenges at national, regional and global levels. The consequences, even if they are difficult to calculate, are expected to be enormous in view of the rapid spread of the COVID-19 and the drastic measures taken by countries whatever their size worldwide [1].

**Effects of pandemics on the pillars of the economy**

Conflicting results on the impacts (which are both exogenous and endogenous [1] of pandemics on the economy are presented in the literature. Some researchers have concluded that "disasters may provide opportunity to update the capital stock, thus encouraging the adoption of new technologies" [23]. Interestingly, some studies show that pandemics are associated with the reduction in economic growth and activities (Kim, 2019). The Gross Domestic Product (GDP) of Liberia, Sierra Leone and Guinea declined drastically due to the Ebola pandemic [7]. Evidence from literature indicates that tax revenue (direct taxes, on companies or individuals, VAT, custom and exercise duties) declined together with foreign direct investment (FDIs) [7] due to the Ebola pandemic. The resultant effect was budget deficits. Past experiences show that pandemics have negative macroeconomic effects [10].

There is no doubt that the effects of these pandemics are multisectorial (i.e. cut across all facets of the economy) [7]. In other words, the pandemic will negatively affect the health sector, finance, accounting, business directly or indirectly. Global economic experts estimate a 0.5% fall in global growth due to COVID-19 pandemic [1]. The outbreak of COVID-19, brought a hugely negative impact on the global economy - the world is plunged into a massive recession especially in the first quarter of 2020 [1,5,24]. The COVID-19 pandemic is said to be worse because there is no treatment or vaccines to fight it. Researchers are carrying out experiments in a bid to find a solution to COVID-19. AU found out that: Beyond its impact on human health (materialized by morbidity and mortality), COVID-19 is disrupting an interconnected world economy through global value chains, which account for nearly half of global trade, abrupt falls in commodity prices, fiscal revenues, foreign exchange receipts, foreign financial flows, travel restrictions, declining of tourism and hotels, frozen labor market, etc. (2020: 6).

**Past literature: Broader picture of the economy affected by pandemic**

Effects of previous pandemics provide a basis of anticipating the current and future implications of COVID-19 [10]. Table 1 summarises the effects of previous pandemics around the world focus-

Category	Estimated cost associated with pandemic
Health	<ul style="list-style-type: none"> <li>• Zika virus costed Latin America and the Caribbean US\$7- 18 billion between 2015 to 2017</li> <li>• Global economy suffered a loss of between US\$300 and US\$4.4 trillion due to 1918-1919 Spanish flu [10]</li> <li>• Ebola in West Africa resulted in more than 10 600 deaths in Guinea, Sierra Leone and Liberia [25]</li> <li>• Increase in child mortality rate</li> <li>• 30% drop in child vaccination coverage [7]</li> <li>• 20 million deaths related to H1N1 of 1918 [20] and it caused over 14 million deaths in India</li> <li>• Disruption in health care.</li> </ul>
Agricultural Sector	<ul style="list-style-type: none"> <li>• Colapse in the exporation of agricultural produce in 2000 from Africa</li> <li>• Somalia lost close to US\$300 million as a result of ban for their products to America. Resulted in dwindling of Somalian GDP by 25 - 30%</li> <li>• In 1998 - 2002, Somalia lost Us\$435 million in livestock export</li> <li>• Nipal virus infectious that hit Malaysia costed the government US97 million in insurance compensation for close to 1.1 million pigs killed due to the pandemic</li> <li>• This led to tax reduction by US\$229 million plus US\$136 million injected to control future outbreak</li> <li>• HINI pandemic influenza in Mexico resulted in in the decline in export of pork products resulted in a loss of US\$27 million in 2009 [7].</li> </ul>
Government	<ul style="list-style-type: none"> <li>• In 1998-1999 Nipah pandemic resulted in Malaysia losing up to US\$105 million in Tax revenue [7]</li> <li>• Influenza of 1918 reduced the GDP by 5% and costed the world about 60% of that decline in fighting the disease [20]</li> <li>• The pandemic resulted in revenue loss over 12% of national incomes globally and an estimated 50% in developing nations [20]</li> <li>• In 2015 an estimated tax revenue losses of US\$500 billion were reported globally</li> <li>• Total economic impact of influenza to US economy is about US\$73.1 to US\$166.5 billion [10].</li> </ul>
Tourism & Travel	<ul style="list-style-type: none"> <li>• SARS outbreak in 2003, resulted in 68% of tourist travelling to Hong Kong</li> <li>• Asia Pacific experienced a loss of US\$6 billion in revenue</li> <li>• North America airlines reported a loss of US\$1 billion</li> <li>• Tourism industry in Singapore reported a 70% decline in tourist as such more than 6 600 airline were grounded</li> <li>• GuangZhou (China) only reported 12% attendance to its International trade fair</li> <li>• South Korea reported a 60% decline in international visitors resulted in a loss in revenue of US\$10 billion</li> <li>• Saudi Arabia tourism industry reported a loss of close to US\$5 billion due to travel restrictions and state emergency</li> <li>• Mexico tourism industry in 2009 reported a US\$2.8 billion when it was hit by HINI influenza and lost 1 million visitors due to this contagion</li> <li>• 50 - 60% loss of revenue was also reported in Miami, Florida and US due to Zika virus [7]</li> <li>• Cancellation of flights to Ebola affected countries [17,25] as well as closure of borders</li> <li>• Due to Ebola, AFCON tournament was cancelled in Morocco in 2015 [18,25]</li> <li>• “Ebola Ebola” slogan chanted during DRC and Siera Leone match in 2015- stigmatisation and descrimination [18,25,19].</li> </ul>

