Every Dark Cloud Has a Silver Lining: Some Positive Externalities of the COVID-19 Crisis to Kenya and Her US Diaspora

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Abstract

The Coronavirus disease (COVID-19) is a global pandemic that has infected millions, killed hundreds of thousands of people, and devastated the socioeconomic lives of billions of people from around the world including Kenyans at home and in the diaspora.[1] Some economic sectors like the hotel and tourism industries have been so hard hit that they will take many years to recover. Nevertheless, like many other crises in history, the COVID-19 crisis does have silver linings or unintended positive consequences including greater creativity and innovation among individuals, organizations, institutions, and nations across the globe. This paper uses secondary data to explore these unforeseen positive consequences in relation to Kenya and her diaspora in the US. The paper starts with an exploration of the global geography of the COVID-19 pandemic before proceeding to examine the US COVID-19 crisis, and the negative impacts of COVID-19 on Kenya and her US diaspora. It then provides an extended discussion of the unintended social, health, political, economic, geopolitical, and educational, scientific, and technological silver linings of the COVID-19 crisis to Kenya and her US diaspora at the individual, organizational, institutional, and national/global level. The paper ends with a brief highlight of its policy implications.[2]

Keywords: Coronavirus, COVID-19, crisis, geography, Kenya, USA, externalities, innovations, diaspora

INTRODUCTION

The coronavirus disease (hereafter COVID-19) pandemic, which is prevalent all over the world, has devastated the globe and changed it in profound ways. Part of this impact derives from the scale and complexity of the COVID-19 crisis and the responses it has engendered:

> It is important to think of COVID-19 not as a single global pandemic, but rather as a simultaneous and sequential outbreak of many local epidemics, with slight variations reflecting local geographies … While the basic transmission mechanisms of the virus are the same everywhere – exposure to an infected person – the spatial patterns of virulence, morbidity, and mortality and experience of [the] disease … [differ]. [These patterns] … reflect spatial differences in vulnerability including comorbidities, resilience based on previous experience with dealing with disease, and preparedness. Available health care systems are only one, albeit a very important, component. Thus, while maintaining some essential similarities – contact tracing and limiting [the] exposure of uninfected [people] – the response to disease … [also differs]. (Oppong, 2020: 4)

[1] The analytical cut-off date for this paper was July 20, 2020.
[2] I thank the reviewers for their insightful comments on an earlier draft of this paper.

Global geography of the COVID-19 disease

Table 1 summarizes COVID-19 confirmed cases, recoveries, and deaths for the world, USA, and Kenya, as of July 20, 2020. On that day, the USA ranked number one globally is the number of confirmed cases, recoveries, and deaths while Kenya was ranked 65 globally. Within Africa, Kenya, which "confirmed its first coronavirus case [on Friday, March 12, 2020] — a 27-year-old Kenyan national who was studying abroad," (Ombuor, 2020: no pp) was ranked seventh in COVID-19 cases (behind South Africa, Egypt, Nigeria, Ghana, Algeria, and Morocco), ninth in recoveries (behind South Africa, Egypt, Ghana, Algeria, Nigeria, Morocco, Cameroon, and Ivory Coast), and eight in deaths (behind South Africa, Egypt, Algeria, Nigeria, Sudan, Cameroon, and Morocco) (Worldometer, 2020).

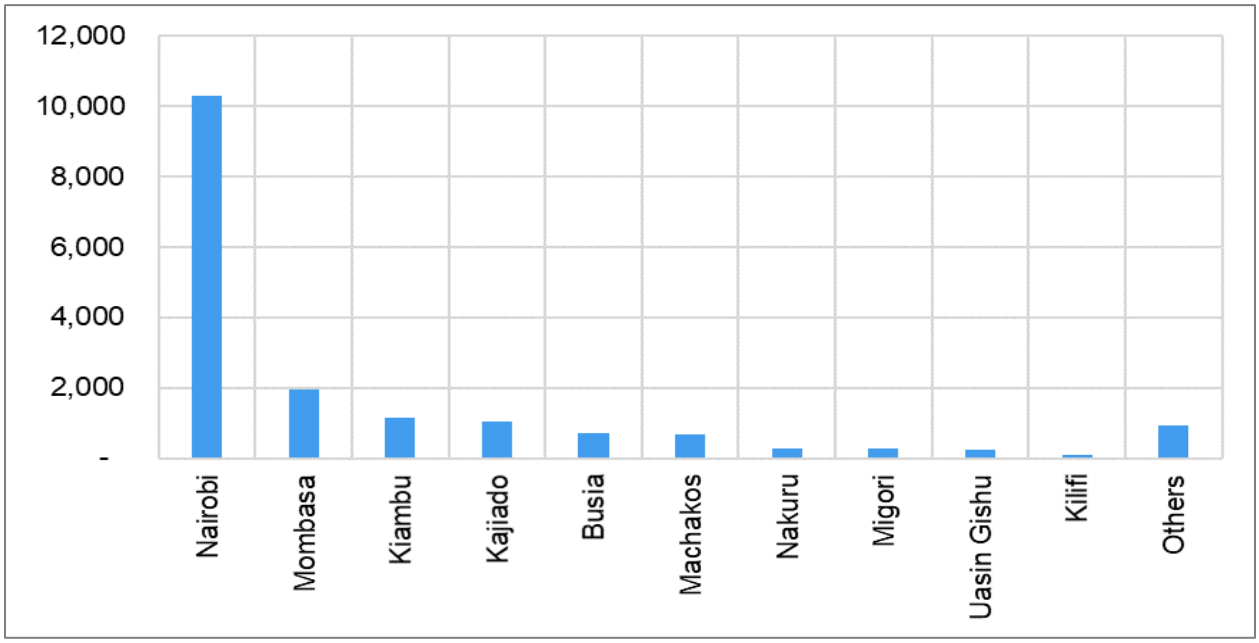
Table 1: Select COVID-19 data for the World, USA, and Kenya (July 27, 2020)

Region or Country	Confirmed Cases	Recovered	Deaths	Total Cases/1 million population	Deaths/ 1 million population	Tests/ 1 million population	Total Population
World	16,536,894	10,127,775	654,089	2,122	84	-	7,800,000,000
USA	4,398,184	2,101,307	150,053	13,282	453	164,667	331,139,904
Kenya	17,603	7,743	280	327	5	5,133	53,845,480

Sources: COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU): https://coronavirus.jhu.edu/map.html; Worldometer https://www.worldometers.info/coronavirus/

Within Kenya, most COVID-19 cases were, on July 26, 2020, primarily concentrated in the country's urban and border town counties (Figure 1, Table 2).

Figure 1: COVID-19 cases, July 26, 2020



Source: Coronavirus tracker, https://nation.africa/kenya/covid

Nairobi City County alone had 58% of the COVID-19 cases in the country followed by Mombasa City County which had 11%. This is because these two cities, especially Nairobi, are Kenya's airline gateways. This is important because the virus initially spread across the globe through airline passenger flows. The next two counties, Kiambu and Kajiado, with 6% each, are, along with Machakos County (4%), in the Nairobi Metropolitan region, which collectively had 74% of all cases in Kenya on that date (Table 2).

