



Article

Caring Interventions for the Most Vulnerable Populations in Economically Disadvantaged Areas during the *Coronavirus* (COVID-19) Pandemic by Non-Governmental Organizations in Kenya

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Abstract: This paper deals with COVID-19-hit Kenyan slums and the numerous interventions civil society organizations implemented during the first waves of the pandemic since it was initially detected in March 2020. As part of a comprehensive project using mixed methodology, including desk research and key informant interviews, community-based organizations and non-governmental organizations, together with other stakeholders of their collaborative networks, were investigated regarding the roles that they played, the projects they carried out, and the interventions they were involved in in the mitigation of the negative impacts of COVID-19. This paper investigates how COVID-19 actually hit Kenyan slums and how it affected civil society organizations during the pandemic.

Keywords: Kenya; urban slums; COVID-19; CBOs; NGOs; development



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1. Introduction

When the first case of COVID-19 was detected in Kenya in March 2020 (WHO 2020), the Government of Kenya (GoK) insisted that all Kenyans must observe a host of precautionary practices, including washing with clean water, using clean toilets, using face masks, sanitizing hands, maintaining social distance, and self-isolating for those affected by COVID-19 (MoH 2020a). In order for that to happen, the government, community-based organizations and non-governmental organizations (hereinafter CBOs and NGOs), as well as the private sector collaborated in the implementation of a wide range of projects in Kenyan slums aimed at mitigating the negative impacts of the pandemic. This research work aims to present the role that was played by NGOs, which implemented different COVID-19 projects in segregated neighborhoods, together with establishing the relevance of those interventions, determining the needs and gaps that were not addressed by the NGOs, and finally providing suitable recommendations that could guide future NGO interventions during possible pandemics such as COVID-19.

We acknowledge that the term ‘slum’ by the UN-Habitat (2007) refers to poor living conditions and describes a wide range of low-income settlements. “A simple definition of a slum would be a heavily populated urban area characterized by substandard housing and squalor. [...] a slum is an area that combines to various extents the following characteristics: inadequate access to safe water; inadequate access to sanitation and other infrastructure; poor structural quality of housing; overcrowding; and insecure residential status.” (UN-Habitat 2007, pp. 1–2). Informal settlements are often characterized by such

conditions, and Myers is right—also referring to [Davis \(2005\)](#)—that “slum conditions as measured by [such] deprivations are reasonably close to a proxy for informal settlements by the UN’s estimations.” ([Myers 2011](#), p. 76). In addition, as there is no internationally accepted definition, we work with the interpretative context provided by the Ministry of Land, Housing, and Urban Development of the Government of Kenya in 2016 in their National Slum Upgrading and Prevention Policy ([NSUPP 2016](#)), based on the definition of the [UN-Habitat \(2003\)](#). This defines a slum—interchangeably used with the term informal settlement—as “a human settlement characterized by dilapidated housing structures, overcrowding, abject poverty and unemployment, high insecurity incidences, insecure land tenure, exclusion of planned physical development, inadequate infrastructural services and often located in unsustainable environment.” ([NSUPP 2016](#), p. v).

By the second quarter of 2020, tremendous fear had gripped Kenya based on a widely held belief that once COVID-19 hit the major slums, a huge countrywide catastrophe would unfold ([MoH 2020b](#)). Within the slums, the most common NGO interventions revolved around water, sanitation and hygiene promotion, poverty alleviation, the creation of hope, the promotion of human rights, and access to social justice and tolerance. There was a wide range of reasons that explain the choice of slums where NGOs intervened. Some of the NGOs selected their target areas on the basis of the slums that had historically been left out when development projects were implemented by NGOs and CBOs. Most of the international NGOs (INGOs) implemented their interventions in partnership with local NGOs and, in some cases, with local CBOs. The selection of the demographic segments to target was an important consideration for most NGOs.

2. The Kenyan Context of the COVID-19 Pandemic

While implementing their COVID-19 interventions in Kenyan slums, NGOs experienced a range of challenges. One of the challenges that inhibited a quick response to the COVID-19 pandemic in Kenya was the slow response of government agencies, as well as the government’s refusal to grant access to NGOs to undertake advocacy activities in slums. Another serious dilemma that NGOs faced was the high expectations that slum dwellers had, with regard to the NGOs that were providing services to them. Given the limited funding that was available to the NGOs, they could not do so much for the slum dwellers despite the high levels of desperation that were witnessed amongst the majority of slum dwellers across Kenya. Furthermore, inter-NGO competition and marking of their turf/territory made the implementation of projects in slums quite difficult. Most of the NGOs that were interviewed indicated their desire to collaborate with the government of Kenya, either at county or national levels, as they implemented COVID-19 interventions in the slums. However, in some cases, such collaboration was not forthcoming. At the peak of the COVID-19 pandemic, there were a lot of NGOs working in a silo fashion and competing for resources. This led to duplications of activities and the poor prioritization of community needs.

An assessment of the relevance and impact of diverse NGO interventions to counter COVID-19 in Kenyan slums was carried out by means of conducting focus group discussions with slum dwellers; however, these interviews were conducted for contextualization purposes and did not produce any measured data. Nevertheless, we feel it is important to mention them in this study, as we wish to focus on the everyday reality of these individuals’ lives, which most severely affects disadvantaged and vulnerable populations. Therefore, the slum dwellers were asked about how the interventions provided by NGOs had impacted their livelihoods. The NGOs’ interventions were highly rated by the slum dwellers. Although the NGOs that implemented projects to mitigate the negative impacts of COVID-19 did their best to alleviate misery amongst slum dwellers, some important implementation gaps were noted, with the following being the most significant: poor provision of adequate sanitation services as well as clean and affordable water supplies, both of which, for COVID-19, were absolutely critical; inadequate sensitization of the slum dwellers to COVID-19; inability to support the most vulnerable households and meet their

food needs through cash and vouchers, both distributed digitally; lack of support provided to public schools to comply with COVID-19 regulations; lack of role models since local leaders, particularly the political class, did not comply with COVID-19 rules; and ineffective coordination in general.