<p>Trade and retail industries</p>	<ul style="list-style-type: none"> <li>• Economist estimated US\$40 billion in revenue loss due to SARS globally</li> <li>• China reported a 0.8% decline in GDP in the year 2003</li> <li>• Global GDP dropped by 0.6% and global trade contracted by US\$2.5 trillion due to pandemic [10]</li> <li>• Hong Kong reported a 2.6% loss in GDP</li> <li>• The demand of oil fell by nearly 300 000 barels a day in Asia due to travel restrictions</li> <li>• Malaysia in 1998 reported a loss of US\$582 million due to Nipah outbreak</li> <li>• Pork production industry was significantly. As such a US\$15 million decline in pork production due to Nipah outbreak as reported</li> <li>• Nipah outbreak resulted in 36 000 people lost their employment across all sectors</li> <li>• Real estate industries lost close to US\$1.1 million due to Nipah outbreak</li> <li>• The outbreak of Ebola in 2014-2015 resulted in decline in visitors in Guinea, Liberia and Sierra Leone due to cancellation of international flights [18] as well as fear of the virus.</li> <li>• South Korean MERS outbreak resulted in:             <ul style="list-style-type: none"> <li>• Accommodation and food sector reported a 10% reduction in production,</li> <li>• Entertainment and recreation sector production experienced 8.6% decline,</li> <li>• publishing, communication and information sectors reported a decline by 6.3%,</li> <li>• Transportation and storage dropped 2.4%,</li> <li>• wholesale and retail, dropped 1.6%, and</li> <li>• electricity and air conditioning 0.9%</li> <li>• Online sales rose significantly by 63% for E Mart Co.Ltd and 50% for Homeplus [7].</li> </ul> </li> </ul>
<p>Entertainment</p>	<ul style="list-style-type: none"> <li>• South Korean MERS outbreak resulted in 8.6% reduction [7]</li> </ul>
<p>Environmental Impact</p>	<ul style="list-style-type: none"> <li>• Quarantine measure imposed by West Africa during the Ebola pandemic has resulted in:             <ul style="list-style-type: none"> <li>• Increased poaching,</li> <li>• Illegal mining</li> <li>• Water pollution</li> </ul> </li> <li>• HINI influenza resulted in the devastation of the natural environment (wetlands etc), in an attempt to stop the spread of virus [7,17].</li> </ul>
<p>Other (include psychology, professional etc)</p>	<ul style="list-style-type: none"> <li>• West Africa Ebola pandemic resulted in:             <ul style="list-style-type: none"> <li>• Stifled growth rates,</li> <li>• Massive retrenchments due to closure of businesses,</li> <li>• Curtailed educational services- 33 weeks of lost education,</li> <li>• Increased poverty,</li> <li>• Lost productivity and</li> <li>• Increased food insecurity</li> <li>• Drop in income,</li> </ul> </li> <li>• 16 000 orphans and vulnerable children exposed to several abuse such as sexual exploitation and violence etc [19]. The long impacts of such abuses which can not be quantified now include:             <ul style="list-style-type: none"> <li>• Emotional trauma,</li> <li>• School drop out,</li> <li>• Unwanted pregnancies and</li> <li>• Social stigma [7,17]</li> </ul> </li> </ul>