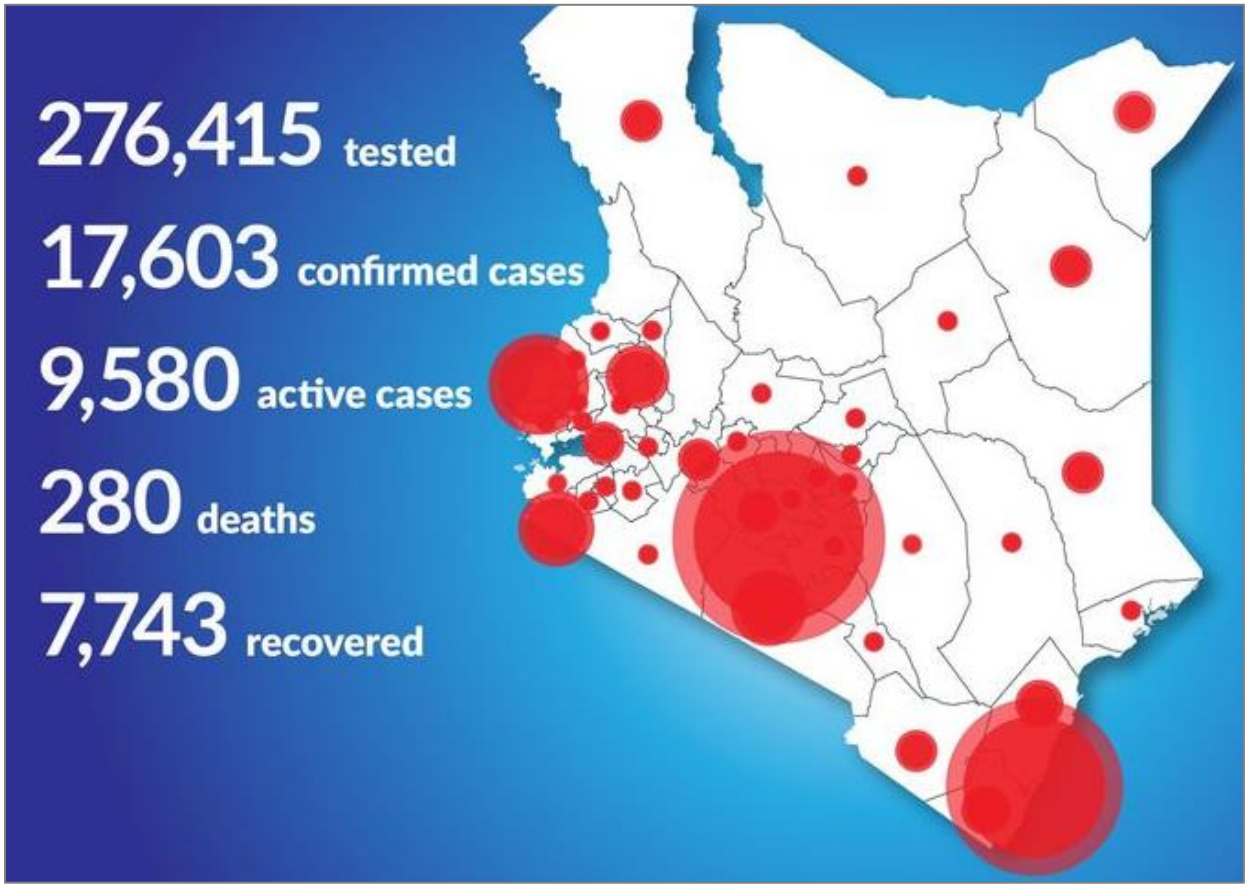
The relatively high number of COVID-19 cases in the remaining counties is attributable to many factors (Figure 1). Some of these counties are wildlife tourism centers (e.g., Nakuru) and beach tourism hotspots (e.g., Kilifi County which is also adjacent to Mombasa City County) which attract visitors from all over the world. Others (e.g., Nakuru, Uasin Gishu, Migori, and Busia Counties) have many COVID-19 cases because they lie on the country's main transport arteries (e.g., the Mombasa-Nairobi-Nakuru-Kisumu highway – Figure 2) which link Kenya to neighboring countries. Moreover, Uasin Gishu County contains Eldoret town, one of Kenya's largest towns. Eldoret is also home to Eldoret International Airport, Kenya's third largest airport after Jomo Kenyatta International Airport (JKIA) in Nairobi and Moi International Airport in Mombasa. Other counties (e.g., Migori and Busia counties) lie on Kenya's international border and are thus home to the border towns (e.g., Migori and Busia) that mediate road traffic between Kenya and Uganda and Tanzania (Figure 2).

Table 2: Distribution of COVID-19 cases by County (Nairobi Metropolitan Region counties are shown in grey)

County	2019 Population	COVID-19 Cases	COVID-19 Cases / 1,000 Population	Percent of Total Cases
Nairobi	4,397,073	10,293	2.3	58
Mombasa	1,208,333	1,951	1.6	11
Kiambu	2,417,735	1,141	0.5	6
Kajiado	1,117,840	1,028	0.9	6
Busia	893,681	698	0.8	4
Machakos	1,421,932	689	0.5	4
Nakuru	2,162,202	282	0.1	2
Migori	1,116,436	265	0.2	2
Uasin Gishu	1,163,186	223	0.2	1
Kilifi	1,453,787	102	0.1	1
Others	30,212,091	931	0.0	5
Total	**47,564,296**	**17,603**	**0.4**	**100**

Sources: 2019 Kenya Population Census, https://www.knbs.or.ke/; Namatsi, J. (2020, July 28). Covid-19: Kenya cases shoot to 17,603 with record 960 infections. *Daily Nation*. https://nation.africa/kenya/news/covid-19-kenya-cases-shoot-to-17-603-with-record-960-infections-1906350

Figure 2: Distribution of Covid-19 cases in Kenya on July 26 2020



Source: Namatsi, J. (2020, July 28). Covid-19: Kenya cases shoot to 17,603 with record 960 infections. *Daily Nation*. https://nation.africa/kenya/news/covid-19-kenya-cases-shoot-to-17-603-with-record-960-infections-1906350

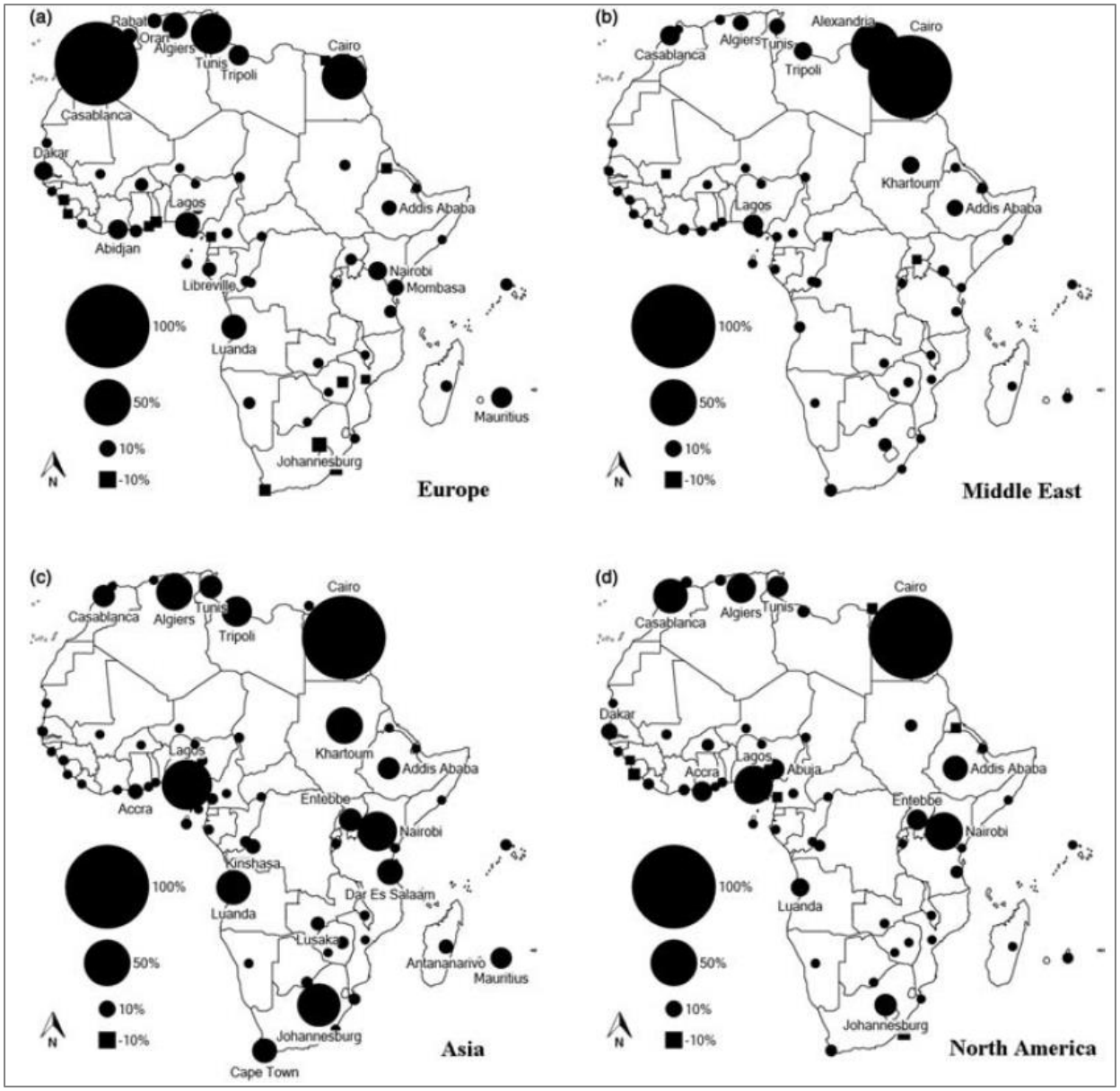
The data in Table 2 and Figures 1 and 2 shows that COVID-19 is mainly diffused or spread hierarchically. That is, it reaches the most globally connected cities first e.g., Nairobi before diffusing to the next largest cities in the national or regional urban hierarchy. Thus, cities with the most international connections e.g., New York and London got COVID-19 first before hierarchically diffusing it to lower ranked cities in the global urban hierarchy through their airline connections (Bassens et al., 2012; Otiso et al., 2011).

