The Impact of COVID-19 Lockdowns in Accra, Kumasi, and Johannesburg: Linkages to Informal Settlements

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Keywords	COVID-19, informal settlements, poverty, lockdown, social distancing
City Population	Accra - 2.605 million, Kumasi - 3.630 million, Johannesburg - 10.110 million
City Area	Accra – 973 km^2, Kumasi – 452 km^2, Johannesburg – 1994 km2 km^2
GDP City & Nation (PPP)	Ghana - $5,930, South Africa - $13,140
Climate Zone	Accra -- BSh (hot semi-arid); Kumasi -- Aw (tropical savanna/dry winter); Johannesburg -- Cwb (subtropical highland)
ARC3.3 Linkage	COVID-19, Cities, and Climate Change Element

Introduction & Brief History. Disease epidemics are nothing new on the continent of Africa. It is on record that 87% of the countries in Africa have experienced at least one disease epidemic between 2016 and 2018 (Talisuna et al., 2020). As of February 2020, all African countries had reported the presence of the novel Coronavirus or SARSCoV-2 which is responsible for the disease that came to be known as COVID-19. COVID-19 has been closely linked with the effects of climate change such as biodiversity loss and the unhealthy state of many ecosystems around the world (Lawler et al., 2021). Although the rate at which the virus spread in Africa was considered much lower than in other regions of the world – perhaps due to a mix of early lockdowns instituted by many African governments, a relatively younger population and lower connectivity through air travel – the COVID-19 pandemic and the measures that were implemented to control its spread would, in the long run, have a significant impact in African countries, particularly so on the millions of the poor living in the major urban centres.

This case study looks at the lockdowns instituted in the cities of Accra and Kumasi (Ghana) and Johannesburg (South Africa), three cities in two medium-income countries and with the most cases of COVID-19 infections (July 13, 2020; Hopkins, 2020) as a way of managing COVID-19. In the case of Johannesburg, the lockdown was nationwide while Accra and Kumasi were singled out as the areas most affected by COVID-19 in Ghana and were locked down.

Specific attention is given to poor neighbourhoods and informal settlements with respect to all three cities because of factors such as overcrowding and poor sanitation conditions, which make the practice of social distancing and regular hand hygiene – two of the most potent preventative actions against the spread of SARS-CoV-2 - more difficult to observe (Seidlein et al., 2021). These neighbourhoods are also among the ones with the highest vulnerability to the effects of climate change such as flooding, sea level rise, and food insecurity. They are also the least resilient parts of the city due to the poor quality of their infrastructure (World Bank, 2022; Ziervogel et al., 2014). Therefore, the pandemic seems to have exacerbated long-standing social and economic inequalities that have led to the increase in xenophobia, racism, and domestic violence. This can have implications on urban communities' efforts to mitigate and adapt to climate change as residents and institutions are occupied with issues other than environmental concerns. The lockdown can also exacerbate the magnitude of impacts of climate change in such poor communities, whose livelihoods have been described by Huq and Reid (2007) as very sensitive to inactivity. As such, the COVID-19 pandemic has caused us to rethink how we plan and develop our cities and what effects they have on the social, cultural, economic, and environmental aspects of our lives.

Lockdown Contexts for the Case Cities in Africa

Accra & Kumasi. On March 30, 2020, the Ghanaian national government implemented lockdowns in the cities most affected by COVID-19, namely Accra and Kumasi. Only essential services such as food retailers, utility distributors and retailers, pharmacies, and medical services were allowed to operate. Barely three weeks after they came into effect (on April 20, 2020) and owing to agitations over worsening economic conditions, especially among the poor, whose main source of livelihood are the informal marketplaces, the government ended the lockdowns (Akinwotu & Asiedu, 2020). It has been reported that climate change vulnerability in Ghana is tied to social and economic issues such as access to healthcare, education, employment and livelihood-earning activities (World Bank, 2022). Therefore, what was first

understood as a public health emergency quickly became a social as well as an economic issue with the potential for instigating widespread unrest and a breakdown of law and order (Mishra et al., 2020). The populations that reside in the informal settlements of Accra and Kumasi are highly vulnerable to the effects of climate change such as flooding, food insecurity and potential loss of employment, income, and livelihoods due to climate-induced emergencies (Adams et al., 2022).