Confirmed death	<ul style="list-style-type: none"> <li>• 1918 pandemic (1918-1920) estimated deaths in US is 675 000 [26]</li> <li>• 1957 pandemic (1957-1960) recorded 116 000 deaths in US</li> <li>• 1968 pandemic (1968-1972) recorded 100 000 deaths in US</li> <li>• 2009 pandemic recorded 12 500 deaths in US</li> <li>• Globally the 1918 pandemic registered 50 million deaths</li> <li>• The last three pandemics, in 1918, 1957 and 1968, killed approximately 40 million, 2 million and 1 million people worldwide, respectively [22].</li> </ul>
Financial Sector	<ul style="list-style-type: none"> <li>• In 2013 - 2015 the following countries are reported to have lost investor confidence due to Ebola outbreak and lost close to US\$600 million in revenue [7]</li> <li>• Due to zoonoses that hit the globe between 1997 and 2009 resulted in economic losses of close to US\$80 billion [7].</li> <li>• SARS pandemic cost US\$30 billion in a single quarter</li> <li>• The 2014/15 Ebola crisis costed Guinea, Liberia, and Sierra Leone US\$2.8 billion in revenue [25,27]</li> <li>• The deficits in 2015 were projected at 8.5% of GDP in Liberia, 9.4 % in Guinea, and 4.8% in Sierra Leone [19,25,27].</li> </ul>

**Table 1:** Estimated cost associated with world previous pandemic.

ing mainly on the following categories: health, agriculture, education, government revenue, tourism and travel, environmental and trade and retail industries and many others.

The evidence presented in table 1 indicates that the impacts of pandemics have far-reaching and devastating consequences. Furthermore, most of these were isolated pandemics affecting certain areas at a time. The complication with the COVID-19 pandemic is that it is occurring on a massive global scale and the impacts are beyond any reasonable imagination.

**Methodology**

The paper is based on extensive literature review and analytical approach methodology and it describes the effects of COVID-19 in Africa. This paper followed a secondary data research approach, which enable researcher to fill the gap in a body of knowledge with regards to COVID-19 in Africa. This paper assesses the impact of pandemics from a historical perspectives as well as providing emerging evidence. This paper used a number of sources in order to fill the inadequacy in academic gap on COVID-19, from an African lens.

**Findings**

The COVID-19 pandemic is a threat to the world economy and the world is likely to plunge into a worse recession [5]. Due to high level of unreadiness and the complicated nature of the virus, Africa is likely to be severely affected [1,5]. The Chinese president Xi Jinping confirms that “It is unavoidable that the novel coronavirus epidemic will have a considerable impact on the economy and society” [28]. Alos the Japanese Finance Minister echoes the same sentiment that “The spread of the new coronavirus is a pub-

lic health crisis that could pose a serious risk to the macro economy through the halt in production activities, interruptions of people’s movement and cut-off of supply chains” (Ibid). Furthermore, advocate Chamisa the leader of the Zimbabwean opposition (MDC) part summaries the effects of COVID-19 in Africa and the entire world in his speech: Economies across the globe are under severe strain. Supply chains have been radically disrupted, tourism and air travel is paralysed and currency markets are at an all-time low... we are witnessing supply and demand shocks [11].

From the above speech, COVID-19 affects all sectors including health, finance, agriculture, tourism and travel [18] to mention a few as outlined below.

**Growth rate and commodities**

Economists expected a sharp decline in the global GDP by 0.412% and major economies such as China 4.9%, Europe 0.8% and other 2.4% [1]. Jones, Brown and Palumbo [29] believe that the global GDP growth rate will decline by 1.5% in 2020 due to the closure of industries and the “stay at home” measure. At the same time foreign direct investment (FDI) will drop by -15% due to COVID-19 [30]. African Union [1] noted that as at 23 March 2020, about US\$83 billion have been withdrawn by investors from un-industrialized economies. The report further anticipates that the global growth rate will experience a contraction and it will slow down by 1.5% in 2020 [1]. Africa’s growth is expected to drop to 1.8% from the projected 3.2% [1,24,31].