In Africa, the highest numbers of COVID-19 cases are similarly found in the continent's most globally connected countries of South Africa, Egypt, Nigeria, Ghana, Algeria, Morocco, and Kenya. These countries' global connections, e.g., through national or authorized airlines, are in turn concentrated in their major cities including Johannesburg (South Africa), Cairo (Egypt), Cape Town (South Africa), Lagos (Nigeria), Nairobi (Kenya), Durban (South Africa), Casablanca (Morocco) and Accra (Ghana) (Figure 3). For instance, Nairobi is globally connected because of many reasons. Besides being Kenya's capital city, Nairobi is:

> the commercial, industrial, financial, educational, and communication hub for Eastern and Central Africa. Moreover, the city is one of the major international air transport hubs in Sub-Saharan Africa more so for tropical Africa. In particular, the city's major non-African OD [overseas destination] links are to London, Dubai, Mumbai and Amsterdam. Locally and regionally, Nairobi is linked strongly to Mombasa (Kenya), Johannesburg, and Kampala. Nairobi's strong connections to Europe, the Middle East, Asia and North

America pertain to its being: (i) the regional headquarters of many multinational corporations, (ii) the gateway to East Africa and the core of the region's dominant economy, (iii) [the] global headquarters of the United Nations Environment Program (UNEP) and the United Nations Human Settlements Program (UNHABITAT) and, (iv) [the] host to one of the largest concentrations of secretariats of international organizations in Africa especially non-governmental organizations (NGOs) and foreign country embassies. (Otiso et al, 2011: 615)

Figure 3: Relative changes in airline linkages between 61 African cities and four world regions, 2003–2009



Source: Bassens, D., Derudder, B., Otiso, K. M., Storme, T., & Witlox, F. (2012). African gateways: measuring airline connectivity change for Africa's global urban networks in the 2003–2009 period. *South African Geographical Journal, 94* (2), 103-119. (p. 111).

Nairobi's airline linkages to Asia (including China) and North America (including USA) grew by around 50% in the 2003-2009 period (Figures 3c and d). This was even before Kenya Airways started operating direct flights to the US in 2019. Thus, by the time COVID-19 broke out in early 2020, Nairobi had strong airline connections to the global Asian and North American epicenters of the disease. Unsurprisingly, the disease quickly got to Nairobi before spreading to Mombasa and to Kenya's other secondary towns. Nairobi continues to lead the country in COVID-19 numbers (Table 2 and Figures 1 and 2). Regardless of size or rank, once COVID-19 reaches a city, it spreads within it through the various mechanisms of contagious diffusion or the "spread of an infectious disease, such as measles, that requires direct contact between individuals for infection to occur." (Hornsby, 2011:2)

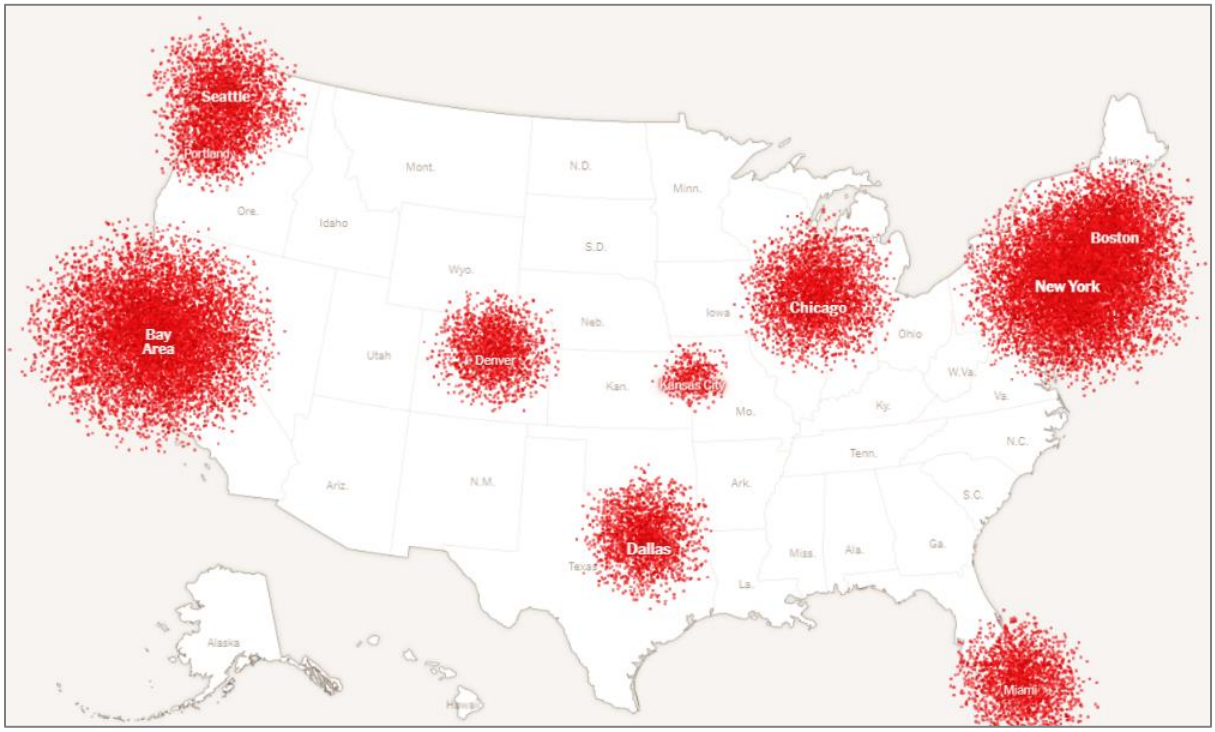
The US COVID-19 crisis

Coronavirus disease was first reported in the US on January 21, 2020 "when a man in Washington state who had traveled to Wuhan, China, tested positive. The Seattle area soon became a hotspot, with cases soaring after an outbreak at a nursing home outside the city" (Singh 2020: no pp). Subsequently, it spread across the country through hierarchical diffusion involving airline linkages between major Chinese, European, and US cities. By March 1, 2020 these international airline flows had seeded major US cities like New York, Boston, Miami, Chicago, Dallas, Kansas City, Denver, Seattle, and the San Francisco Bay Area with the coronavirus (Figure 4). From many of these major US cities, which also serve as major airline hubs, the virus/COVID-19 spread to and between other cities in the US urban hierarchy through the domestic airline (and other transport) networks shown in Figure 5. Within the individual US cities shown in Figures 4, 5 and 6, COVID-19 spread through contagious diffusion or person-to-person contact with infection rates decreasing with distance from the disease epicenters. It is noteworthy that many of the US COVID-19 state and metropolitan area epicenters (Figures 4-6) are also home to most of the Kenyan immigrants in the US.[3] Therefore, COVID-19 has negatively affected many of these immigrants.