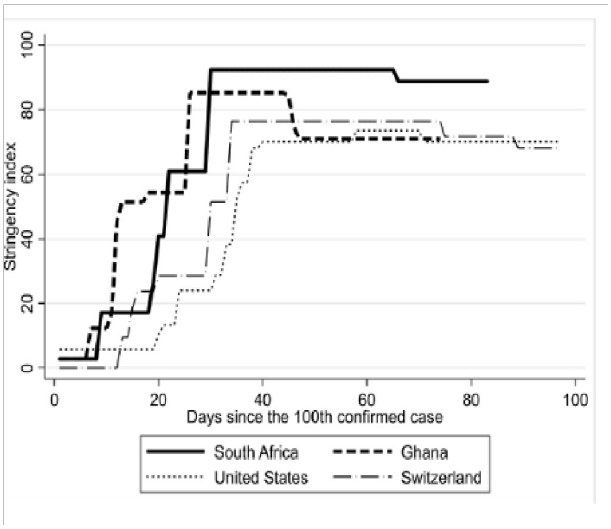

Fig. 1: *Stringency index from South Africa and Ghana (Source: Durizzo et al., 2021)*

The effects of lockdowns as the most preferred response to the Covid-19 pandemic have been shown to vary from place to place. Studies conducted in low-income and informal settlements in Ghana revealed that people feel most affected by the lockdown due to loss of income and an increase in the prices of daily essentials (Durizzo et al., 2021). Several studies have shown that the COVID-19 pandemic has impacted poor people - especially those living in the informal settlements of African cities – more in economic rather than health terms (Aushian and Abuya, 2020; Kesar et al., 2020; Malik et al., 2020). In Accra and Kumasi, as previously mentioned, most people are self-employed in the informal economy so city-wide lockdowns caused an almost instant and complete loss of income and a sharp increase in the prices of food and other essential commodities. The worsening economic conditions caused by a near complete cessation of incomes and rising cost of food and other basic needs are important factors to take into consideration when instituting preventive public health measures like a lockdown, or during climate emergencies that may cause similar disruptions.

Johannesburg. South Africa has had one of the strictest national lockdowns among all countries around the world (see Fig. 1). “Level Five,” the most stringent of all the levels, was put in place on March 27 and lasted until April 30, 2020. “Level Five” allows for only essential services to stay open including food production and retail, production and distribution of utilities such as electricity generation, as well as medical and emergency services. The other four levels, allowing for more activities, were less strict than “Level Five,” with “Level One” being the least strict (SAcoronavirus, 2020).

In South Africa, the lockdowns were nationwide, but it has been established that its effects were mostly felt by people in cities, especially the urban poor in informal settlements. In Johannesburg in particular, loss of income and increase in prices of daily essentials was not an issue of concern as the usual government grants to poor families continued to be paid during the lockdown (Cowan, 2020; Durizzo et al., 2021).

This demonstrates that South Africa has developed a viable system of re-distributing income to those in need which works efficiently even during emergencies such as national lockdowns. However, social rather than economic issues as well as anxiety about the risk of contracting COVID-19 were the largest areas of concern for people in the poor neighbourhoods of Johannesburg (SAcoronavirus, 2020). These informal settlements are also the most deprived parts of the city and research has established that they are the most vulnerable to the impacts of climate change, which include anxiety and depression (Cianconi et al., 2020). Anxiety and depression, as well as other mental health problems, have also been identified as the leading effects of the COVID-19 pandemic in South Africa (Nguse & Wassenaar, 2021).