Exports from Africa will drop by 35%, which translates to a loss of US\$270 billion. The African continent is going to incur costs amounting to US\$130 billion in combating COVID-19. Oil prices

have dropped by more than 50% from US\$67 to US\$30 per barrel [1]. Thus, African countries such as Algeria, Angola, Cameroon, Chad, Equatorial Guinea, Gabon, Ghana, Nigeria, and the Republic of the Congo would be negatively affected following the decline in crude oil prices. As a result of the fall in oil prices, Africa would lose up to US\$65 billion in revenue against the projected cut in supply by producers of 1.5 million barrels per day until end of June 2020. Africa would be plunged into massive losses [1,24].

**Aviation and travel industry**

All major airline flights have been cancelled due to COVID-19 and this will seriously affect this industry. It is projected that the cancellation of the flights will result in a loss of US\$113 billion [1]. Aviation experts believe that the industry will suffer a huge loss than that projected by the International Air Transport Association (IATA) [1]. In Africa, it is estimated that air transport has contributed 2.6% to GDP and an estimated 6.2 million jobs as well as direct economic contribution amounting to US\$55.8 billion. The containment measures (WHO measures) to combat COVID-19 in Africa, resulted in the cancellation of international air transport such as Ethiopian Airlines, Egyptair, Kenya Airways, South African Airways, and Air Botswana etc [1]. These restrictions have negatively impacted on the industry as depicted by a decline of airline bookings by 20% in March and in April 2020. It has been established that air tickets refund escalated by 75% which translate to a loss of about US\$4.4 billion in revenue in March 2020 due to the pandemic [1]. Zimbabwe reported 80% booking cancellations as of April 16, 2020 [11].

**Tourism industry**

Due to unprecedented travel restrictions implemented by many governments worldwide, the tourism industry is expected to experience a decline of international visitors by 20 - 30% (which is close to US\$300-US\$450 billion) in 2020. Countries such as France, Spain, USA, China, Italy, Turkey, Mexico, Germany, Thailand and United Kingdom will be severely affected [1,29]. The decline in international tourism by such a range (20 - 30%) will translate to massive job losses in the same industry.

Literature shows that the tourism industry in Africa constitutes a significant percentage (10%) of GDP. Due to COVID-19, Africa will take a hit as a result of the pandemic. Economists estimate that Africa will lose up to US\$50 billion and a massive job losses (2 million) due to the virus [1]. According to World Travel and Tourism Council (WTTC), Africa is said to be the second fastest growing continent in the world which represents 5% of the 5.6% growth rate. However, due to COVID-19, African countries will experience a drop in tourist arrival by -3.3% and -7% in 2020 [1].

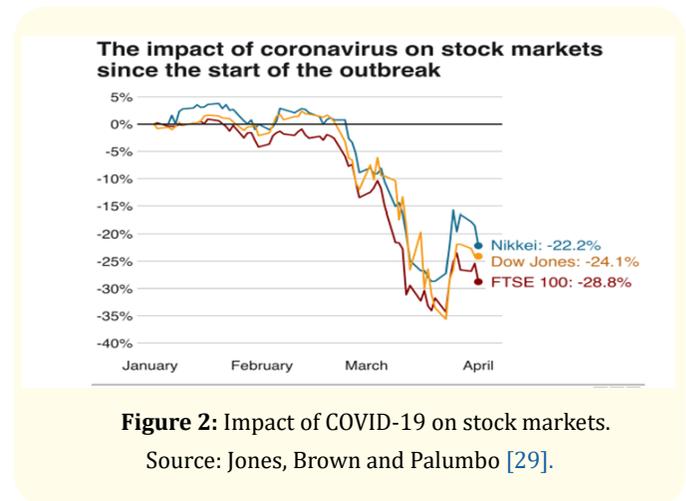
**Financial markets**

COVID-19 pandemic caused the banking industry to lose close to 40% of its value [1]. Furthermore the financial markets indices have reported massive losses due to COVID-19 as depicted by table 2.