Even though data on the incidence of COVID-19 within the Kenyan diaspora community in the US is very poor, many have contracted it and recovered, and a few have died of it (Gitaa, 2020a). Conversely, as shown in Table 1, as of July 27, 2020, there were 17,603 COVID-19 cases in Kenya, 7,743 of whom had recovered and 280 had died of the disease. Needless to say that in both the US and Kenya, the true COVID-19 incidence is higher given the low number of people tested for the disease as of July 27, 2020 (see Tests per 1 million population in Table 1).

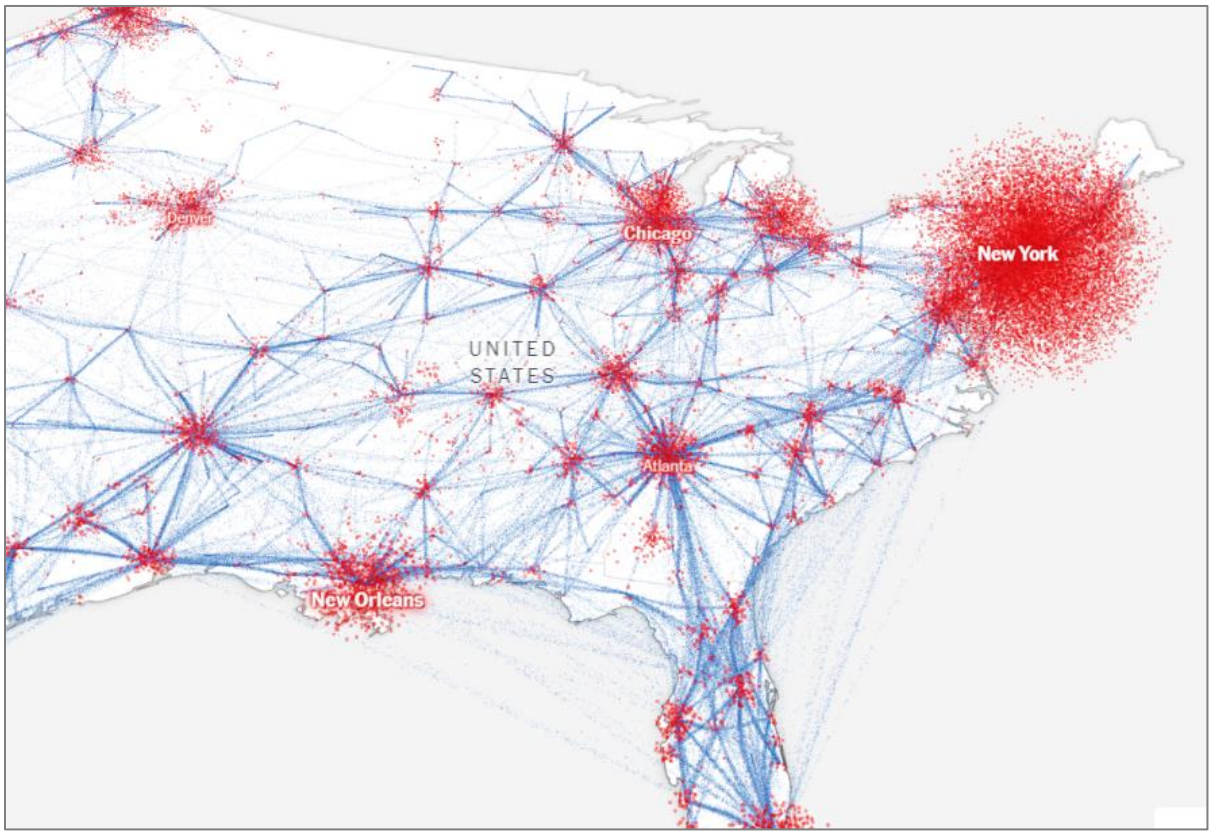
[3] There were 147,000 Kenyan immigrants in the US in 2018. Slightly more than 50% of them were females and had a lower median age of 36 years compared to 38 for the general US population. Relative to the general US population, Kenyan immigrants in the US in 2017 had higher marriage rates (51% vs. 48%), a slightly lower divorce rate (7% vs. 11%), more percent family households (70% vs. 65%), a higher average household size (3 vs 2.7), a slightly higher average family size (3.7 vs. 3.6), a higher bachelor's degree educational attainment (50 vs. 32%), a higher graduate or professional degree educational attainment (21 vs. 12%), a higher employment or labor force participation rate (78 vs. 63%), a higher representation in management, business, science, and arts occupations (50 vs. 38%) and service occupations (22 vs. 18%), and a disproportionately high participation in the educational services, and health care and social assistance industry (42 vs. 23%) (U.S. Census Bureau, 2017). Most of the Kenyans in the health care and social assistance industry work as doctors, registered nurses, nurse aids, and pharmacists and, therefore, have a high chance of contracting COVID-19.

Figure 4: Estimated COVID-19 infections by March 1, 2020



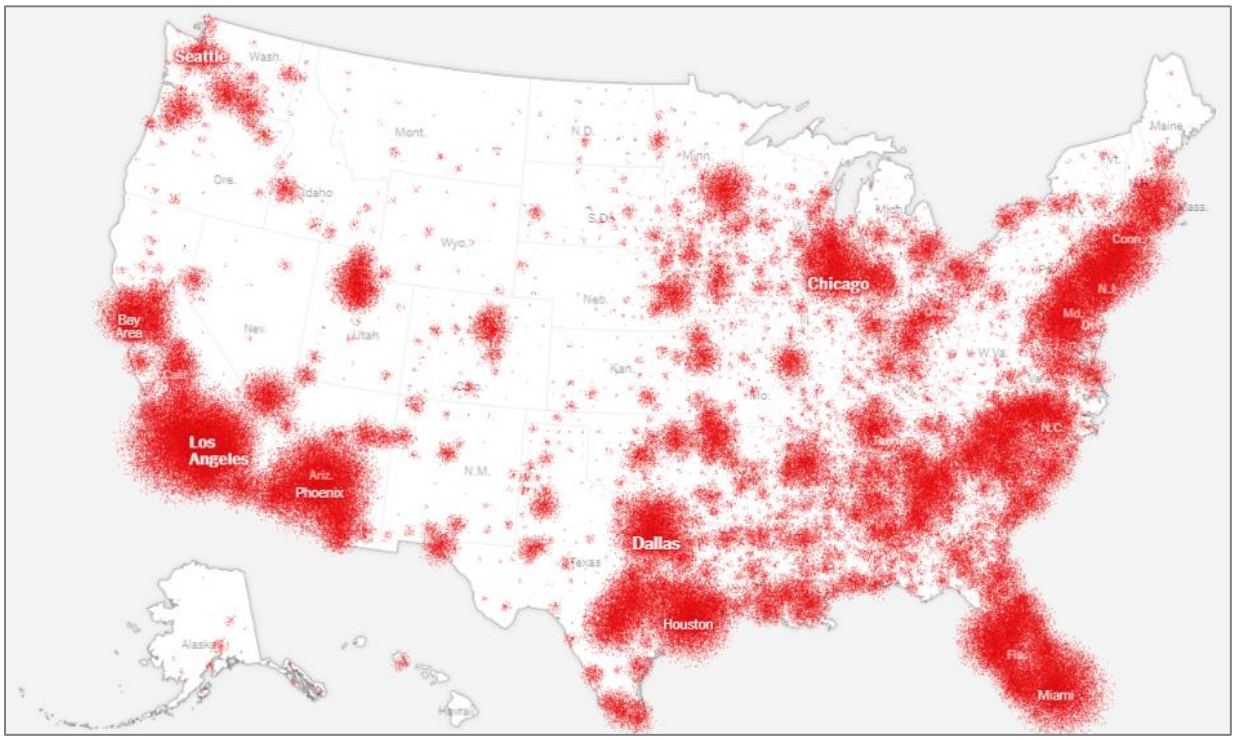
Source: https://www.nytimes.com/interactive/2020/us/coronavirus-spread.html

Figure 5: COVID-19 epicenters and travel (spread) paths across the US



Source: https://www.nytimes.com/interactive/2020/us/coronavirus-spread.html

Figure 6: New confirmed COVID-19 cases, June 9 - June 23, 2020



Source: https://www.nytimes.com/interactive/2020/us/coronavirus-spread.html

Negative impacts of COVID-19 on Kenya and her US Diaspora

Besides threatening lives, COVID-19 has devastated global trade and the economies of virtually every country on earth leading to massive unemployment, food shortages, social friction, and economic uncertainty. The hospitality, tourism, and airline industries of many countries have all but collapsed and there is no end in sight until a COVID-19 vaccine is found and distributed widely (Oppong, 2020).

