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Resilience in a Kenyan informal settlement during the COVID-19 pandemic[1]

Informal settlements have been identified as locations both where the spread of COVID-19 has generally been slower than within the Global North and measures to restrain the pandemic have further intensified local peoples' marginality as income decreases without welfare or financial safety nets. In this paper, qualitative fieldwork is detailed which commenced in Korogocho, an informal settlement in Nairobi, Kenya, immediately prior to national COVID-19 restrictions. This March 2020, pre-COVID phase of the fieldwork focused on a community-based project and the basis for resilience in transforming local lives. During the next 12 months of the pandemic fieldwork continued, exploring experiences and reactions to restraining policies. These findings reinforce concerns about the impact of COVID-19 related restrictions on marginalised peoples' income, food security, health, safety and gender-based violence. How the local people reacted to these effects highlights their creative resilience and adaptability. The paper concludes by examining the impact of, and responses to, the controlling measures on the social relationships and cohesion that underpins the community resilience.

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Introduction

The spread of COVID-19 in sub-Saharan Africa has largely been slower and less extensive than some other parts of the world such as the Global North. Nevertheless, countries in the Global South are considered to be particularly vulnerable to the consequences of the COVID-19 controlling measures and informal settlements are believed to be at highest risk (Egger 2021, Pinchoff 2021, Population Council 2020a). Impacts of the deepening fragility brought about by both employment and financial consequences include the emergence of new groups of people living in abject poverty in regions without state-supported financial safety nets. Initial estimates indicated that an additional 9% of the population in sub-Saharan Africa fell into extreme poverty after the introduction of lockdowns and approximately 30% of the population spent their savings. With limited or no social protection programmes, these locations are susceptible to the economic legacies of COVID-19 (Egger et al. 2021).

Kenya, like many African countries, has implemented a policy of containment for COVID-19 which has led to projections that there will be proportionately fewer deaths than in the Global North. However, the pandemic may remain for a longer period. Consequently, controls are likely to be in place to varying degrees for the foreseeable future, having an impact on the most marginal urban locations. The impact of COVID-19 controls such as significantly reduced employment opportunities, reduction in sharing of communal spaces and a contracting informal economy are likely to exacerbate the layers of marginality. Because of the contemporaneous nature of COVID-19, research into these consequences is ongoing. Initial findings have discovered the connection between lockdowns and declining income and health, rising unemployment, poverty and food insecurity, deeper layers of gender inequality and increasing levels of gender-based violence (Egger et al. 2021; World Bank 2020).

In these locations, the historical lack of public services and formal governance has meant that there are often non-state organisations or resident-led initiatives that step in, while also setting up alternative localised governance arrangements. These factors intersect with other everyday risks stemming from economic inequalities, ethnic tensions, poor environmental conditions, high levels of morbidity, mortality and unemployment, and low levels of education and healthcare (Izugbara et al. 2014; Kaarsholm and Frederiksen 2019; Lines and Makau 2017; Population Council 2020a; Wilson 2018). Within these locations, young people and women face disproportionately high levels of poverty, unemployment

rates, crime and insecure livelihoods (Onyango and Tostensen 2015). Therefore seeking to increase the levels of knowledge about processes of resilience in these localities requires the inclusion of non-dominant voices such as the lowest paid, women and young people (Cafer et al. 2019; Folke 2006).

This study focuses upon such groups in the informal settlement of Korogocho, located in the north-eastern part of Nairobi, Kenya. Korogocho is estimated to cover around 1km^2 to 1.5 km^2. Because of the density and overcrowding, allied to unreliable data collection methods and different motivations, there are massive variations in the projected size of the population. Estimates range from 37 000 (KHPC 2019) to more than 100 000 (Izugbara et al. 2014) and local anecdotes of 150 000 to 200 000.