Regrettably, one of the largest challenges for one billion slum dwellers in the world today (UN-Habitat 2022) is that, despite humanity's major developmental progress, their greatest vulnerabilities stem from the lack of access to the most basic public services, clean water and sanitation, and this reveals the issue of human insecurity (Czirják 2019; Solymári et al. 2021). This is more so in slums within developing countries, and this has certainly been the case in such economically disadvantaged areas as Kenya. Fortunately, the Kenyan government, CSOs, and the private sector have actively participated in implementing a wide variety of projects in slums across the country, aimed at mitigating the negative impacts of COVID-19.

This present study is the second and closing part of a comprehensive research project aimed at examining the different caring interventions of governmental and non-governmental actors in Kenya during the COVID-19 pandemic. As a first step, we have published the impact of COVID-19 on the livelihoods of Kenyan slum dwellers and the need for an integrated policy approach (Solymári et al. 2022). This paper, which focuses on the grassroot level organization's initiatives, is organized in the following sections. After our introduction to the whole study, the second section presents the theoretical assumptions and details of the methodology that was used. The third section presents characteristics of the specific NGOs which have been implementing diverse COVID-19 interventions in Kenya since the pandemic was declared in 2020, for instance, whether they are CBOs or national and international NGOs, as well as the reasons that informed the kind of interventions that the NGOs implemented in different slums within Kenya. The fourth section presents a more detailed discussion of the nature of the COVID-19 interventions that were implemented by different NGOs in the three largest cities in Kenya, i.e., Nairobi, Kisumu, and Mombasa. The fifth section provides information on the relevance and impact of the diverse interventions that were implemented by NGOs in the three Kenyan cities. The sixth section highlights the challenges that were encountered by the NGOs while implementing their COVID-19 projects in the respective slums. Section seven provides an assessment of the level of support that the county and national governmental agencies provided to the NGOs as they implemented their projects in the largest cities in Kenya. Section eight provides an overview of the implementation gaps of COVID-19 interventions and their implications for future programming for NGOs working in slums across Kenya. Section nine profiles the most important factors that have made it difficult for NGOs to collaborate with their peers, particularly in key areas such as fundraising. The last section provides recommendations on how NGOs could respond to pandemics such as COVID-19 in slums, particularly in Kenya.

3. Methodology

During this comprehensive study, mixed methods research synthesis (MMRS) was used that contained focus groups, a questionnaire survey, naturalistic and in-depth observations, and desk study (Brusque et al. 2010). It fits in well with our previous COVID-19-related study published in 2022 (Solymári et al. 2022). Although we analyzed the responses of the Kenyan Government then, we now look at the ways in which NGOs have been coping at the field level. The purpose of this method is to collect and analyze differences and similarities in terms of services and attitudes (Denzin and Lincoln 2018). Mason's 'dialogue technic' and his 'hermeneutic circle' seemed useful to apply this complex approach, which offered us a broader scope of research (Mason 2002, p. 110). This problem-oriented dialogue helped us to understand the different actors and their connections to slum dwellers. This paper not only uses a number of methodological approaches, but it is coupled with a two-year field work in Nairobi slums, which will result in a micro-scale study on slum upgrade in the near future. Within the compound of this present research, the primary

aim is to present the most accurate description of the different services. All these have an interdisciplinary significance as well since, for the researchers and analysts of this subject and its discipline, this subject matter provides important, supplementary, and even basis-setting information in this complex, multi-factorial process (Brillinger 2014). This complexity in research has further contributed to understanding better the everyday reality of slum dwellers and their specific needs in connection with the pandemic, particularly in regard to the iterative process in aid services (Silverman and Patterson 2022).

From the time COVID-19 was reported in Kenya in March 2020 (WHO 2020), many NGOs and CBOs swung into action, with a view to complementing interventions of the government. In many ways, the NGOs that worked in slums did so without any formal arrangement, mainly due to the general fear that had gripped Kenya to the effect that once COVID-19 hits the major slums, a huge catastrophe would unfold across the country (MoH 2020b). Under such circumstances, it was difficult for the government to establish a database of the different actors that were implementing various projects in the slums.

In the absence of an official or even decent database of NGO activities in slums in Kenya, the internet and desk research were utilized to identify the NGOs that work in slum areas found in Nairobi, in Mombasa, and in Kisumu, the three largest cities in Kenya. The keywords used for the internet search were as follows: NGOs, community-based organizations, implementing COVID-19 projects in slums, Nairobi, Kisumu, and Mombasa cities of Kenya.

The search yielded a list of 54 NGOs in total. Subsequently, attempts were made to contact all the 54 NGOs between February and September 2022 by the use of a phone, email, and physical location information that was found on the internet. It was not possible to contact 25 of the NGOs for a few different reasons, including the NGOs having moved to other cities or even having closed down all together, probably due to the negative impacts of COVID-19 on NGOs, inter alia. Out of the 29 NGOs that were successfully contacted, only 10 provided comprehensive information. The list of 29 NGOs that were contacted, comprised of 14 international NGOs (among them 1 UN agency), 11 national NGOs, and 4 CBOs, is presented in Table 1.

Table 1. List of NGOs that were sent a questionnaire and those that participated in the survey.

#.	Name of the NGOs	iNGO	Local NGO	CBO	NGOs That Participated in the Survey
1.	Acted Kenya	x			
2.	Aga Khan Foundation	x			
3.	Amnesty International Kenya	x			
4.	AMREF Kenya	x			
5.	CARE International Kenya	x			x
6.	Cheza Cheza Mission Foundation		x		
7.	Compassion Community Based Organization			x	x
8.	Compassion International Kenya.	X			
9.	Concern Worldwide Kenya	x			
10.	CREAW Kenya		x		
11.	Dignitas Project		x		
12.	Grassroots Economics Kenya			x	
13.	Kenya Human Rights Commission		x		x
14.	Kenya Red Cross		x		
15.	Kenya Water for Health—KWAHO		x		x
16.	Langata Legal Aid			x	x

Table 1. Cont.