Kenyans are vulnerable to COVID-19 because of weak healthcare and food supply systems, high poverty rates, corruption, low personal protective equipment (PPEs) supplies and effectiveness (Brosseau & Sietsema, 2020), and overreliance on imported medical equipment and supplies. Moreover, as in many other African countries, COVID-19 has upended the social and communal lives of Kenyans as "[common] African cultural practices [like] hugging, handshake greetings, large funerals and weddings, and crowded church services [have had to be halted because of their potential to transmit COVID-19]" (Oppong, 2020: 2). Although the "closeness of [Kenyan] family ties [has made] social distancing more difficult" [because, for instance, most] "people feel compelled to visit sick relatives or bereaved families" [, old burial] rituals such as washing and touching the dead body before burial" have been suspended because of their potential to transmit COVID-19 (ibid.).

For many slum dwellers in Kenya, e.g., those who live in Kibera in Nairobi City, COVID-19 prevention measures like "social distancing [are all but an] impossible or an unaffordable luxury" (Oppong 2020: 2) given their high density living and lack of access to in-house piped water, toilets, showers and handwashing facilities, or even basics like soap. Moreover, many Kenyans are vulnerable to high COVID-19 mortality because of malnutrition and comorbidities like HIV/AIDS and tuberculosis. Like many other Africans, most Kenyans "work in informal

economies and have to work daily or face hunger or even starvation" (Oppong, 2020: 2). As a result, many Kenyans [have defied] government shutdowns in the face of violent police crackdowns against this practice because "the hunger virus is more real and deadly than [the] coronavirus" (Oppong, 2020: 3).

Kenyan immigrants in the US and elsewhere in the diaspora have also been negatively impacted by COVID-19 because of many internal (e.g., housing and occupation) and external factors (e.g., widespread discrimination and racism against Blacks). Although Kenyan immigrants in the US have many impressive qualities such as high average incomes, most of them rent (58%) rather own (42%) their homes (U.S. Census Bureau, 2017). As a result, many of them have struggled to follow US local, state, and federal authorities' COVID-19 control measures like social distancing and self-quarantine. Moreover, for the 16% of Kenyan immigrants with no health insurance coverage (U.S. Census Bureau, 2017), a COVID-19 related trip to the hospital can be a very costly endeavor.

Even more worrying is the fact that most of the 42% of Kenyan immigrants who work in educational services, and health care and social assistance industry, work in the healthcare sector as frontline workers (nurses, doctors, and nurse aids) in hospitals and nursing homes that increase their potential of being infected with COVID-19. This reality is already evident in the State of Minnesota which has one of the highest concentrations of Kenyan/African immigrant healthcare workers. In the state:

> while black congregate health care workers [i.e., those who work in nursing homes] make [up only] 19 percent of the industry's workforce in Minnesota, they account for 43 percent of that workforce infected with the [coronavirus]—the highest of any racial group. By contrast, white congregate care workers made up 74 percent of the workforce, but just 38 percent of workers infected with the virus. (Peters, 2020: no pp)

Some of these black workers are Kenyan immigrants who are not only feeling the brunt of COVID-19 personally by getting infected and sickened by the virus but by also infecting and endangering their families, sometimes because of lack of enough coronavirus testing and PPEs (Peters, 2020).

Many Kenyan and other African immigrant nursing home workers in the US are also bearing the brunt of COVID-19 because they earn relatively low wages -- $32,000 a year for nursing assistants, $45,000 for licensed nurse practitioners (LPNs), and an average of $78,000 for the more qualified and rarer registered nurses (RNs) (ibid.). Therefore, to make ends meet, they often "work more than one job and transfer shifts from one care facility to the next, sometimes during the same day" (ibid.). Moreover, they have a tendency to work nonstop because they are often the breadwinners for their immediate families in the US, their extended families in Kenya and other African countries, and because many do not have paid sick days. Yet, in their quest to succeed at all costs by working in multiple places, "they not only multiply the risks to themselves, but they also multiply the risk of passing COVID-19 specifically from one setting to another" (ibid.) and to their elderly nursing home clients/patients who are highly vulnerable to COVID-19. Older people are highly susceptible to the disease because they are more likely than not to suffer from common COVID-19 comorbidities like hypertension, obesity, and diabetes (Richardson et al., 2020). Moreover, the risk for a severe COVID-19 illness and possibly death increases with age (National Center for Immunization and Respiratory Diseases [NCIRD 2020a]). Elderly Kenyan immigrants in the US are therefore among the country's grim COVID-19 statistics (Table 1).

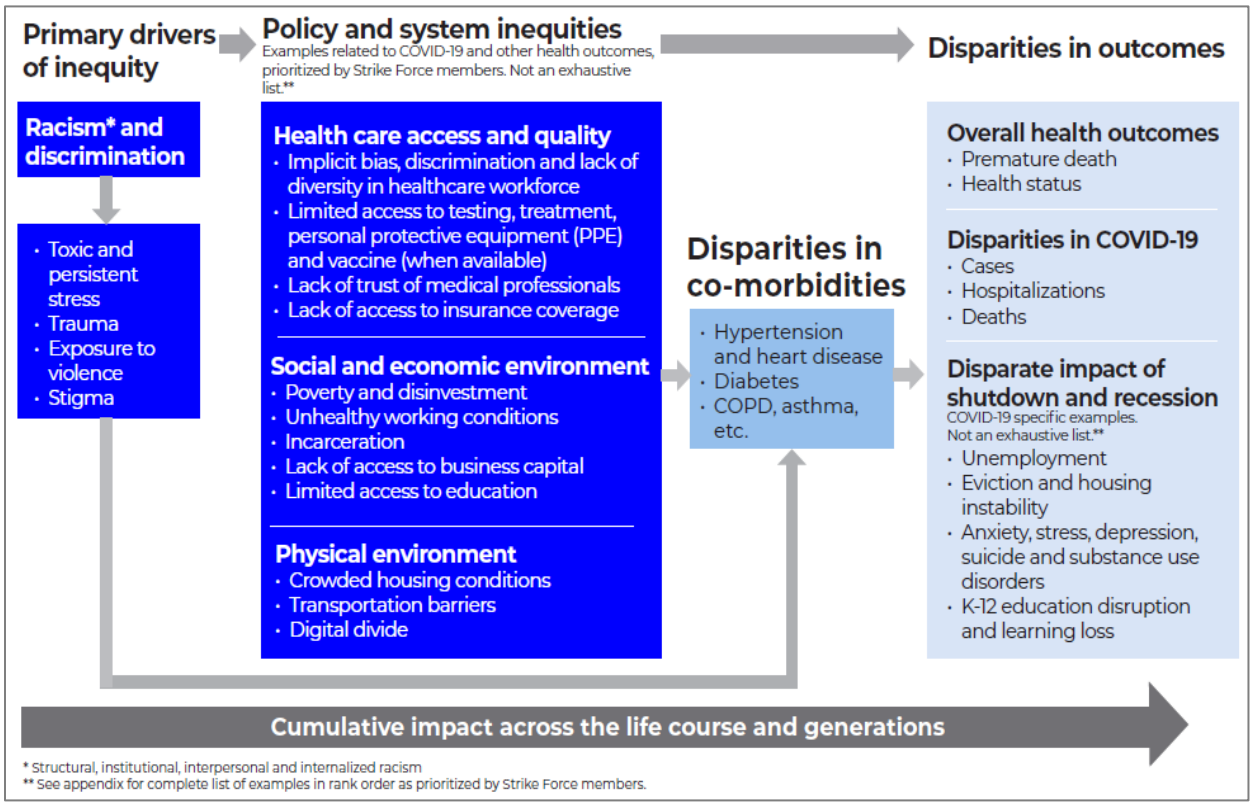
Kenyan immigrants in the US are also vulnerable to COVID-19 because most of them (98%) are black. Therefore, like other US minorities, they are negatively impacted by the country's "[long-standing] systemic health and social inequities [that] have put many people from racial and

ethnic minority groups at increased risk of getting sick and dying from COVID-19" (NCIRD, 2020b: no pp). These systemic health and social inequities are caused by and manifested in:

- discrimination against minorities in US health care, housing, education, criminal justice, and finance systems;
- low healthcare access and utilization due to lack of transportation and child care and communication and language barriers between patients and healthcare providers;
- disproportionate representation in risky but essential work settings such as healthcare facilities and grocery stores;
- educational, income, and wealth gaps that prevent many minority groups' ability to minimize potential COVID-19 infection by working from home; and
- many low-income immigrants' tenuous housing situations or tendency to live in crowded multigenerational housing situations that undermine their ability to social distance or to self-quarantine when they need to (NCIRD, 2020b).