Just before COVID-19 restrictions were introduced in Kenya, we studied a community riverside project in Korogocho that created a park area, children's playground and food growing spaces. The project had roots in a 2017 'slum upgrading' programme that built a bridge over the river connecting Korogocho and neighbouring Dandora. Local youths who had previously been involved in crime were employed as labourers and security officers in the bridge build. On completion of the programme, the community group formed to keep youth engaged in non-criminal activities and to improve the local environment and security. Prior to this initiative the area was overgrown, full of garbage and the river was heavily polluted and cluttered with debris. The riverside stretch had a high crime rate and was avoided whenever possible by residents. Phase 1 of the fieldwork witnessed the transformation of the land. Eighty circular gardens had been introduced and crops such as kale, arrow root and onions were grown. Land had been landscaped and a 'People's Park' created which was used by the local population to socialise, relax and hold meetings. A children's play area had been introduced and the river section was considered sufficiently clean to wash clothes. The social impacts of the communal transformation included enhanced social cohesion contributing to community engagement, consensual values, sense of place, pride and togetherness which underpin higher levels of resilience (Forrest and Kearns 2001; Madonsela 2017; Mitra et al. 2017).

The ending of this research phase on 13 March 2020 coincided with the detection of the first COVID-19 case in Kenya. A national policy of containment was quickly implemented across the population. Controls included the ban on large social gatherings and international flights, the closure of schools, a dawn-to-dusk curfew and travel containment measures in four counties, including Nairobi. Government guidance advised staying at home unless essential, social distancing and the use of hand sanitisers. In May a government economic stimulus package was introduced and the cessation of movement was lifted in

July (Population Council 2020a). Schools reopened in early January 2021 although on 26 March, following a rise in cases, new constraints were implemented. On 13 March 2021, 12 months after the first case was identified, 112 805 COVID cases had been confirmed and 1 908 deaths recorded.

The next phase of the research sought to learn about the experiences of the participants involved in the initial stage. Learning about their everyday experiences in response to COVID-19, the accompanying social measures, and the effects on the recently created communal spaces, levels of social cohesion in particular and resilience in general, is therefore key to this study. In so doing, the paper draws on research to date on the effects of the pandemic in Kenya and aims to enhance understanding of the dynamics between social constraints, localised creativity, community relationships and layers of interdependency and the extent to which levels of resilience are weakened and/or reshaped during periods of crisis.

Introducing resilience

Adaption of the concept of resilience has expanded markedly from its early roots in ecology, engineering and psychology to being shaped by numerous epistemologies. Of particular relevance to this paper is how, as Brown (2016) and Grove (2018) outline, resilience has become integral to climate change, community development, humanitarianism and international development programmes. For both authors (social) ecological systems have become dominant across international applications of resilience. Across these models, resilience will often be based upon how systems can shape recovery to return to preceding conditions and to prevent or be strengthened for responding to future disasters.

From a social scientific perspective, these approaches appear self-contained and to neutralise progress, failing to acknowledge the importance of fluid, indeterminate processes and social, power and political influencers (Blewitt and Tilbury 2014). Hence resilience across development and ecological models often focuses on the ability to "bounce back" and to achieve a state of homeostasis, recognising intrinsic and external qualities which cushion a person from the worst effects of adversity (Luthar et al. 2000; Gilligan 1997). These discourses of resilience can underpin the perpetuation of the status quo, leaving oppressive structures unchanged (MacKinnon and Derickson 2013; Joseph 2018).

In essence, a disconnect can exist between concentration on 'the system' and the capacity for social relationships, roles and processes to adapt, re-organise, and transform in order to foster growth and enable change (Berkes et al. 2003; Gunderson and Holling 2002; Smit and Wandel 2006). Daily experiences and

unpredictability that can strengthen and weaken levels of resilience should be considered within what Grove (2018: 34) referred to as '"permanent adaptability" to a turbulent environment. Hence to grasp processes of resilience requires understanding of the ways in which people interact with, and are influenced by, the contexts of their communities and wider levels of regional, national and international interconnectedness.

Within this paper, these interconnected issues are incorporated within the notion of resilience as both an everyday and event-specific multi-dimensional resource that acknowledges the range of local resources and wider layers of influences. To encapsulate the intertwined and transformative facets, Hall and Lamont's (2013: 2) definition of resilience is condensed to be the capacity to sustain and advance well-being in the face of challenges to it. Hence, as Mieth (2015: 46) points out, resilience is 'an outcome or process rather than a set of symptoms or characteristics' which, as we explain below, are often shaped and determined by Global North institutions with little or no relevance to people who are being allocated the responsibility to be resilient.

Whose resilience?

