COVID-19 impacts on mobility in Kenyan informal settlements

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TRANSPORT FINDINGS

COVID-19 Impacts on Mobility in Kenyan Informal Settlements: A Case Study from Kibera, Nairobi

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Findings

This paper explores the changes in mobility and associated impacts in informal settlements arising from COVID-19 measures implemented in Kenya. Based on data from ten focus group discussions held in Kibera, Nairobi, we find that the dusk-to-dawn curfew and the increased costs of travel reduced the number of journeys and access to transport options, with consequent changes in mobility and increased time spent to travel. Such changes led to significant loss of income and reduced access to opportunities. This increased the already existing high level of poverty in Kibera and exacerbated individuals' economic vulnerability.

1. Questions

This paper explores the impacts on informal settlements arising from COVID-19 measures implemented in Kenya. The Kenyan Government enforced several measures to reduce the spread of COVID-19, including banning public gatherings, working from home, closure of educational institutions and a dusk-to-dawn curfew (Wangari et al. 2021). Public transport was limited to half capacity to maintain physical distance, with passengers required to wear a mask and operators providing hand sanitiser. Motorcycle-taxi operators were required to sanitise passengers' helmets, while three-wheelers operated on a single-passenger basis (Irandu 2020).

Kibera is the biggest informal settlement of Nairobi, located close to the Central Business District (Figure 1), and characterised by limited access to water, sanitation and hygiene (WASH) infrastructure, waste management challenges, and exposure to flooding hazards (Mulligan et al. 2019; Njuguna et al. 2013). With population estimates ranging between 300,000 and 1 million people over 2.5 km^2, proactive planning is hindered by a lack of reliable demographic data (Taylor et al. 2020), making the implementation of COVID-19 mitigation measures more difficult because of overcrowding and other socio-economic challenges (Quaife et al. 2020).

As a significant settlement with high levels of internal/external journeys to access formal/informal employment, services and goods, predominantly carried out through informal transport options and/or walking, Kibera represents an important case for understanding the mobility impacts of COVID-19 linked with movement restrictions/cessation on different groups living in informal settlements. The study, therefore, seeks to address the