The interrelationships between many of these systemic health and social inequities and outcomes are shown in Figure 7. Nevertheless, despite the widespread socioeconomic devastations of the COVID-19 crisis, it has also created some unforeseen opportunities for Kenya and her diaspora.

Figure 7: Factors driving COVID-19 and other disparities



Source: [Ohio] COVID-19 Minority Health Strike Force (2020). *COVID-19 Ohio Minority Health Strike Force Blueprint*. Page 7, https://coronavirus.ohio.gov/wps/portal/gov/covid-19/families-and-individuals/More-than-a-mask/More-than-a-mask

Every dark cloud has a silver lining: Positive externalities of the COVID-19 crisis

For the avoidance of doubt, this section is not some ghoulish celebration of the terrible COVID-19 disease which has devastated the world, infected millions and killed hundreds of thousands of people including Kenyans at home and in the diaspora. This is simply an exploration of the inescapable reality that in the process of dealing with this disease, people from around the world, including Kenyans at home and in the diaspora, have gained certain unintended benefits from it. This reality has ample historical precedent. Whenever humans have found themselves in a crisis of any kind, they have often willingly or unwillingly ended up gaining some unintended benefits from the creativity, innovation, and other coping mechanisms that crises so often engender. These are the silver linings that often accompany every dark cloud. Accordingly, the COVID-19 dark cloud that the world is currently living under has come with some short-term and possibly long-term social, political, economic, geopolitical, and educational, scientific and technological silver linings and health enhancing behaviors. The discussion below outlines some of them.

Positive social outcomes

The COVID-19 crisis has brought about many unintended social benefits. Because "crisis is [often] … a strong driver of creativity and innovation" at the individual, organizational, institutional, and national levels (Reiter-Palmon et al., 2020: no pp), Kenyans at home and in the diaspora are exhibiting creativity and innovation at all of these levels. At the individual level, COVID-19-related lockdowns have helped many Kenyans at home and in the diaspora to discover, refine, enhance, and market their gifts and talents. For example, a new teenage Kenyan comedian, Elsa Majimbo, has become an internet sensation since March 2020 with witty and relatable monologues on COVID-19 lockdowns, border controls, closure of schools and restaurants, and the challenges and benefits of COVID-19-related social distancing and isolation (Salaudeen, 2020). Mainstream and social media is awash with such creativity and innovation with, for instance, Kenyan and diaspora entertainers, like Kenyan disc jockeys and comedians, finding new ways to market their craft online and on social media platforms like Facebook, WhatsApp, and Zoom. Although these mediums predate the advent of COVID-19, they are more heavily utilized now by individuals, organizations, and institutions within and across national borders.

At the organizational and institutional level, the COVID-19 crisis has forced many Kenyan and diaspora institutions e.g., educational ones to innovate. Although most Kenyan primary, secondary, and tertiary educational institutions are closed because of a lack of online learning facilities, some of them, e.g., KCA University and United States International University-Africa (USIU), have thriving online learning programs because they had invested in the necessary infrastructure prior to the onset of COVID-19. Many of Kenya's public universities are scrambling to catch up by launching or enhancing their online learning programs.

Nationally, the COVID-19 crisis has forced the Kenyan government to make certain internet infrastructural investments to enable the country to better deal with the current COVID-19 crisis and others like it in the future. One such investment is the recently announced partnership between Telkom Kenya and Google's Project Loon to launch balloon-based internet services in Kenya that will serve an underserved or totally unserved 50,000-square kilometer area across central and western Kenya. Large sections of this region are un-or-under-served because they are far from the country's fiber optic backbone that runs along its major highways. This first of its kind project in Africa, "had been in the works for years, [but] was accelerated by the coronavirus pandemic and the global necessity to work [and learn] online" (Feleke, 2020: no pp).

Nationally, the coronavirus has also "heralded a painful paradigm shift in the [Kenyan] mourning and burial culture" (Star Team and Agencies 2020: no pp). This is because COVID-19 control measures like social distancing have substantially changed the hitherto outlandish and expensive Kenyan funerals, whether at home or abroad. Prior to the start of the COVID-19 crisis, lengthy funeral and mourning procedures were the norm and were meant to "bring some kind of closure [to mourners], bring families and friends closer together, let them remember the departed, [and] forgive and forget [the past]. A proper traditional send-off with all the trappings," included plenty of food, mass gatherings, fundraisings to cover mortuary fees often accrued by keeping bodies for weeks on end as families prepared "intricate funeral ceremonies and [adhered to] strict practices, such as where the grave should be" (ibid.). On the burial day, speeches took entire days as throngs of relatives, "villagers and politicians from far and wide" showed up to give the deceased a decent send-off (Star Team and Agencies, 2020: no pp). Among "cultures like the Luhya, Luo and Kisii" mourners grieved for days and engaged in little to no work when doing so (ibid.). The coronavirus pandemic has upended all these elaborate mourning and burial rites leading to drastic decreases in funeral costs though some people are unhappy about this. Previously, '[burying] the dead in [the new normal] less than 48 hours was unheard of" (Star Team and Agencies, 2020: no pp).

Now that Kenyan society knows that it is possible to bury a loved one quickly without much ceremony and without attracting curses from angry gods; it is possible that this change is permanent. Commenting on this very possibility, one reader of the above cited article noted:

> The picture is grim, this virus that was visited on us [and] has [changed] the way life was, and now we have to develop new norms, the new world order has taken effect. (Star Team and Agencies, 2020: no pp)

Yet another reader added:

> Many African cultures seem to love the dead more than the living. People spend more on funerals and burials than on development that can improve the welfare of the living. In that case, COVID-19 may have a positive impact on such cultures. (Star Team and Agencies, 2020: no pp)

In the Kenyan diaspora in the US, bodies, especially those of first-generation immigrants, have long been sent back to Kenya for burial. Since Kenya is currently not accepting the bodies of people who have died abroad of COVID-19, they have had to be buried in the USA and other foreign countries thereby substantially cutting the cost of funerals in the diaspora as well (Mudi, 2020) besides initiating or strengthening the nascent culture of burying loved ones abroad. It is unlikely that the diaspora practice of shipping bodies to Kenya for burial will continue to the same extent after the pandemic ends.

Increases in wellness practices or health enhancing behaviors

The COVID-19 crisis has also triggered increases in wellness practices and other health enhancing behaviors including fewer road accidents, a lower incidence of communicable disease burdens due to COVID-19 shelter-in-place orders (Davies, 2020), better hygiene, as well as lower incidents of food poisoning in restaurant and hotels. Globally, including in Kenya and the US, drunken driving is a major cause of road traffic accidents (Jewell & Brown, 1995).

For instance, between 2009 and 2018, there were 74,333 road accidents in Kenya – many of them caused by drunk drivers - which killed 31,729, seriously injured 68,405 and slightly injured 69,223 people in the most productive ages of 15-45 years (Kenya National Bureau of Statistics,

2019; Manyara, 2016). The cost of these mostly preventable road accidents to Kenyans at home and abroad, and to their organizations, and institutions are immense. Similarly, in the US, the economic ripples of preventable and unpreventable road crashes to individuals, organizations, institutions, and to the country are similarly substantial.