Recent sociological criticisms of resilience within conflict-affected and fragile contexts highlight how discourses of resilience can be mobilised in order to place emphasis on individual action and choice with socio-political and structural drivers of vulnerability concealed (Joseph 2013). Shifting the focus on resilience has become the justification for international resources and funding to be withdrawn in order to 'responsibilise' local populations (Bargués-Pedreny and Martin de Almagro 2020; Kastner 2020).

Accompanying concerns about the reallocation of responsibilities are anxieties about the postcolonial top down interweaving of resilience and Global North values and practices by organisations such as the European Commission (EC), NATO, UNDP and United States Agency for International Development (USAID) (Hajir et al. 2021; Kastner 2020). The dominance of the underpinning philosophy of these international institutions often means that their norms and values are implemented as 'knowledge' or reference points for prerequisite conditions such as highly diverse economic opportunities, effective governance and high levels of equity. Consequently, Bosetti et al. (2016) argue that the application of Global North experiences and discourses on to low income and fragile settings is ill-founded because crucial sources for resilience of informal and sub-national institutions are neglected. Shah et al. (2017: 408) connect into the discomfort concerning the manner in which resilience is being applied. They explain that there needs to be a "significant break away from inferring normative and universalized

principles of what resilience is, and how it ought to be achieved, toward learning and understanding how its principles emerge from local social-cultural ecological systems". Moreover, the neoliberal focus on building individual responsibility for resilience shifts focus away from underlying social processes and activities that both necessitate the requirement for greater resilience and constrain the scope for transformation towards sustainable development.

Yet despite these misgivings about the application of resilience, we argue that the concept has much to offer and that "opposing locally designed interventions that aim to promote their resilience becomes a simplistic act of armchair activism that risks further disempowering vulnerable groups" (Hajir et al. 2021: 12). Following Hajir et al.'s (ibid: 5) approach to resilience that both recognises the failings of national and international adoptions and the value of local actors' attempts to address their marginality, we also seek to overcome one of the dichotomies within the literature, namely that resilience is either about the individualisation of responsibility or about the structures that are considered responsible for the lack of local resilience. Instead of contributing resilience to either localised actors or international agencies, thereby reproducing the sterile agency or structure debate, our focus is on understanding the interdependent processes that contribute to local people being able to develop and maintain well-being while recognising the wider constraints placed upon their capacities. Hence our fieldwork is designed to explore "local actors' understandings, praxis and initiatives around resilience" (Hajir et al 2021: 8) in the informal settlement of Korogocho.

Risks to resilience in informal settlements

Within informal settlements, risks to sustainable processes of resilience are shaped by influences such as family support, peer relationships, livelihoods, equitable employment, social connections, shared values, community, school and political action and uncertain conditions stemming from the largely unplanned, unregulated and poorly serviced residential areas and unstable local informal economy (Seeliger and Turok 2013). Particular groups are more vulnerable to being exposed to risk because of their limited capacity to adapt or to resource solutions. The different roles, behaviours and activities expected from demographic groups result in inequitable opportunities and, Bolzan and Gales (2018) argue, the uneven distribution of social risk. For instance, women have less access to schooling, livelihood resources and income earning (Healy and Wairire 2014). Women also face greater exclusion from decision-making while bearing heavier economic and social responsibilities such as domestic tasks, cooking, looking after children and prioritising other family members. With restricted access to power and

economic forms of social capital, women and young people are less likely to possess sufficient resources to enable them to manage risks through overcoming everyday difficulties and unpredictable crises. Yet hitherto knowledge about processes of resilience as regards gender and marginalised youths in the Global South remains underdeveloped (Sausner and Webster 2016).

Learning more from predominantly young people in Korogocho about the range of experiences, perceptions and behaviours was therefore key to this study. Our research sought to uncover both the negative obstacles that participants encountered during the COVID restrictions and the solutions that were introduced to overcome these difficulties. This broader focus was in part to address the tendency in much of the resilience literature that positions problems within the Global South and solutions in the Global North (Brown 2016; Vertigans and Gibson 2019). In so doing, we sought to introduce a "bottom-up tool for capturing the voice of beneficiaries and local communities" (Jones and Tanner 2017: 230), which allowed us to capture the creativity and social cohesion that proved instrumental in the processes of resilience. Therefore the paper seeks to focus on how people involved in the community experienced the measures introduced to control the COVID-19 pandemic in order to understand their immediate impact, to gain insights into their responses and to better understand effects on processes of resilience.