#.	Name of the NGOs	iNGO	Local NGO	CBO	NGOs That Participated in the Survey
17.	Mercy Corps Kenya	x			x
18.	United Nations Office for the Coordination of Humanitarian Affairs—OCHA	x			
19.	Oxfam Kenya	x			
20.	Plan International Kenya	x			
21.	Project Elimu			x	
22.	Safal MRM Foundation		x		
23.	Safe Water and AIDS Foundation		x		x
24.	Shinning Hope for Communities—SHOFCO		x		x
25.	SNV Netherlands Development Organization	x			
26.	Tumaini Fund for Economic Development International		x		
27.	UN Habitat	x			x
28.	WASH Alliance Kenya		x		x
29.	World Vision Kenya	x			
	Total	14	11	4	10

For the 29 NGOs that were contacted, a structured, key informant questionnaire was developed and sent via email. The final list of—mostly open—questions was developed using a two-step process: the first version, drawn up based on the research questions, was tested and then further developed and finalized on the basis of the pilot interview experience.

The interview questions were structured around 10 topics:

- Details of the organization;
- Nature of COVID-19 interventions that the organization has implemented in Kenyan slums to date;
- Impact and relevance that the organization achieved from the implementation of COVID-19 interventions in Kenyan slums;
- Challenges that the organization encountered while implementing COVID-19 interventions in Kenyan slums;
- Pulling together with other like-minded organizations in fundraising and the implementation of COVID-19 interventions;
- Duplication of COVID-19 interventions that the organization noted in Kenyan slums;
- Gaps that the organization noted with regard to COVID-19 interventions;
- Facilitation of the organization's COVID-19 interventions by county or national government agencies;
- Recommendations for future interventions on pandemics such as COVID-19;
- Publication of the outcomes that the organization achieved from implementing COVID-19 interventions.

The interviews, consisting of 31 questions, covered the interviewee organizations' activities related to COVID-19 from March 2020. In the case of 2 NGOs, they preferred their interviews to be conducted in-person, while the others were interviewed in written form. The key informant questionnaire included 10 sections of questions seeking information on the following topics: identity of the NGOs, the nature of COVID-19 interventions they had implemented, the project's relevance and impact, innovative project design aspects, challenges encountered during implementation, cooperation with other organizations, quality of support to the specific project interventions by county and national governments, lessons

learnt and programming recommendations for future projects to mitigate pandemics such as COVID-19.

The information collected was analyzed qualitatively, which allows a complex comprehension to be conducted of NGO activities during COVID-19 in the three biggest cities of Kenya. Answers to each of the questions were compared; then, the range of opinions as well as the average positions were identified. Where there were highly divergent opinions expressed by the participating NGOs, the researchers reached out to the NGOs again to seek clarification.

As the last stage of our research, an assessment of the relevance of the diverse NGO interventions to counter COVID-19 in slums was carried out by means of conducting focus group discussions with slum dwellers. End-of-project evaluation reports from the NGOs were also assessed to yield information on the relevance and impacts of the interventions. The results of the complex analysis of the information that was obtained from the participating NGOs are provided in the next section.

4. Results and Discussion

4.1. *Characteristics of the NGOs Implementing COVID-19 Interventions in Kenyan Slums*

This section provides information on the diversity of the NGOs and CBOs that implemented projects in slums within the three largest cities in Kenya in response to COVID-19. The diversity of the organization is in respect to the capacity of the NGOs and CBOs as well as the kind of experience that they had by the time COVID-19 reached Kenya. These factors determined not only the ability of the respective NGOs and CBOs to roll out project interventions during the emergency that was occasioned by COVID-19, but also the comprehensiveness of the interventions as well as their potential success.

The duration of the time that the participating NGOs worked in slums varied from less than 1 year to 30 years. In total, 40% percent of the NGOs had worked in slums for less than 10 years, while another 40% had worked there between 10 and 20 years, and, finally, 20% of the NGOs had worked there for over 20 years.

The reality of the COVID-19 pandemic was officially acknowledged in Kenya on 12 March 2020 (MoH 2020a). Soon thereafter, the Kenyan government swung into action with the support of its development partners as well as the NGOs, most of which complement the government in sectors that the government faces challenges within. One such sector is slums, which are mostly found in large urban areas across Kenya, with Nairobi alone having more than 100 smaller or larger slums.

Amongst the NGOs that were interviewed, Mercy Corps Kenya (MCK) and Shining Hope for Communities (SHOFCO) were the first NGOs to intervene in March 2020. They were followed by the Kenya Water for Health Organization (KWAHO), WASH Alliance, UN Habitat, and Compassion CBO. Langata Legal Aid Centre was the last organization to embark on their COVID-19 interventions in slums in September 2020.

Regarding the choice of slums to intervene in, the following slums witnessed the highest interest from NGOs: Mukuru, Kibera, Mathare, Korogocho, and Githogoro slums in Nairobi County; Obunga, Nyalenda, and Manyatta slums in Kisumu County; and Bangladesh, Mshomoroni, and Maweni slums in Mombasa County. As expected, the CBOs operated within their immediate neighborhood. Accordingly, Compassion CBO concentrated its operations within Githogoro slums, while the work of Langata Legal Aid Centre was limited to Kibera and Langata slum villages, i.e., the seven villages of Raila, Silanga, Mugumoini, Lindi, and Laini. At the county level, UN Habitat implemented COVID-19 interventions in Mandera, Nakuru, Nyeri, Kilifi, and Kisumu counties.

A wide range of reasons explain the choice of slums where the NGOs intervened, amongst which we find the following examples. For CARE International Kenya (CIK), COVID-19 interventions were implemented in Mukuru slums because the organization was carrying out an adolescent project in the same area, and the adolescents, their families, and schools were in need of support. This organization enacted its interventions in partnership with a local CBO. While Kenya Human Rights Commission chose its intervention slums

randomly, WASH Alliance conducted a baseline study which provided the organization with a basis for selecting the slums for its projects. Langata Legal Aid Centre selected its targeted villages on the basis of the villages that had been frequently left out when projects were implemented by CBOs in the past. The decision by UN Habitat was based on a previous engagement and its partners' networks, Government of Kenya directives, and NGO partners' requests for support, whilst always being mindful of the imperative of targeting the most vulnerable communities. The selection of the demographic segments to target was an important consideration for the NGOs. Some of the NGOs such as KWAHO, SHOFCO, and KHRC targeted all segments of the slum population, guided by the overbearing intention to leave no one behind. Other NGOs such as CARE International Kenya targeted adolescents who were in and out of schools. Yet, other NGOs such as UN Habitat, while targeting all slum residents, placed a special emphasis on youth, women, and persons living with disabilities.