Index	Last	High	Low	Chg	Chg%	Time
Dow 30	20,188.52	21,768.28	20,116.46	-2997.10	-12.93%	16 :20 :01
S& P500	2,386.16	2,562.98	2,380.94	-324.86	-11.98%	15 :59 :59
CAC40	3,881.46	3,962.01	3,632.06	-236.89	-5.75%	12 :35
DAX	8,746	8,988.00	8,239.50	-485.83	-5.26%	12 :34 :58
FTSE100	5151,08	5,366.11	4898.79	-215.03	-4.01%	12 :34 :58

**Table 2:** The impact of COVID-19 on financial markets.

Source: AU [1].



**Figure 2:** Impact of COVID-19 on stock markets.

Source: Jones, Brown and Palumbo [29].

Figure 2 above shows that COVID-19 has negatively impacted on global stock markets. From March 2020 the performance of the following Nikkei, Dow Jones and FTSE dropped sharply. Experts predict global stock markets to continue falling due to the spreading of COVID-19 pandemic.

It should be acknowledged that the global unemployment rate is likely to jump by 25 million due to closure of many business operations worldwide [1]. At this point, it is difficult to establish which continent will be severely affected. Past data shows that Sub-Saharan Africa (76.6%) and North Africa (52%) will be most affected. The COVID-19 crisis has threatened more than 20 million people thriving in the informal economy [1]. This is due to the destruc-

tion in value chains, supply chain disruptions, the lockdown and shutdown extended shutdown, all contributed to reduction in economic activities in this economic sphere [1,6].

Domestic revenue mobilisation is likely to be affected by COVID-19 due to closure of industry (which are said to be nonessential). This means tax revenue is expected to drop significantly and as such will “restrain the capacities African countries to finance their development...” [1]. Due to COVID-19, Africa is to lose between 20 to 30% (about US\$500 billion).

### Other effects

It is projected that there will be social unrest across the African continent. In South Africa and Zimbabwe there were reports of police brutality and retaliation by angry mobs. It is also predicted that COVID-19 crisis will affect the health system as there will be a significant shortage of medicine and health equipment (Screening, Testing kits, personal protective equipment (PPE)) [2-4]. The health facilities will not be able to accommodate the increased COVID-19 patients [1]. The continent is likely to import substandard equipment and medicines from China and India to fight the pandemic [19].

Some countries in Africa that rely most on natural resources such as gold, diamond and platinum [31]. The main sources of income in Zimbabwe, Botswana and South Africa, that is mining and tourism will be negatively affected due to COVID-19 [31]. The travel ban and closure of borders is likely to reduce the products from Zimbabwe, Botswana and South Africa. For example the Chamber of Mines of Zimbabwe is anticipating a loss of US\$400 million in revenue due to COVID-19 [11] with diaspora remittance expected to drop drastically. Experts are projecting a worse continent-wide recession [24] since the Great Depression and Global Financial Crisis which will fuel poverty and unemployment [11]. Chamisa [11] further asserts that a significant number of SMEs in Zimbabwe are likely not to reopen due to devastating effects of COVID-19 unless the government intervenes. According to the International Monetary Fund (IMF), Zimbabwe is heading towards a deep recession due to macro and micro variables. It will take sometime for Zimbabwe to recover from the economic quagmire.

According to WHO [2-4], by April 2020 90% of students globally have been affected due to closure of schools (pre-schools, primary schools, secondary schools and tertiary). This means more than 1.5 billion children worldwide are out of school due to COVID-19 [2-4]. All international gatherings such as independence, easter gatherings and football matches have been cancelled due to COVID-19. This will have a long psychological effect at the individual level and at national levels as well.

### Conclusion

In conclusion, COVID-19 could be regarded as the “deadliest pandemic” in the 21<sup>st</sup> century. It will have long term consequences such as traumas and fear of the unknown.

### Recommendations

This paper recommends that Africa should adhere to the World Health Organisation protocols. At the same time it must strike a balance between saving lives and protecting the economy. Great thinkers and economists “are predicting a continent-wide recession, but Nigeria and South Africa, which have been “treading water in recent quarters, are going to take a big hit” [24,32-34].

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