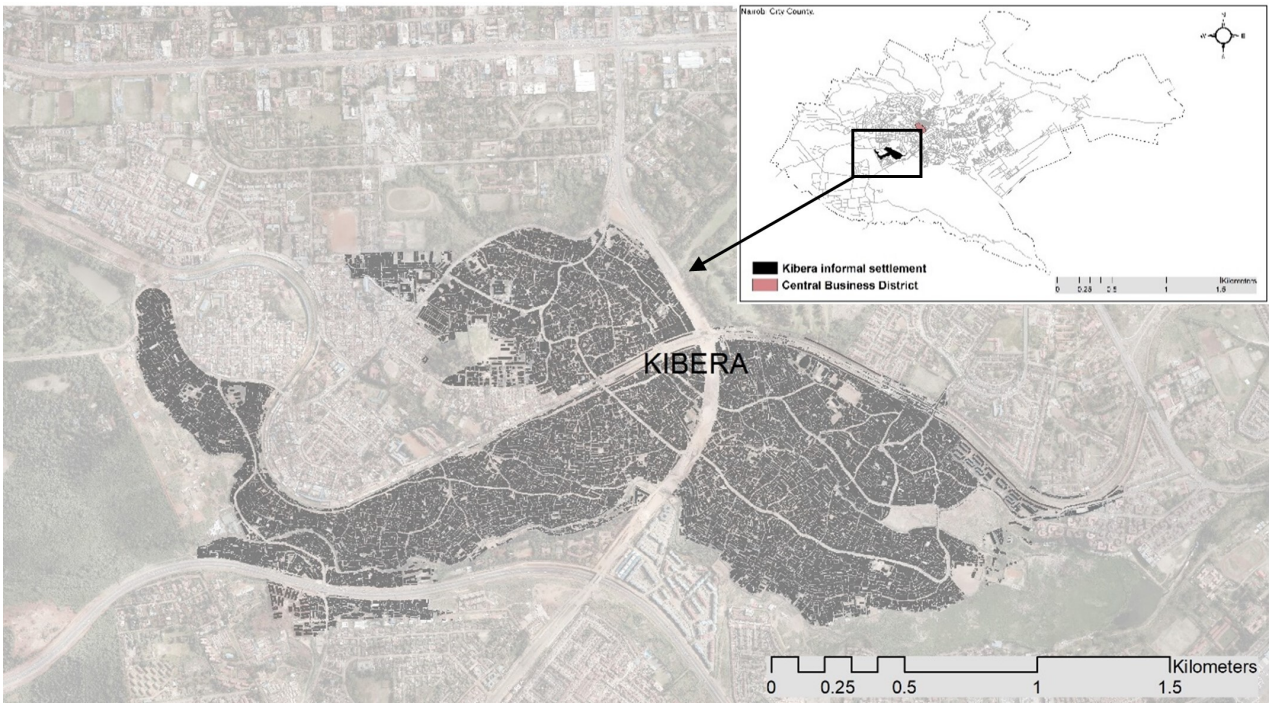

Figure 1. Geographical context and location of Kibera

following research questions: What were the main changes in mobility experienced by people living in Kibera due to COVID-19? What were the main impacts experienced because of such changes in mobility?

2. Methods

This study uses data collected from ten focus groups involving 62 participants, carried out between August and November 2021. Participants were recruited for two different research projects looking at 1) community severance impacts of the Missing Link#12 bypass in Kibera and 2) mobility needs of Kenyan older people (Table 1). However, given the contextual situation regarding the COVID-19 pandemic, the following questions were asked: "Did the measures implemented to reduce the spread of COVID-19 affect the way you carried out your activities? And what impacts did they have on your life?".

The focus groups were recorded and transcribed in Swahili and then translated into English for analysis. A thematic analysis was carried out by clustering an initial set of codes, which were further refined into the final themes and sub-themes (Table 2).

3. Findings

Participants reported travelling mainly to commute to work, purchase/sell goods for their small-scale businesses, and shopping purposes. Most participants walk or use a combination of different modes, typically walking combined with minibus and/or motorcycle-taxis.

Table 1 . Background of the participants

Focus group	N	Gender		Age Range	Kibera Village		Occupation	
FG1 & 6	14	Women Men	0 14	26-33 y.o.	Lindi Kianda Makina Moshimoni	10 1 2 1	Boda-boda driver Tuk-tuk driver	10 4
FG2 & 7	12	Women Men	11 1	23-68 y.o.	Kichinjio Lindi Makina Kisumu Ndogo Sokomoko	2 6 1 1 2	Businessman/woman Casual workers Employed Student	3 3 4 2
FG3 & 8	12	Women Men	11 1	24-48 y.o.	Lindi Makina Laini Saba	6 5 1	Businessman/woman	12
FG4 & 9	13	Women Men	13 0	52-73 y.o.	Kichinjio Lindi Makina Moshimoni	3 9 1 1	Businesswoman Casual worker	4 9
FG5 & 10	11	Women Men	0 11	54-75 y.o.	Kichinjio Lindi Moshimoni	1 5 5	Businessmen Church minister Employed Casual worker	5 1 3 2

COVID-19 measures reduced the number of journeys, access to transport and increased time spent travelling. Main causes of such changes were the increase in costs to travel and the implementation of the dusk-to-dawn curfew. The former was due to transport operators increasing their fares to cover the operating costs with reduced capacity and sanitation provision: “The biggest challenge was the hike in fare, we had to pay double the fare as we had to pay for the empty seats” (FG7 - Older woman, casual worker). Moreover, the purchase of face masks required to travel was an additional financial burden. The increase in costs led several participants who could not afford the new fares to walk longer distances to save money and/or find cheaper alternatives: “We were forced to walk a long distance, to get cheaper means of transport” (FG7 - Woman, casual worker).

The curfew forced people to change their time of travelling, creating challenges in coping with new travel schedules. Those travelling by minibus experienced reduced access to transport options and safety issues associated with overcrowded conditions at pick-up/dropoff points: “Despite the half capacity and the hike in fare, people were still scrambling for space in the matatu [minibus], mostly during curfew hours” (FG8 - Businesswoman). The overzealous behaviour of police patrolling the roads in enforcing the curfew was also found to be problematic (Table 2).