Mercy Corps Kenya's interventions mainly centered on offering cash and voucher assistance to slum dwellers. This organization used an elaborate process of determining the most vulnerable slum dwellers. This was achieved by means of evaluating households against the metrics outlined below, with the highest weight being placed on three criteria, namely, household income, the availability of food stocks, and the household's size. The metrics that Mercy Corps Kenya used were households with persons living with disabilities, households with no income or lowest income per person in the village, female-headed households, child-headed households, households with multiple children under 5 years of age, labor-poor households, households with no food stocks, and households not covered by any other interventions or other organizations.

4.2. Nature of COVID-19 Interventions That Were Implemented by NGOs in Kenyan Slums

An assessment of the relevance and impact of the diverse NGO interventions to counter COVID-19 in the mentioned Kenyan slums was carried out by means of conducting focus group discussions and key informant interviews with slum dwellers. The slum dwellers were asked to state their most urgent needs, particularly those that had been occasioned by COVID-19, as well as indications as to how the interventions provided by NGOs had impacted their livelihoods. The following discussion highlights the relevance and impact of the interventions that were carried out by the abovementioned representative sample of NGOs.

On 25 March 2020, the Government of Kenya announced a 7 p.m. to 5 a.m. curfew across the entire country (Mohammed and Obulutsa 2020). Soon thereafter, the media was awash with reports about police brutality as they implemented the government directive (Bearak and Ombuor 2020; Human Rights Watch 2020; Peralta 2020). Regrettably, most of the casualties were slum dwellers, given the fact that a sizeable fraction of men who live in slums work as night watchmen, while the women slum dwellers work odd jobs such as running petty trades, which also require them to work at night (Solymári et al. 2022). Furthermore, the police were accused of holding many people within small spaces, which was against the Ministry of Health and World Health Organization's advice (Solymári et al. 2022). The Kenya Human Rights Commission (KNRC) worked very hard to ensure that persons who were arrested either for breaking the curfew or not wearing a mask were released on bond. The KNRC also intervened in slums whereby tenants were being thrown out of their rental houses for not paying their rent on time. The KNRC ensured that such slum dwellers were given ample extension to pay their rent arrears. The impact of the support that was given by Langata Legal Aid Centre was highly rated by slum dwellers in Kibera and Langata slums. Many of the slum women were contacting this CBO seeking food and financial support to pay their rent, which was in arrears. The slum women had previously been engaged in cleaning clothes for middle- and upper-class homesteads, earning USD 3 per day. However, at the peak of the COVID-19 pandemic, these jobs were not available since well-off families did not want to have poor people cleaning clothes in their homes, lest they spread the disease. A similar fate befell

the husbands to most of these women who worked as night watchmen as they were now equally not welcome in the homes that they previously guarded for fear of spreading COVID-19.

An evaluation that was conducted by Mercy Corps Kenya indicated that at the end of the slum dwellers support program, 95% of the program participants reported that the financial assistance helped them to make ends meet. Additionally, 98% of program participants reported an increase in the frequency or diversity of their food following the support provided by Mercy Corps. Cash and voucher assistance also caused a reduction in the use of negative coping mechanisms. At the end of the program, Mercy Corps Kenya reported that 95% of the program participants were not using any negative coping mechanisms related to food.

The out-of-school adolescents that were interviewed rated highly the support that they received from CARE International Kenya's project aimed at strengthening out-of-school adolescents' income by generating activities through the production of COVID-19 materials, which were subsequently bought by the project. Another aspect that was equally well rated was the provision of information on adolescent sexual and reproductive health, life skills, and financial literacy to address the challenges that were faced by youth during the COVID-19 lockdowns.

The provision of water and sanitation services by KWAHO to slum dwellers was well received by the beneficiaries. Most of them cited an improvement in their community health following WASH's interventions. The ready availability of good-quality WASH services enabled slum dwellers to put more time into economic/reproductive activities, leading to improved economic status, improved health status courtesy of having more expendable income, which enabled them to access health clinics and buy medicine, and increased knowledge and awareness of proper hygiene through the training that was provided by KWAHO.

One often-cited impact of the support that slum dwellers obtained from Safe Water and AIDS (SWAP) NGO is the reduced misconceptions and negative perceptions of COVID-19 prevention and containment measures. The slum dwellers also cited improved good-quality information sharing regarding COVID-19 vaccines as well as dispelling existing myths and rumors that proliferated in the slums about transmission and the impacts of COVID-19. SWAP NGO was also instrumental in strengthening the coordination of country government efforts that were implemented by the county health and WASH coordination units.

Residents of Githogoro slum in Nairobi were highly appreciative of the support they received from Compassion CBO, which enabled them to access clean water from seven wells which were evenly distributed across the slum. This support complemented the support that Githogoro slum dwellers received from the Nairobi County Government via the National Metropolitan Services.

The services available to slum dwellers by UN Habitat were also found to be impactful, particularly since this UN agency was able to reach over 1.5 million people in and outside slums, within six counties, namely, Nairobi, Mandera, Nakuru, Nyeri, Kisumu, and Kilifi.

4.3. Relevance and Impact of Interventions Implemented by NGOs

NGOs implemented a wide range of projects to complement the government's efforts to counter the negative impacts of COVID-19, particularly in Kenyan slums in general. Within the slums, the most common interventions were focused on access to water, sanitation and HIV-AIDS, poverty alleviation, the creation of hope, the promotion of human rights, access to social justice and tolerance, women and youth empowerment, economic empowerment, employment and entrepreneurship training, and education, particularly for needy slum children, legal awareness, aid and education, and gender and development advocacy. A representative sample of the most successful interventions by NGOs is presented below. However, it should be noted that at the bare minimum, the vast majority of NGOs working in slums attempted to provide face masks, sanitizer, and water.