Methodology

Following on from the above observations, the research project was originally intended to concentrate on better understanding the impacts of the riverside project in Korogocho among young people. Alongside the physical transformation of the area, interviews sought to understand the social impact both of the changes and members' involvement. Therefore in March 2020, 25 interviews were carried out by Vertigans and Mueller-Hirth. The participants included 22 community group members who, with the exception of three older women, were generally considered to be youths, who are locally considered to be aged between 18 and 35 years old. There were 12 females and 10 males. The remaining participants were two local chiefs and one village elder. Data was collected about the area, community, changes associated with the river project and views on the group's activities and sustainability with questions formed through discussion with the group's leaders and mentor.

The onset of the pandemic resulted in expanding the scope of the study in order to find out about its effects on the people who continued to live in the same place. To achieve this aim, the qualitative approach was adapted with further emphasis placed on collaboration between the Global North researchers and the

22 Global South participants who had been involved in phase 1. This second phase of interviews was structured around the questions being devised in consultation with a community mentor, translated and then two members (Okinda and another leading member) carried out the interviews with some training support. Upon the initial recruitment of the participants, each person was provided with an information sheet that explained the purpose of the research project, the extent of confidentiality and the right to withdraw at any time. All subsequent interviews commenced with the respondents confirming their willingness to continue in the project. The results were then translated, when required, and transcribed. The qualitative study was devised that followed Minkler and Wallerstein's (2011) view that research into complex issues such as social, structural, and environmental factors can often be enhanced by adopting a community-based participatory research (CBPR) approach. This participatory approach aimed to help overcome the frequent neglect of giving local people a voice in their community generally and during times of crisis in particular. Between May 2020 and March 2021, 17 rounds of interviews were undertaken with topics ranging from crime, employment, food, health, income and relational impacts of the pandemic to localised solutions to the emergent problems

Pre-COVID results

Prior to the pandemic, participants emphasised the significant reduction of crime and how this had been connected to greater security, fewer youth fatalities and the reformation of young men and women. As members explained, "it brought us together, it taught us good things. It made us leave all the bad things we used to do" (male, aged in his 20s) and "since this project came up, I have never gone to that [commercial sex] work again, at least I have somewhere I can go, engage myself than going out there into the community …" (female, 20s)

Working on the site also "brought people together. The project has shown us togetherness" (female, 20s). In Korogocho there are many ethnic groups that can be the source of tension and "in the past, we were not even able to talk Luo and Kikuyu, but right now we are free' (male, 30s). And "we are always together" (male, 20s). Participants also expressed pride in their achievements and that other people "from everywhere to come and witness the changes, and they cannot believe it is the Korogocho they are seeing" (female, over 35). Health and well-being benefits were also reported by many of the residents who talked about the benefits of safety, the relative tranquillity of the calm space for relaxing, de-stressing and socialising.

The spatial transformation had also changed local perceptions of the youths. Because of their criminal activities, members had been feared but now older

generations "take the youth positively because of the transformation of what the youth had done positively" (female, over 35). Being shown respect for their achievements had led to shifts in individual perceptions from when "I used to disregard myself. Used to see myself as useless. Used to see myself as a nobody … but nowadays I give myself strength to keep on moving" (female, 20s). Such was the change in how the youth were viewed that they had become role models, encouraging environmental commitment to "the kids around here, the river should be cleaned" (male, 30s) and by showing them "how to plant trees and make seedlings and know this is your future" (female, 20s).

Impact of COVID-19 restrictions

Following the onset of COVID-19, research within Kenya has identified that in the first few months livelihoods were significantly affected with over 80% of people reporting economic impacts in April – June (Population Council 2020a, 2020c). In five informal settlements in Nairobi, 84% reported a loss of earnings and 87% referred to increased household costs (Population Council 2020b). Income and levels of employment did improve but remained considerably lower throughout the pandemic in 2020 and unemployment was recorded at 18% (25% urban in October/November compared within 4% during the same period in 2019). This drop in income and reduction in savings, allied to interruptions in the supply chain when movement in and out of counties was restricted, resulted in rising levels of food insecurity and wider reductions in patterns of consumption. Over 50% of the population had reduced consumption of food in July-September and 25% continued to face food insecurity in November. In May, the figure was 74% in Nairobi's informal settlements (Population Council 2020b). Female headed and poor households were the most adversely affected. Until the schools reopened in January, education for most children had been badly affected and access to healthcare was disrupted (Egger et al. 2021: Pinchoff 2021: Population Council 2020c; World Bank 2021). Measures to restrict the transmission of COVID-19 such as handwashing, mask wearing and social distancing had been implemented with the majority of respondents seeing less of family and friends, avoiding public transport and staying more often at home (Population Council 2020a). However with time these measures were being less stringently applied (Population Council 2020c; World Bank 2021).