The COVID-19 measures had an impact mainly on participants’ income and work, reduced their access to livelihoods and other opportunities. The curfew affected businesses operating during evenings, resulting in significant loss of income, when not leading to the complete cessation of the business: “When COVID arrived, my business was affected due to the curfew. It was operating during evening, so I lost customers and the profit went down” (FG5 - Older man, businessman). Businesses particularly affected in this sense were those in

Table 2. Overview of the findings from the thematic analysis

Theme	Sub-theme	Example Sentence
Changes in daily mobility due to COVID-19 measures	Reduced access to transport option at curfew time	"Despite the half capacity and the hike in fare, people were still scrambling for space in the matatu, mostly during curfew hours" (FG8 - Businesswoman).
	Increased costs of travelling due to travel restrictions	""The biggest challenge was the hike in fare, we had to pay double the fare as we had to pay for the empty seats" (FG7 - Older woman, casual worker)
		"I used to walk a long distance to Othaya, just to save on the fare. This was due to hike in fare" (FG8 - Businesswoman)
		"The mask was expensive. One mask used to cost 50 shillings" (FG4 - Older woman, domestic worker)
	Safety due to police behaviour at curfew time	"During curfew, police were not treating us well; they were beating us whenever they got us past curfew time. Which wasn't the right way of keeping peace and safety for the common citizen, the government needs to intervene whenever they set such a law" (FG5 - Older woman, casual worker)
		"There was too much tear gas in the air during curfew hours" (FG8 - Employed woman)
Impacts on daily life due to COVID-19 measures	Loss of income for business because of curfew	"Many small-scale businesses, mostly for food, usually operates during the late hours of the day, and that was the time that the curfew begins" (FG7 – Woman, food vendor) (FG7 – Woman, food vendor)
		"The curfew caused perishable goods to spoil causing a huge loss" (FG8 - Businesswoman)
		"I was affected badly by curfew, since my business depends on these people who are coming from work in the evening, and those are the hours we are forced to close due to curfew" (FG8 - Older woman, businesswoman)
		"I used to open my business around 4 pm due to my customer, so I was forced to start opening it by 3 pm but still, I wasn't getting business" (FG4 - Older woman, businesswoman)
		"Most of the business pick in the evening, it was very hard doing business when curfew was in place" (FG8 - Older woman, businesswoman)
		"Curfew timing affected my business. I wasn't able to sell in peace because of the police walking around" (FG4 - Older man, businessman)
	Loss of income for business due to increased costs of travelling	"Boarding half capacity leads to increase in fare/ transport cost. Now we were forced to raise the price of our commodities to match the increase in fare" (FG8 - Older woman, businesswoman)
	Loss of jobs due to increased costs of travelling	"Some had to quit their jobs. If you compare their income and what they spend daily on transport, transport consumes almost 80% of their salary. For that reason, the best option is to quit since you cannot work for transport alone" (FG7 - Older man, casual worker)

the food sector, which also suffered losses of perishable goods (Table 2), and those relying on customers commuters, who had to travel home quickly: "I was affected badly by the curfew since my business depends on these people who are coming from work in the evening, and those are the hours we are forced to close due to the curfew" (FG5 - Older woman, food vendor). Some businesses tried to adapt by modifying their opening hours but nevertheless experienced a loss of customers and income (Table 2). Finally, several small-scale businesses were forced to close permanently because of the costs of travelling to collect new goods/stocks, typically to marketplaces, and the inability to increase their products' prices (Table 2). A similar consequence was experienced by individuals quitting their job, as the increased costs of commuting were consuming a significant percentage of their salary (Table 2).

Overall, the findings indicate that COVID-19 measures associated with mobility exacerbated significantly the already challenging living conditions of the people living in Kibera. Such findings tally with other Kibera-specific studies of the lockdown showing that self-reported weekly household income declined by 59% relative to the six months preceding the pandemic (Tompsett et al. 2021).

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