SHOFCO NGO concentrated its efforts in the provision of face masks, handwashing stations equipped with soap and sanitizers, clean drinking water, the development of information, education, and communication (IEC) materials and their dissemination mainly through community health volunteers (CHVs), the development of suitable information content that was relayed to slum dwellers by use of social media platforms, COVID-19 testing, cash transfer, the provision of food to needy slum families, and gender-based violence prevention and mitigation services.

KWAHO facilitated, inter alia, the installation of water tanks (10,000 and 5000 L), which were located within health centers and schools that are patronized mainly by slum dwellers, the distribution of personal protective equipment (PPEs), particularly face masks and hand gloves, advocacy and hygiene education to community focal point persons, and the distribution of sanitary pads to girls and young women in schools and in the slum villages.

Mercy Corps Kenya provided, inter alia, cash and voucher assistance to households in Kawangware, a high-density neighborhood in Nairobi. The program's participants received three rounds of cash and voucher assistance, whose cumulative value per slum dweller was USD 150. These services were provided by MCK to slum dwellers through a program entitled "Mercy Corps COVID-19 Resilience Fund: Ensuring Food Access for Nairobi's Urban Poor". This program targeted vulnerable households in informal settlements to strengthen access to food, particularly during the initial phases of the COVID-19 pandemic in Kenya.

Safe Water and AIDS provided financial support to slum dwellers in Kisumu County to enable them to pay their water bills; training opportunities aimed at community perceptions of COVID-19 as well as tracking the movement of slum dwellers in and out of slum villages; facilitated community dialogues regarding the nature of COVID-19 and its devastating impacts; assisted in the rolling out of vaccination outreaches; and supported the coordination of technical working group meetings with the Ministry of Health in Kenya. SWAP was also engaged in the provision of information aimed at demystifying many of the misconceptions that persisted in Kenyan slums regarding the negative impacts of COVID 19 and related vaccines.

UN Habitat provided, inter alia, support to slum dwellers in the form of information awareness and advocacy; the provision of education opportunities for slum children; the development of livelihood opportunities for slum residents through soap making and mask production; and the management of hand washing facilities. It should be noted that between March and September 2020, there was a lot of misinformation regarding how people can contract COVID-19 as well as its impacts on human health.

One of CARE International Kenya's outstanding ways of providing support to slum dwellers was in the form of the production of cloth-made face masks and the establishment of hand washing stations for schools that have high numbers of pupils from nearby slums. CARE International Kenya also provided life skills and adolescent sexual and reproductive health information aimed at ameliorating the challenges that slum pupils faced during school closures.

Langata Legal Aid Centre provided, inter alia, the following food-related items to slum dwellers, maize flour, sugar, oil water containers, sanitizers, and face masks, as well as financial support towards the payment of rent, with a maximum amount of USD 300 per month. However, the support that Langata Legal Aid could provide to slum dwellers only lasted for 6 months since the funding organization was unable to extend the funding agreement. Thereafter, this CBO reverted back to its regular operations of providing free legal assistance to slum dwellers.

The main role of the Kenya Human Rights Commission with regard to slum dwellers was in the area of highlighting police and government administration excesses, commonly perpetrated towards slum dwellers. This was achieved by means of mounting appropriate advocacy campaigns targeting slum dwellers. It is noteworthy that within the first 3 months of COVID-19 registration in Kenya, there were many cases of police brutality towards the

general populace in Kenya. Indeed, many people were killed by the law enforcement machinery in Kenya, quite often for very flimsy reasons.

4.4. Challenges That Were Encountered by NGOs While Implementing COVID-19 Interventions in the Respective Slums

While implementing their COVID-19 interventions in Kenyan slums, NGOs experienced a range of challenges. The NGOs that participated in the survey were asked to state the most pressing problems they encountered while carrying out their COVID-19 projects. This section provides an overview of the challenges that were assessed as being the most pressing for the respondent NGOs.

According to the Kenya Human Rights Commission, one of the challenges that inhibited a quick response to the COVID-19 pandemic in Kenya was the slow response of government agencies, as well as the government's refusal to grant access to NGOs to undertake advocacy activities in slums. Another serious dilemma that NGOs faced was the high expectations that slum dwellers had, with regard to the NGOs that were providing services to them. Given the limited funding that was available to the NGOs, they could only do so much for the slum dwellers despite the high levels of desperation that were witnessed amongst the majority of slum dwellers across the country.

The experience of KWAHO NGO was related to the negative effects of limited space that was available for the construction of water tanks in the slum areas of Nairobi, Mombasa, and Kisumu cities. This NGO noted that slum dwellers faced serious challenges in observing COVID-19 government regulations, particularly the need to wear face masks at all times, as well as washing one's hands after using the toilet. KWAHO NGO also experienced challenges in terms of being unable to reach all the needs of slum dwellers in the slums which they had targeted. By way of example, according to the management of KWAHO, their organization could not reach the entire community in Mukuru slums in Nairobi, with the NGO ending up being able to provide support to two villages only. WASH Alliance cited similar experiences, i.e., their organization had inadequate resources to meet the emergency needs of the targeted slum dwellers. This NGO highlighted another challenge of how to divide the limited funding that the organization had amongst the competing community needs, particularly with regard to food, shelter, and security. KWAHO noted that having functional multi-stakeholder partnerships could have enabled the determination of viable solutions to some of the above-stated challenges.

The experience of Mercy Corps Kenya was that some of the slum dwellers who received vouchers from this NGO were unable to redeem them in exchange for food due to stock-outs that were caused by huge surges caused by the COVID-19 pandemic. In the case of Safe Water and AIDS NGO, a well-known challenge in development was mentioned, whereby a donor agency grants an NGO funding for a very short period of intervention. This tends to limit the potential benefits of the funding. The reason that is often cited by donors is the need to conduct due diligence and to verify that the NGO that is to be awarded a grant has the necessary capacity to manage the funds effectively. Obviously, during a pandemic, the dynamics change on a daily basis, thereby necessitating the faster processing of grants to implement the assistance of NGOs. This observation was also made by UN Habitat, which noted that there was insufficient funding, community buy in, and a fair amount of misinformation that was created amongst the Kenyan public, leading to mistrust between communities and the government of Kenya and its development partners.