The social consequences of the above impacts included increasing tensions within households and rising levels of crimes. Women were found to be more likely to lose employment, to take on a greater share of domestic chores and experience food insecurity (Pinchoff 2021; Population Council 2020a).

These findings were supported by our fieldwork with the restrictions having a significant impact on travel and business. Participants from a range of occupations including bar staff, *boda boda* (motorcycle taxi) drivers, cleaners, hairdressers, hawkers and waitresses reported loss of livelihoods. The loss of income and interrupted supply chain had resulted in greater food insecurity with residents often going hungry. And some women in Korogocho are disproportionately shouldering the double burden of the COVID measures of losing livelihood and assuming responsibility for more cooking, cleaning, and childcare. There were also reports about the greater difficulties faced by the elderly, disabled and those with existing conditions such as HIV/AIDS, cancer, malaria and mental health issues. These difficulties were compounded by social distancing which meant that they could no longer rely on food and money from younger, more active residents.

As the restrictions eased, the local economy improved. However those working in the night-time economy continued to be constrained by the evening curfew, people remained unemployed and opportunities to travel and stay with family upcountry were reduced by concerns about the COVID risks and increased transportation costs. And after experiencing a reduction in crime that stemmed from the community riverside initiative, levels increased initially because of the decrease in income. Moreover when the "government eased some of the measures like increasing the curfew hours from 7 to 9pm, crime rate is so high".

Responses to impacts

These impacts led to swift responses across informal settlements. Residents studied in other studies found the restrictions particularly challenging, especially in Nairobi which was subjected to more controls (Population Matters 2020a; Pinchoff 2021). Without household water supplies or sanitation, residents were forced to leave the house. Moreover the relative lack of savings necessitated the need to find employment which was hampered by the reduced levels of transportation and increased costs for trips on *matatus* (local minibus) brought about by the reduced number of passengers permitted due to social distancing instructions (ibid.).

When facing the loss of livelihoods, reduced income and savings, the World Bank (2021) discovered that around 30% of the Kenyan adult population were engaged in additional income generating activities. The Population Council (2020c) identified that assistance to fill these shortfalls for respondents in five informal settlements in Nairobi peaked in May at 21%. NGOs were the largest donators at 59% (of the 21%) while the government provided 13%. Only 23% (out of 21%) received cash with soap/sanitiser the most received item (65%).

Among our participants, the use of initiative and creativity was especially noticeable with multiple new ventures started. With limited access to rural supplies, little or no savings and assistance available "desperate times call for desperate measures … and necessity is the mother of invention" (male, 20s). "Individuals are forced to create their own means of survival. Like … I have turned to take the opportunity of the water crisis and currently I'm selling water as a water vendor to individuals in Korogocho" (male, 30s) and neighbouring areas. At the same time, residents began sewing and selling masks, emptying latrines, garbage collection, car washing, cleaning, decorating, making bhajis, selling fruit, barber and "salonist … the government said working from home … that's what I am doing, I'm working from home, maybe if anyone has a kid or there is hair to be done, they call me and I'm at home" (female, 20s).

Diversification of livelihoods was, as previous markets were cut off, accompanied by targeting of different locations for products and services. That other people were also diversifying meant "the opportunities are also running out day in day out due to the congestion itself' (male, 30s). Because of this local congestion, participants sought opportunities in other neighbouring settlements where they also found the supply of services and goods was much higher than demand. Consequently looking for opportunities in other neighbourhoods could mean that "the youth of [neighbouring] Dandora will not accept any youth from Korogocho to go and grab any job in their place" (female, 20s). As another youth explained when looking for opportunities local youths were "beating me up because I'm taking their opportunities" (male, 20s).