> Counting medical expenses and productivity losses stemming from injuries and deaths, car crashes cost the US economy more than $75 billion in 2017. Throw in property damage, emergency responders, insurance costs, congestion, and the inevitable court cases, and it's far more. In 2010, the most recent year for which the grand total is available, crashes cost the US $242 billion. (Davies, 2020: no pp)

Therefore, COVID-19-related declines in the number of vehicles and drunk drivers on the roads have substantially reduced the number of road traffic accidents in Kenya and the US thereby saving the invaluable lives and resources of many Americans and Kenyans at home and abroad. These life and material savings have also benefited many American and Kenyan organizations and institutions.

On another health front, COVID-19 has forced the government of Kenya to roll out environmental clean-up projects in Nairobi's many slum areas; projects that will help to control the disease and well as improving these areas' long neglected sanitation needs (Dijkstra, 2020).

Unintended positive educational, scientific, and technological outcomes

The COVID-19 crisis has also inspired many unintended positive educational, scientific, and technological changes from the individual to the national level. These individual changes are collectively affecting countries across the globe even as national changes are also affecting individuals.

At the individual level, COVID-19 has also forced Kenyans at home to innovate and start making masks, face shields, ventilators, and other medical supplies like oxygen (Daily Nation, 2020; Deutsche Welle 2020) since many imported ones are either in short supply or too expensive. Specifically, since the advent of COVID-19, individuals at various Kenyan institutions (including Kenyatta University, Dedan Kimathi University of Technology, and Numerical Machining Complex) have created ventilator prototypes that are being evaluated by the Ministry of Health, Kenya Bureau of Standards (KEBS), and the Pharmacy and Poisons Board (PPB) before being fine-tuned into equipment that can be used in actual hospital settings (Daily Nation, 2020; Merab, 2020). Although some of these prototypes will not get to production stage, not least because of lack of adequate financing, shortage of essential parts, and lack of a mature national framework to support such ideas from conception through actualization and eventual commercialization (Merab, 2020: no pp); the COVID-19 crisis has demonstrated that the country has an innovative capacity that, if nurtured properly, can free it from overreliance on foreign technology.

Meanwhile, Kenya's informal sector has also come up with cheaper hospital beds that could reduce the country's reliance on imported ones. The government has already ordered 500 of them for use in county hospitals (Kabale, 2020). Similarly, the Kenya Medical Research Institute (KEMRI) -- East Africa's leading medical research facility -- is testing the efficacy of Zedupex, a local herbal medicine, against COVID-19 while also serving as one of Kenya's central players in COVID-19 testing and management (Ruvaga, 2020). Many of these innovations in Kenya's health sector have also come about because COVID-19 travel restrictions have amply demonstrated to Kenyan politicians' and leaders' that their favorite foreign hospitals are not always within reach.

At the institutional and organizational level, Kenyan public universities offer a good case study on COVID-19 induced changes. Prior to COVID-19, Kenyan public universities consisted of "two-universities-in-one", that is the "administrative" and "academic" universities, each with "different interests, powers and influence" (Kanyinga, 2020: no pp). The administrative university, which includes powerful administrators, finance officers (bursars and procurers), security officers and other support staff, had grown to the point of overwhelming and choking the academic side of many universities by a ratio of "one teaching staff to nine administrative staff" (ibid.). This disastrous situation, which arose from the reckless "recruiting [of support staff] on the basis of tribe and nepotism" has led to many Kenyan universities spending as much as 60 per cent of their revenues on administrative salaries, many of which are equal or higher than those of lecturers and professors (ibid.). Consequently, many Kenyan universities' teaching, research and stature in the world has declined substantially in recent decades leading to their decreased contribution to knowledge production and national development.

In closing the physical university, which is dominated by administrative staff, COVID-19 has starved the "administrative university" of power and given the "academic university" room to recreate itself through online learning. Moreover, COVID-19 has given Kenya's Ministry of Education the room that it has long sought to restructure Kenyan universities to focus on their core teaching, research, and engagement with the local and global community of scholars (ibid.). This change is long overdue. At the same time, COVID-19 has forced many Kenyan universities to optimize and expand their online learning infrastructure and find novel ways of extending their distance and online education and e-library services to students and teaching staff in order to minimize disruptions to their learning programs (Ayiro, 2010).

On the educational front, COVID-19 has also re-invented the operations of many academic associations. For instance, in lieu of its cancelled 2020 face-to-face conference in Dallas, USA, the Kenya Scholars and Studies Association – KESSA (www.kessa.org) decided to host monthly Zoom presentations and discussions which have proven to be popular and successful in bringing in new members as well as widening the reach of the association into the broader nonacademic Kenyan immigrant community in the USA. Many of these new members are people who would otherwise not attend KESSA conferences because of cost and other factors. Moreover, the informal socializing that follows the formal presentations has proven to be a very effective forum for KESSA members and others to network. In this sense, COVID-19 has made KESSA and its members more accessible to the broader community and, therefore, in a sense made it more effective in serving its mission. It appears that these online meetings will continue even after COVID-19 is over.

Unintended positive political outcomes

The COVID-19 crisis has also brought some unintended positive political outcomes to Kenya and her diaspora. Domestically, the disease has lowered national political temperatures by shutting down, at least for a while, the country's noisy and often counterproductive political rallies. COVID-19 has also provided Kenyans with an opportunity to rally behind health care workers as well as helping to shift national priorities towards greater internal self-sufficiency.

For the Kenyan diaspora in the US, the COVID-19 crisis has brought about greater interest and involvement in US political affairs maybe because they now realize that these directly impact their everyday lives. Previously, these immigrants, who along with others from Africa, the late Professor John Arthur famously called "invisible sojourners" because of their relative detachment from US society and tendency to see themselves as temporary residents of the US, were demonstrably more interested in the political life of Kenya (and other African countries) while

being conspicuously absent from the political affairs of their new home country (Arthur, 2000). Although the worldview of Kenyan immigrants in the US has been changing slowly since John Arthur's 2000 proclamation, the COVID-19 crisis has certainly hastened it leading to many of them, e.g., those in Minnesota, to vie for various city and county seats in the November 2020 elections (Gitaa, 2020b, 2000c). Some of the heightened political activity among Kenyan immigrants in the US is undoubtedly linked to the murder of George Floyd by a Minneapolis, Minnesota, Police Officer in May 2020; a murder that starkly reminded them of the urgent need to work for the betterment of black lives in the US since they, like many black Americans, are not immune to the everyday racial realities of being black in America. Although Kenyan/African immigrants in the US have often had uneasy relations with African Americans, George Floyd's murder and the ongoing Black Lives Matter protests against anti-black racism and police brutality are helping to usher in positive change in this dynamic (Akaeze, 2020). In sum, the COVID-19 crisis and other concurrent events have either initiated or intensified certain changes that are likely to have long-term positive political consequences for Kenya and her global diaspora.

Unintended positive geopolitical outcomes

COVID-19 has also given Kenyans (and other Africans) at home and in the diaspora a chance to unite, grow, and flex their geopolitical muscle more effectively in response to the mistreatment of Africans and/or blacks in China and the US. In Kenya, the roots of this battle started a few years ago when the media reported that Chinese employers and restauranteurs were discriminating against Kenyans in their own country. For example, in 2018, the *Standard* newspaper carried a story headlined "Five ways Kenyan SGR [Standard Gauge Railway] workers are mistreated by Chinese 'masters'" that reported that Chinese nationals in the country were running roughshod over Kenyan workers and were subjecting them to neo-colonial, racist, and blatantly discriminatory treatment even as the country was spending millions of shillings a day on the project. Kenyan workers were reportedly being underpaid compared to their Chinese colleagues, were being indiscriminately fired and replaced by Chinese workers for the flimsiest of reasons, and had poor working conditions (Wafula, 2018). Although Kenyans from around the globe expected the Kenya government to favor them when responding to this issue, they were shocked when the then government spokesperson, Mr. Erick Kiraithe, defended the Chinese bosses and blamed Kenyan workers for a poor work ethic and for airing their employment grievances through the media. Moreover, Kiraithe argued that the challenges that Kenyan workers were experiencing at the hands of Chinese employers were common in any multiracial setting due to cultural clashes (KTN News Kenya, 2018). As might be expected, many Kenyans were displeased with their government's seeming inability to defend its citizens from mistreatment by foreigners on Kenyan soil.