Safe Water and AIDS NGO noted that soon after June 2021, when Kenya obtained its first batch of COVID-19 vaccines, there was a delay in the real-time data entry of people vaccinated in the Ministry of Health portal, known as CHANJO. As was noted by SHOFCO, the highly restrictive lockdowns that were implemented by the government of Kenya could have contributed to the slowing down of critical interventions, including vaccination. Compassion CBO also noted that, particularly for slum dwellers, there were challenges of ignorance regarding COVID-19, particularly the belief that the pandemic did not exist.

Virtually all the NGOs that were interviewed highlighted the problem of the duplication of efforts between non-governmental actors, which was said to be rampant. Such a duplication was particularly observed with regard to the implementation of WASH projects, e.g., the provision of hand washing stations, water buckets, soap, personal protection equipment, and information sharing. As CARE International Kenya observed, the reliance of the Nairobi Metropolitan Services (NMS) Department of Health on NGOs to decide the slum villages that were to be given a higher priority meant that they ended up leaving some needy slum villages out. According to Langata Legal Aid Centre, in some cases, some households received food and other consumable items from up to three CBOs and NGOs due to poor coordination. This duplication was caused by the urgency and stress that was introduced by COVID-19, thereby making it difficult for the NGOs to plan together and thus avoid duplication. Unfortunately, the NGOs were not willing to share photographic evidence of their work on social media, which would have reduced the cases of the duplication of efforts, and which could have also reduced the level of duplication in the provision of services to slum dwellers.

The case of Githogoro slum in Nairobi is a bit different from the other slum villages; Compassion CBO noted that this village obtained COVID-19 supplies from the nearby Two Rivers Mall as well as the Nairobi Metropolitan Services. With the regrettable death of the main shareholder of the Two Rivers Mall (Chris Kirubi in June 2021), and the assumption by the Nairobi Metropolitan Services that Two Rivers Mall would continue providing assistance to Githogoro slum, many of the residents were left without support of any kind.

The slum villages also experienced the negative effects of conflicting information on how to manage a pandemic, which was availed by different NGOs. Particularly during the early phase of the COVID-19 pandemic, there was a lot of misinformation, which resulted in confusion and mistrust between the NGOs. According to Safe Water and AIDS Program, vaccination outreaches to the slums were characterized by poor coordination as well as little knowledge of which NGO was doing what and where. Some partner NGOs were not invited to donor planning meetings, while some of the NGOs tended to work without any formal engagement of the county or national government health agencies.

4.5. Level of Collaboration between County-Level and National Governments and NGOs

Most of the NGOs that were interviewed indicated their desire to collaborate with the Government of Kenya, either at county or national levels, as they implemented COVID-19 interventions in the slums. For the NGOs that required formalized partnership with the government, the kind of collaboration that the NGOs needed varied from one organization to another. Some of the NGOs required local administration permits/approval to conduct the activities. Kenya Human Rights Commission needed permits so that they could train community members for advocacy. KWAHO NGO needed support in training community health volunteers in terms of the latest approved COVID-19 information; authorization to access health facilities and schools; and for the water tanks to be connected to the Nairobi City Water and Sewerage Company reticulation system.

Safe Water and AIDS required collaboration with the government so that the NGO could support the government with vaccination teams and data entry staff; in the monitoring and placement of hand washing stations; engaging community health volunteers; and agreeing on appropriate COVID-19 messaging. UN Habitat required collaboration with the government with regard to the commissioning of youth-led activities by the Ministry of Sports; capacity building by the county government health department; messaging by the Ministry of Health; and the provision of masks and hand sanitizers. On the other hand, SHOFCO provided the government with COVID-19 testing equipment and vaccines through the NGOs partnership with the Ministry of Health, as well as mounting handwashing stations in government offices and public places in the capital city of Nairobi.

The NGOs that did not require such collaboration with the government designed their projects as part of their regular projects, which presumably had been granted the necessary government approval, through the NGO Coordination Board of Kenya. In the

case of Mercy Corps Kenya, their partner, SHOFCO, worked with the local slum village chiefs in identifying households that had people living with disabilities for consideration of inclusion in the program. WASH Alliance ensured that they informed the county and national government offices so that the government would be aware of the projects that this NGO was implementing. Likewise, Compassion CBO provided updating information to the Githogoro slum local chief and the community elders, as well as the donor NGO that was funding the work of this CBO in Githogoro slum.

For Langata Legal Aid Centre, the only requirement was that the CBO notified the county government authorities. Accordingly, this CBO ensured that it notified the Nairobi County Deputy Commissioner. Such an arrangement came in handy for the CBO, particularly when fights broke out during food rationing and distribution in the slums. The government would provide the CBO with the necessary security to quell the fights. Unfortunately, many young people fought for food, while other youth males were seen taking food from women by force.

4.6. Implementation Gaps of COVID-19 NGO Interventions and Their Implication for Planning Future Programming in Kenyan Slums

Although the NGOs that implemented projects to mitigate the negative impacts of COVID-19 did their best to alleviate the misery visited upon slum dwellers, some important implementation gaps were noted, with the following being the most significant:

- Poor provision of adequate sanitation services as well as clean and affordable water supplies, both of which, for COVID-19, were absolutely critical.
- Inadequate sensitization of the slum dwellers to COVID-19. Unfortunately, the Government of Kenya did not come out in a strong manner to help the slum communities, particularly with the above-noted clean water and adequate sanitation services.
- The inability to support the most vulnerable households meet their food needs through cash and vouchers, both distributed digitally.
- Lack of support to public schools to comply with COVID-19 regulations.
- Lack of role models since local leaders, particularly the political class, did not comply with COVID-19 rules.
- Ineffective coordination. At the peak of COVID-19, there were a lot of NGOs working in a silo fashion and competing for resources. This led to duplications of activities and the poor prioritization of community needs. Furthermore, inter-NGO competition and marking of their turf/territory made the implementation of projects in slums quite difficult.
- Inadequate planning. This shortcoming led to NGOs implementing their projects, e.g., the distribution of food items, without suitable baseline surveys which would have ensured that those most in need received the support they needed.
- Low willingness of slum dwellers to use face masks. According to Compassion CBO, in the case of Githogoro slum, initially, over 80% of slum dwellers did not have access to face masks.
- The decision by some of the Government of Kenya agencies, e.g., Nairobi Metropolitan Services, to sell borehole water to slum dwellers at exorbitant prices, e.g., KES 5 (USD 4 cents) per 20 L jerry can, as opposed to the common price of KES 2 (USD 2 cents) per 20 L jerry can.
- Providing for persons with special needs, e.g., pregnant mothers and persons living with disability were missed by the CSOs that were developing projects to address COVID-19 in slum areas.
- Punitive night curfew which made the situation for slum dwellers worse, e.g., inability of the slum dwellers to visit CSOs to seek assistance. Some mothers in the slums gave birth during the curfew time, with a lot of challenges.
- Slow clearing of the backlog of data entry of vaccination status within the Ministry of Health portal.

- Ignorance of the seriousness of mental health implications caused by COVID-19 for slum dwellers, with very limited counselling services and safe houses for gender-based violence slum dweller victims.

4.7. Factors That Made It Difficult for NGOs to Pull Together in Fundraising and Efforts

NGOs were asked to provide reasons for why some of them did not want to collate their resources so that their joint impact would be better than would be the case for any of the NGOs. In some cases, NGOs collated their resources with other NGOs. An example of one of these cases is that of Mercy Corps Kenya which, after rallying for financial support from a wide array of donors, collaborated with the Kenya Cash Working Group (KCWG), an interagency group coordinating the implementation of cash and voucher programs throughout Kenya. To rapidly deploy much-needed financial assistance to slum dwellers, Mercy Corps Kenya partnered with two local organizations: Sokowatch (rebranded to Masoko) and SHOFCO. The role of Sokowatch was to implement the e-voucher program, from onboarding beneficiaries and shops to supplying the shops and facilitating redemptions. SHOFCO's role was to work with Mercy Corps Kenya to identify the most vulnerable households in the target location and support the deployment of monitoring tools. Mercy Corps' role was to manage the overall coordination of the program and distribute cash assistance.

Similarly, KWAHO NGO engaged in a UNICEF-funded project, whose implementation was facilitated through the WASH Alliance Kenya network. The other partners in that arrangement were UMANDE TRUST (Focusing on Kibera slums), SIMAVI supported KWAHO with a focus on Mukuru slum, WASH Alliance (Mathare slum), and KEWASNET (Kiambu slums).

The above possibilities of inter-NGO partnering notwithstanding, the experience of CARE International Kenya and the Kenya Human Rights Commission was more typical for the majority of NGOs that worked in slums in Kenya. CARE International Kenya did not partner with other NGOs, but they did receive financial resources from CARE USA to implement COVID-19 interventions in Kenya. On the other hand, the Kenya Human Rights Commission attempted to collate their resources with other NGOs only to realize that the other NGOs were facing funding challenges.

The experiences of the NGOs that implemented COVID-19 projects in Kenyan slums point to some possible solutions that could enable future NGO interventions during pandemics to be more successful. To that end, UN Habitat proposed the building of a local capacity to lead and manage projects, providing adequate funding to reach the scale and proper coordination between slum communities, government agencies, and funding partners. WASH Alliance cited the need to develop strong multi-stakeholder platforms; conduct advocacy at the highest level of county government so as to ensure buy in; and the effective mobilization of community leadership and the community. SHOFCO suggested that the establishment of a more effective partnership with donor agencies based in Kenya would be useful, as well as the need for investment in community-based organizations since they understand community needs better.

KWAHO pointed to the need for constant risk messaging to the people using all of the available means of communication, and to continuously collaborate with peer NGOs with a view to ensuring that more slum villages benefit from the available resources. According to Safe Water and AIDS NGO, donors and government should reduce the red tapes that have been witnessed; fast-track donor contracting processes with NGOs; and that donors should work with organizations that already have a wealth of experience, thus not requiring much capacity building. Langata Legal Aid Centre presented the opinion that there is need to increase the funding levels and duration of funding supplied by the donors. Lastly, according to Compassion CBO, there is need to provide education for the general population in slums so as to increase awareness regarding pandemics such as COVID-19 and mobilize slum communities so that they develop a common vision with NGOs/CBOs, thereby enhancing ownership by the slum communities of the NGO interventions.

5. Concluding Thoughts and Recommendations for Future Interventions on Pandemics Such as COVID-19 in Slums

Based on the present research, it is confirmed that there is a definite need to coordinate NGO activities at the county level and within national governmental departments in order to avoid the costly duplication of efforts. NGOs should aim to work closely with the community and to place human rights activists on the ground who will highlight cases of police/administration excesses. Team work and collaboration of the partners that work with NGOs is a key ingredient for the success of interventions aimed at mitigating the negative consequences of pandemics such as COVID-19. The involvement of local authorities and other stakeholders is important to ensure the success of NGO interventions.

The engagement of community health volunteers proves to be essential for door-to-door mobilization and messaging regarding COVID-19 prevention and vaccination within slums. Close collaboration with partners and the County Department of Health is important to provide coordinated support and a united voice.

Capacity building for social mobilization and behavioral change communication should be included in COVID-19 prevention. National, county, and community entry and advocacy are critical for the success of slum-based development interventions.

Quite often, slum communities and NGOs have solutions to the challenges facing the slum dwellers; support in terms of resources is frequently the missing component. At the same time, it is vital not to underestimate the local communities' ability to lead and manage development projects. There is a need to provide local economic development opportunities through development projects (community contracting and community-managed projects/funds).

It is highly important to build trust with local leaders in order to attain the successful implementation of projects and their sustainability. Development players should be honest with the communities they work with and avoid making untenable promises. For the success of development projects in slums, their leaders should be viewed as equally important as NGOs and government leaders, if not more so.