Recognition of the crowded market and the low level of incomes available locally led to a number of participants travelling daily to wealthier areas such as Eastleigh, Westlands and Hurlingham where opportunities and rates of pay for services, such as cleaning, were greater.

Income opportunities were also affected when the lockdown resulted in the loss of market for circular garden vegetables. Instead "we eat them and also distribute to the most vulnerable people in the community" (male, 20s). Consequently, "we share with them, the people who are needy … who are disabled, the crippled and some of the kids who don't wake up and have something at their home" (male, 20s).

The fieldwork shared the mixed picture of the other studies in Kenya about the level of assistance from beyond the community. A small number of Kenyan NGOs were mentioned who had provided some cash, sanitisers, food, water tanks and soap for hand washing. Assistance was often targeted at specific groups such as some single mothers who were provided with rent, food and clothes. The elderly were reported to be "receiving 1000 [Kenyan Shillings, equating to

approximately $9] but that is for a month. What can 1000 do in a month? That cannot even pay house rent in Korogocho" (male, 30s). And although, "we just hear that the national government … the county government are giving out some food but we don't see it" (male, 20s). Reasons given for the lack of regional and national government support included the priority given to other larger informal settlements, neglect and that "these agencies mostly run by the national and county governments come up with mere promises … they promise them that you need to assemble at a certain place you will get a pack maize flour but once they assemble they get nothing" (female, over 35).

There was a government initiative '*Kazi Mtaani*', which was introduced to provide youths with employment cleaning informal settlements during the economic downturn. However the initiative programme was not without criticism for "even when it comes to the projects that the national government started, the jobs were given out due to nepotism so only few people benefited, but majority of us youths we are here suffering" (male, 20s).

Nepotism and corruption were common complaints "because different organisations did contribute money to help people like us but the money never reached the people' (male, 20s). A number of reasons were provided such as, "from the top to the bottom we have high level of favoritism and tribalism in distribution of stipends" (female, 20s). Within this structure, local governance arrangements were widely believed to have "diverted the food to their families and friends" (male, 20s). "If anyone is not known or in good terms … they don't get such help in Korogocho" (female, over 35).

Mistrust of the government was also noticeable in phase 1 and experiences during the pandemic were leading "some people in Korogocho [to] think that this COVID is just a scam that the government want to get money. So maybe some of them are not even putting on their mask because they are not afraid anymore like before" (female, over 35).

Shifting relationships and interdependencies

Across the 12 months of the fieldwork, the impacts of the restrictions and local responses to these changes had multiple effects on relationships within Korogocho and on the interdependencies with surrounding neighbourhoods, national and national institutions. The preceding analysis highlighted how the participants' economic interdependencies shifted with some services and businesses directed at new markets and employers as previous opportunities ceased during the economic downturn.

During the economic downturn, participants were asked if they knew the sources for payments being received for local activities and business in the middle class parts of Nairobi. Participants referred to building and cleaning work where they provided their labour for credit until the employer received donations or "once the clients receive money from the husbands" (female, over 35). This longer chain of interdependency with poorer people providing food and services on credit was exemplified by a vegetable seller who referred to some customers,

> who are also employed, and their employers depend on the donations … so the employers must receive first the donations and then they pay them … so you find that this group of people take kales on debt and they pay this debt on weekly basis once the donations arrive. So it's like a chain, the boss gets the donation then she pays off her customers or clients (female, over 35).

Consequently although financial assistance, as explained above, did not have a significant direct impact on the participants' levels of economic interdependency, there was a noticeable 'trickle down' effect. Employers in wealthier parts of Nairobi received donations and payments from NGOs that were partly used to pay for the services of participants with money that began to circulate in Korogocho's local economy.

COVID-19 restrictions also had an impact on relationships and interdependencies within and beyond Korogocho throughout the 12-month period. Initially difficulties were financial and social. Easing of travel and curfew restrictions led to improving business opportunities as wider trade networks were re-introduced. Traders could travel upcountry and "the business people are able to get their goods from different parts of the country, therefore it is easier for the business people to access the goods for trade and this made the life of people in Korogocho better" (female, 30s). Similarly, greater mobility enabled relatives who had been away during the restrictions to return to Korogocho and residents to travel to see family and friends. Despite these improvements, participants remarked on clearer geographical distinctions within relationships such as,

> Around Korogocho A [the village where the fieldwork was carried out], I don't think if it has affected. But outside Korogocho A, it has because most of my friends were very much afraid. So we were never mingling a lot. So it ended up that there was a lot of silence. We were never talking a lot (female, 20s).