It is against this backdrop that ordinary citizens in Kenya and other African countries rose up against China in April 2020 when it became evident that Africans in the city of Guangzhou, China, were being unfairly racially profiled, blamed, and mistreated by locals and city officials for the city's second wave of the COVID-19 pandemic "regardless of whether they [had] tested positive for COVID-19" or "had recently travelled out of China" (Li, 2020: no pp). As a result, many Africans in the city were being "mistreated by landlords, hotel managers and shopkeepers" with "some even left homeless" (ibid.). The then plight of Africans in Guangzhou was especially disappointing to many Africans because they had in previous decades supported China on the international stage. Alarmed by the mistreatment of their brethren in Guangzhou, Kenyans, and other Africans at home and abroad, launched fierce online protests that forced their governments to stand up to China. Therefore several "African ambassadors [in China] condemned the incidents

and put pressure on the Chinese government to respond" (Chimbelu, 2020: no pp). As a result, the central Chinese government was forced to "adjust its coronavirus restrictions on African nationals, provide them with health services without discrimination and [to] adjust accommodation prices for those in financial difficulties" (Li, 2020: no pp). Soon, officials and community leaders in Guangzhou fell in line with the Chinese national government and took action to treat their African residents better and to repair the tattered image of their city (ibid.). But by then, the COVID-19 pandemic had helped to transform China-Africa relations by uniting the latter in securing important concessions from the former. In Kenya and other African countries, there is now a growing willingness for locals to stand up to Chinese contractors and other employers in Africa (Chimbelu, 2020).

During the Africa-China COVID-19 tussle in April 2020, the US supported African nations in condemning China for its initial poor response to incidents of racism and discrimination against Africans in Guangzhou (Anna, 2020; Chimbelu, 2020). China was to return this US favor in May 2020 when it joined Kenyans and other Africans and blacks, the African Union, and others from around the world in condemning the cruel murder of George Floyd in Minneapolis (Feng, 2020; Powell, 2020). Remarkably, "U.S. embassies in Kenya, Uganda, Tanzania and the Democratic Republic of Congo [also] issued rare statements of concern over Floyd's May 25 death and called for accountability after the arrest of a police officer on third-degree murder and manslaughter charges" (Powell, 2020: no pp).

In both of these crises, the two major world hegemons, the US and China, strategically retreated in the face of, primarily, combined Kenyan, African, and African American unity and willingness to stand-up for their rights in China and the US. With the exception of the civil rights era in the US and African independence period in the 1960s, it is hard to think of another time when blacks and their allies have succeeded as much in pushing back their oppression. Undoubtedly, this global Kenyan, African, African American and overall black unity would not have come about without the contemporaneous 2020 COVID-19 and George Floyd murder crises. One can only hope that this unity will last long enough to lead to lasting change in overthrowing individual, organizational, and institutional anti-black racism and oppression in China, the US, and elsewhere in the world.

Unintended positive economic and poverty eradication outcomes

Despite its devastation, COVID-19 has also triggered many unintended positive economic outcomes including bringing greater attention to Kenya's socioeconomic inequity and inequality. This is more so true in the urban areas where the hygienic, social isolation, and shelter-in-place orders designed to combat COVID-19 have proven to be impractical and spurred the Kenya government to implement serious remediation efforts. For instance, prior to COVID-19, many of Nairobi's slums had poor access to adequate supplies of potable water. In a bid to control COVID-19, the Kenya government, through the Nairobi Metropolitan Services (NMS), was forced to drastically increase these areas' access to water through the drilling of a record 93 boreholes in 90 days by the end of June 2020 (Chams Media TV, 2020). Although many of these boreholes have poor quality water that has high fluorine levels, this can be resolved by treating the water. Moreover, COVID-19 has forced the Kenya government to work harder to ensure "that most of the 88 regulated Water Service Providers (WSPs) in the country" are operating at their full capacity (Kebaso, 2020: no pp). It is doubtful that this would have happened without the need to control COVID-19 through better hygiene practices like frequent handwashing.

COVID-19 has also forced Kenya to halt the importation of secondhand clothes to prevent the spread of the coronavirus. Although this move inevitably harms the country's used clothes dealers and sellers, it "could help Kenya [to] revive its own textile industry, which was wiped out in the late 1980s as the country started opening its markets to foreign competition… corona has shown not just for Kenya but for many countries to look inward a lot and try and fill some of the market gaps …The reality is that there's a big opportunity for us to produce local clothes for the citizens" (Dahir, 2020: no pp). According to Kitui County Governor, Charity Ngilu, who spearheaded the production of masks locally in Kenya by April 2020, "Let's not wait and wonder…We import everything and produce nothing, despite having all the resources at our disposal" (Bearak, 2020: no pp). This determination could not only help to revive the country's domestic cotton and textiles industry, employ thousands of Kenyans, and help to alleviate its relatively high poverty levels; but it could also lead to a new way of doing things in the post-COVID-19 era.

Conclusions and policy implications

The ongoing Coronavirus (COVID-19) pandemic has infected millions of people, killed hundreds of thousands, and devastated the socioeconomic lives of billions of people from around the globe including Kenyans at home and in the diaspora. The devastation that it has wrought on the tourism industry and other economic sectors will probably take many years to repair.

Nevertheless, the COVID-19 crisis has also brought many unintended positive social, political, economic, health, geopolitical, and educational, scientific, and technological outcomes to Kenyans at home and in the diaspora. These outcomes are noticeable at the individual, organizational, institutional, and national level. They include arousing many individual gifts and talents, ushering in certain overdue reforms in educational organizations and institutions, changing certain retrogressive national cultural practices (e.g., unproductive over-expenditures on funerals), challenging Kenya's overreliance on imported health supplies that could be produced locally, forcing Kenya to put more emphasis on the development of local health facilities, and fostering widespread individual, organizational, and institutional innovation in, for instance, various Kenyan universities. The crisis has also forced Kenyans and other Africans at home and in diaspora to, albeit temporarily, stand up for their rights in the US and China. Additionally, the COVID-19 crisis has given Kenyans at home and in the diaspora a can-do attitude that could serve them well in the long term.

While COVID-19 has also affected the Kenyan diaspora in the US in many negative ways, it has also forced them to reassess the wisdom of their sojourner mentality that they are in the US temporarily. COVID-19 lockdowns and the cancellation of flights from the US to Kenya between March and July, 2020, and the May 25, 2020 murder of George Floyd, in the City of Minneapolis, Minnesota, which has one of the largest concentrations of Kenyan immigrants in the US; have all forced these immigrants to pay greater attention to their long-term welfare in the US. As a result, they have joined hands with fellow blacks in the US and their allies to fight for increased socioeconomic justice for blacks in China, the US, and beyond. It is unlikely that these changes would have occurred without the unique set of circumstances brought about by the concurrent COVID-19 pandemic and May 2020 George Floyd murder. These changes are the silver linings that the dark cloud of COVID-19 has given to Kenyans at home and in the diaspora.

The findings of this research have many policy implications for Kenyans at home and abroad. For instance, since the concentration of COVID-19 cases in Kenya is in geographically identifiable regions such as Nairobi City County, the country's COVID-19 control policies and

measures should focus on such areas. Additionally, since Kenyans at home are vulnerable to COVID-19 because of weak healthcare and food supply systems, high poverty rates, corruption, and inadequate supplies of effective PPEs; policy makers in the country can craft policies to ameliorate these challenges. Policies that can increase the country's reliance on domestically produced medical equipment and supplies should also be promoted. In the US, policies that can help to reduce the systemic health and social inequities of the country's black population can also benefit resident Kenyan immigrants. These immigrants should also be encouraged to improve their quality of life in the US by becoming more actively engaged in the country's political life.

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