Conclusion. It has been established that COVID-19 has impacted individual countries in different ways. These varying impacts have dictated the responses of different national and sub-national governments to this health emergency. What turned out to be the same for all countries, however, is the effectiveness of social distancing and preventive hygiene in controlling the spread of the virus. Social distancing was first instituted through city-wide and national lockdowns in the cases of Accra and Kumasi on one hand, and Johannesburg on the other, at the early stages of the pandemic. These lockdowns had varying effects with poor urban residents in Accra and Kumasi experiencing loss of income and increase in food prices, which put pressure on the Ghanaian government to discontinue it after only three weeks, despite the increasing rate of infection at the time. Whereas in the case of Johannesburg - with a population that equals that of Accra and Kumasi combined - the lockdown was sustained for a longer period and eased in successive stages, as there was no immediate adverse economic effect but more social and psychological ones like anxiety and the fear of contracting COVID-19 (see Fig. 2).

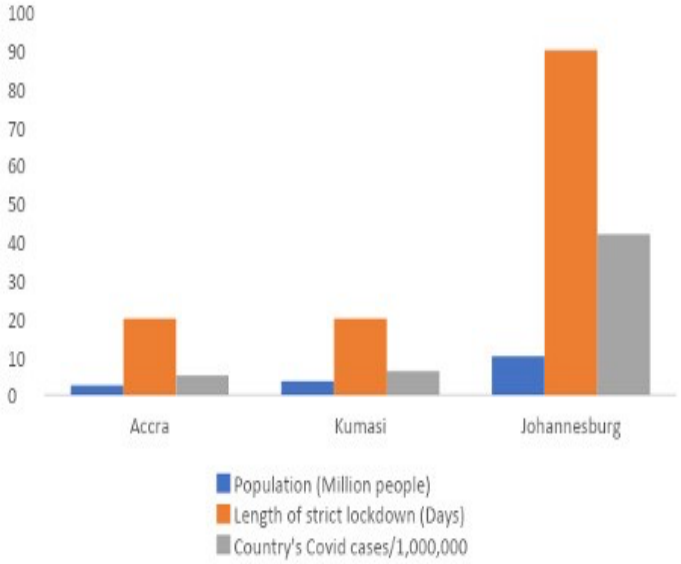

Fig. 2: *Population and length of stringent lockdown measures in Accra, Kumasi, and Johannesburg*

The lessons to be drawn from the Ghanaian context (Accra and Kumasi) is that city-wide lockdowns in response to health or any other kind of emergencies have to be accompanied by palliative or mitigation measures such as cash transfers to the poor, as well as provision of free public services (chief among them potable water and sanitation) by the sub-national or national governments. In the South African (Johannesburg) context, palliatives and mitigation measures should include free and widely accessible counselling services, provision of free public services and social welfare assistance among other measures that aim to mitigate the psychological and social adverse impacts of any selected emergency measures. Juxtaposing these lessons with climate emergencies reveals certain similarities. Climate vulnerability is highest in informal settlements where the majority if not all residents are poor and where housing and related infrastructure are sub-standard and fragile, thus providing very little protection against the impacts of climate change. The response to the health emergency as a result of the COVID-19 pandemic caused a shutdown of virtually all social and economic activities for considerable periods around the world. Climate emergencies have the potential to shut down public, social, and economic activities. In the event of such happenings, the lessons learned in the COVID-19 response in informal settlements can help in designing an effective response by sub-national and municipal governments.

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Additional Data

- **Gross National Income (GNI):** Ghana – 2,340 USD (Lower-Middle Income); South Africa – 6,750 USD (Higher-Middle Income)
- **Population Density:** Accra – 2,678 people/km^2; Kumasi – 8,031 people/km^2; Johannesburg – 5,070 people/km^2
- **Gini Coefficient:** Ghana – 43.5; South Africa -- 63
- **Human Development Index (HDI):** Ghana -- 0.602 (Medium); South Africa – 0.717 (High)
- **Type of Climate Intervention:** Adaptation