And "when I look at the network and the friendship that I had outside Nairobi, you find that the friendship has somehow been affected" (male, 20s). Intimate relationships between genders ended because of the difficulties imposed by the

restrictions. Another participant highlighted the local positives before expounding on difficulties further afield,

> In the positive side of Korogocho A and Nairobi, my relationship has been good. The bonding has increased and has been strong. And in other parts of Kenya, my relationship hasn't been that good because I tend to have some relatives from upcountry .... They tend to depend on me. On monthly or even weekly basis, I tend to send something. But during the pandemic, I wasn't able to send anything to them. So they tend to see me as, which we're gonna use, an enemy to them thus affecting my relationship because I tend to explain to them, but they couldn't understand because they said, "In Nairobi, life is just normal" (male, 30s).

Domestic arrangements were challenged in ways that did not always accord with wider patterns of higher female unemployment recorded in other research (see above). Some participants believed mainly males had been made redundant, an observation that ties into the wider sense within the community that pre-COVID "we have different gender roles ... for example, being a conductor it is known for the male gender, and working as a cook in a hotel in Korogocho it is known for the female gender" (female, below 20). Such references to gender-based divisions between employment and domestic labour were commonplace because "looking for what the family will feed on is the work mainly for the man but anything relating to house chores is for the woman like cooking and cleaning" (male, 20s). Other examples included roles of men such as "hard work while women are supposed to do simple, simple things cleaning and men carry stones, they are drivers and they push cart also they do to construction' (female, 30s).

During the pandemic, especially during the early phase, "the wife is now going out there to fend for the family because you cannot depend on your husband and he has been sacked ... find that some men end up cleaning the homes and even cooking for their children" (male, 20s). These changing responsibilities included "women going to the construction sites to look for work" (female, 20s) where they were often tasked with carrying water and stones between different floors. Other women were able to apply carpentry skills recently acquired through local training programmes. These shifts in relationships and the practical consequences of less income also meant "it wasn't that easy to put food on the table and that's why I ended up breaking with my girlfriend" (male, 20s). The outcomes of the changes have been that "nowadays the dependency level between a man and a woman is reducing and that is a good thing" (male, 20s). And within the government cleaning up programme, "the men and women are working there and correlating very well" (ibid.).

Within domestic arrangements, perceptions of stronger relationships between genders were more varied. Multiple remarks were raised about gender relations being peaceful in public while "men are beating wives even in public" (male, 20s). Such gender-based violence was frequently mentioned in domestic settings, where "men are so much stressed and then they go back home, they tend to bring that stress to their wives, their wives are being beaten" (female, 20s). And "in the houses the relationship has really worsened because when a woman works, the respect goes down for the man and when man sees that the woman is not respecting him, he will be violent" (female, 20s). Comments were also made about families separating, children being violated and men who "get drunk because they were sacked from their jobs … and women they are the ones fending for their families" (female, 30s).

Alongside descriptions of violent domestic relationships, there were reports about having "time to bond with my family. Due to the pandemic, the curfew was there, I came home early and my husband has had to be with me and with family" (female, 20s). A male participant also mentioned that "the importance of the pandemic is that men were coming back home early and families bonded well" (male, 20s).

Generational differences were also noticeable within the interviews. Alongside emphasis upon "family members who help old people" (female, 20s) there was a sense that younger people were left to find their own resources because "there are some NGOs that maybe comes up to provide the old people food, so it leads to a gap between … the old and the young" (ibid.). For some younger participants, "it's just unfair to just support the old and sick and leave in other groups. And we are all been affected by this COVID" (male, 20s).

Although the lifting of restrictions contributed to an appreciation of the government decision, such sentiments proved temporary. Overall, participants believed that when the government did consider informal settlements, attention was directed at larger locations in Nairobi such as Kibera and Kawangware. By comparison, Korogocho was considered to "feel isolated as a community" (male, 20s). This isolation was compounded by new insights during the pandemic so that participants considered, "I have learnt that there is corruption in Kenya" (male, 20s).