The following are some concrete recommendations:

- Community members can support the work of an NGO effectively if and when they see the NGO's work as an asset to their wellbeing;
- Communities are dynamic and should be treated as such by NGOs and government agencies;
- Simple interventions in times of a pandemic can have a big impact, e.g., reducing morbidity and mortality;
- Mobilizing slum communities can lead to saving lives during pandemics;
- Donor support given for short time periods, e.g., 6 months, tend to be generally unuseful for the beneficiaries;
- NGOs need to understand the practical reality that sometimes necessitates the adjustment of programmatic arrangements at a short notice;

It is more effective to mount one large multi-dimensional project as opposed to implementing many small uni-dimensional projects for slum dwellers.

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References

- Bearak, Max, and Rael Ombuor. 2020. Kenyan police shot dead a teenager on his balcony during a coronavirus curfew crackdown. *The Washington Post*. March 31. Available online: https://www.washingtonpost.com/world/africa/kenyan-police-shot-dead-a-teenager-on-his-balcony-during-a-coronavirus-curfew-crackdown/2020/03/31/6344c70e-7350-11ea-ad9b-254ec99993bc_story.html (accessed on 2 February 2023).
- Brillinger, David R. 2014. *Comparative Aspects of Study*. Developments in Statistics, Vol. 1. Edited by Paruchuri R. Krishnaiah. New York: Academic Press.
- Brusque, Corinne, Arnaud Bonnard, and Marta Pereira. 2010. A comprehensive research approach to investigate the patterns of use of invehicle technologies. Paper presented at European Conference on Human Centred Design for Intelligent Transport Systems, 2nd European Conference on Human Centered Design for Intelligent Transport Systems, Berlin, Germany, April 29–30.
- Czirják, Ráhel. 2019. Community-Led Planning: The Key to Successful Slum Upgrading? *DETUROPE: Central European Journal of Tourism and Regional Development* 11: 164–81. [CrossRef]
- Davis, Mike. 2005. *Planet of Slums*. London: Verso.
- Denzin, Norman K., and Yvonna S. Lincoln. 2018. *The SAGE Handbook of Qualitative Research*. London: Sage Publications.
- Human Rights Watch. 2020. Kenya: Police Brutality During Curfew. April 22. Available online: <https://www.hrw.org/node/341128/printable/print> (accessed on 2 February 2023).
- Mason, Jennifer. 2002. *Qualitative Researching*. London: Sage Publications, pp. 62–84.
- MoH. 2020a. Ministry of Health. Kenya Reports Eight More Cases of Coronavirus. March 22. Available online: <https://www.health.go.ke/kenya-reports-eight-more-cases-of-coronavirus/> (accessed on 2 February 2023).
- MoH. 2020b. Ministry of Health. National Emergency Response Committee on Coronavirus. Update of Coronavirus in the Country and Response Measures, as on 14 April 2020.
- Mohammed, Omar, and George Obulutsa. 2020. Kenya Announces Tax Cuts and Curfew in Battle with Coronavirus. *Reuters*. March 21. Available online: <https://www.reuters.com/article/ozatp-uk-health-coronavirus-kenya-econom-idAFKBN21C2QA-OZATP> (accessed on 21 January 2023).
- Myers, Garth. 2011. *African Cities*. London and New York: Zed Books.
- NSUPP. 2016. National Slum Upgrading and Prevention Policy—Sessional Paper Number Two (2) of March 2016. Available online: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwiR-NSljNn-AhVri_0HHdQvB5MQFnoECAGQAQ&url=https%3A%2F%2Fwww.urbanagendaplatform.org%2Fsites%2Fdefault%2Ffiles%2F2022-04%2FNational%2520Slum%2520Upgrading%2520%2526%2520Prevention%2520Policy.pdf&usg=AOvVaw160kL_MMHqlXhLa6GzOVex (accessed on 26 February 2023).
- Peralta, Eyder. 2020. In Kenya, Security Forces Attack Ferry Passengers Trying To Make Coronavirus Curfew. *NPR*. March 27. Available online: <https://www.npr.org/sections/coronavirus-live-updates/2020/03/27/822559830/in-kenya-security-forces-attack-ferry-passengers-trying-to-make-coronavirus-curf> (accessed on 2 February 2023).
- Silverman, Robert M., and Kelly L. Patterson. 2022. *Qualitative Research Methods for Community Development*. New York: Routledge.
- Solymári, Dániel, Edward Kairu, Ráhel Czirják, and István Tarrósy. 2022. The impact of COVID-19 on the livelihoods of Kenyan slum dwellers and the need for an integrated policy approach. *PLoS ONE* 17: 8. Available online: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0271196> (accessed on 15 January 2023).
- Solymári, Dániel, Janet Mangera, Ráhel Czirják, and István Tarrósy. 2021. Overview of Kenyan Government Initiatives in Slum Upgrading: The Case of KENSUP and KISIP Projects. *Afrikai Tanulmányok/Hungarian Journal of African Studies* 15: 37–59. Available online: <https://journals.lib.pte.hu/index.php/afrikatanulmanyok/article/view/5106> (accessed on 15 January 2023).
- UN-Habitat. 2003. *The Challenge of Slums—Global Report on Human Settlements 2003*. London and Sterling: Earthscan Publications Ltd., p. 345.
- UN-Habitat. 2007. Twenty First Session of the Governing Council. April 16–20. Nairobi. Available online: https://www.preventionweb.net/files/1700_462551419GC202120What20are20slums.pdf (accessed on 26 February 2023).
- UN-Habitat. 2022. *World Cities Report 2022: Envisaging the Future of Cities*. Nairobi: United Nations Human Settlements Programme.
- WHO. 2020. World Health Organization. Novel Coronavirus (2019-nCoV). *Situation Report 1*. January 20. Available online: <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjQmofl6pz0AhVJEncKHZ5OCZ8QFnoECA8QAQ&url=https%3A%2F%2Fwww.who.int%2Fdocs%2Fdefault-source%2Fcoronaviruse%2Fsituation-reports%2F2020121-sitrep-1-2019-ncov.pdf&usg=AOvVaw2bYmU1NUmYIzinafka7VVh> (accessed on 2 February 2023).

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