Returning to the starting point of the fieldwork and the importance of the riverside space, participants commented on the continuing benefits including meetings in the park and "in terms of conflicts, we don't have any other conflicts with the people" (female, 30s). The community group was considered to continue reducing crime, providing friendship, mentorship, supporting each other during difficult periods and to "help the community members be in good terms" (female,

30s). With the village, in "Korogocho, people love each other. And due to that love, they end up extending their love to other people" (female, over 35).

Despite the restrictions, participants continued to appreciate that "volunteering is giving back to the community" (female, 20s) with more local friendships reported including "with the people who are more vulnerable" (male, 20s). These outcomes provided the sense of pride in the group and their achievement and surroundings that was evident pre-pandemic. For many participants, the pandemic contributed to recognition of "the benefits of being united as a community and the benefits of interacting … even though I lost my job I felt the sense of community" (female, 30s). Strength in these relationships was prevalent because,

> I think the bond between the people of Korogocho is very strong. And this closeness, friendship . . . People of Korogocho are more friendly than people of other parts. And it is because of that closeness that they have, the unity that they have (female, 20s).

Drawing together the two phases of the fieldwork, the participants became further attached to each other and the area, appreciative of the support and encouragement that were underpinning their resilience and creative abilities (Mieth 2015) when confronting the COVID-19-related restrictions. Preceding forms of resilience inform the responses to the crisis and such responses maintain and advance resilience. This localised bonding coincides with weaker ties to other parts of Nairobi and upcountry as travel restrictions and financial hardships reduced contact and placed strains on wider relationships. Hence resilience is being shaped in the communal nexus which both integrates individuals and structures and restricts the extent to which transformation can occur.

Conclusion: the pandemic's longer term consequences for resilience

On 26 March 2021, with COVID-19 cases rising, the Kenyan Government introduced similar restrictions to those applied 12 months previously with international and county-wide travel severely curtailed, curfew times extended and hospitality venues closed. Following on from the preceding analysis, the financial damage in Korogocho will be severe. These difficulties will be compounded by limited opportunities, during the easing of preceding restrictions, to establish savings and the longer term impact on financial sustainability, nutrition, health and education.

Our study's findings into the first 12 months of the pandemic in the informal settlement offer some optimism that the sense of strengthened bonds between

community members and deeper local chains of interdependence will continue to underpin processes of resilience. Through these relationships, participants are able to connect into local knowledge, social cohesion and resources in order to take advantage of opportunities and overcome obstacles. In so doing, people adapt and create everyday routines in the face of frequent challenges and crises. These transformations can be locally initiated social interactions that were found to be central to the resilience within the Korogocho community group.

Differences within the participants' experiences, most notably surrounding gender dynamics, also need to be acknowledged as longer term consequences are considered. Changes in the local economy that led to deep-rooted gender-based roles being challenged were seen as a positive step towards fairer interdependence and equality. Yet these public changes were undermining the basis of male dominance with some men reacting violently to the shifting power balance. It may be that the pragmatic opportunities for women's livelihoods and the lessening of power ratios will be a legacy of the pandemic. In the meantime, the projected threat to some male identities will require controlling and, within this particular community, there are plans to deliver further gender-based violence training programmes.

Both these shifting closer social and fraught familial relationships are interwoven with wider looser connections that stem from little or no national and county political commitment, employer/employee power relationships that are heavily stacked in favour of the former and the limited and misdirected distribution of COVID-19 financial donations that provides either inadequate support for the most vulnerable or only trickles into the marginalised area in exchange for services. Unless these interdependencies are strengthened, and initial political and economic responses to the latest restrictions do not indicate any meaningful changes, levels of resilience will be constrained by the underpinning structural barriers. Moreover the lack of trust in government that was identified in phase 1 is being solidified by the sense of political neglect and corruption. If replicated across Kenyan informal settlements, the further marginalisation, rising poverty, mistrust and frustrations are likely to contribute to heightened tensions as Kenya moves towards what is already looking to be a heavily contested, potentially violent, presidential election in 2022. In short, unless the structural constraints on resilience among marginalised peoples are seen to being addressed, the legacy of the current COVID-19 restrictions will reverberate across Kenyan informal settlements and national economic and political spheres and can be expected to last much longer than the pandemic.

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