COVID-19 and Schooling of Disabled Children and Youth in Kenya: The Locus of Education in the Disaster Risk Reduction Process

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Abstract

This study examines the impact of the COVID-19 pandemic on primary and secondary school-age children with disabilities to assess Kenya's disaster readiness and the current mitigating measures using the UNDRO/UNDP Disaster Management and Recovery Program framework. The vulnerability analysis of the education system in Kenya reveals gaps in implementing disaster risk reduction (DRR) programs for children and youth with disabilities. Mismanagement of insufficient resources and services (i.e., digital infrastructure and shortage of computer literate educators and government inaction and corruption) showed the extent to which COVID-19 pandemic has undermined the capacity of Kenya's education system to prepare school-age children with special needs for citizenry responsibilities. Since DRR efforts can overlook or neglect the particular constraints of communities with disabilities within and beyond the education sector, the DRR programs should include education (i.e., physical and virtual learning) to contain the unpredictable and novel pandemics (e.g., COVID-19) and importantly, and include disabled persons and their families in the DRR committees at all administrative levels. This is vital in mitigating factors that predispose disadvantaged children to academic failure and push them to failed adult life on the periphery of society.

Keywords

COVID-19, Disability, Disaster, Education, Pandemic, School, Disadvantaged Students

1. Introduction

The global outbreak of the COVID-19 pandemic has negatively impacted Kenya's

economic, social, political, and cultural structures (International Monetary Fund [IMF], 2020; Ressa, 2020). The continued assault on Kenya's financial system has lowered the government's ability to provide services, including free primary and secondary education and healthcare to most deserving children and their families (United Nations Educational, Scientific and Cultural Organization-UNESCO, 2020). In addition, frequent closure of schools to contain the COVID-19 pandemic pushed learners from public schools to the brink of academic failure, majorly because of limited or lack of digital infrastructure and semi- and/or digital illiterate educators and family members (Ressa, 2020). These factors reveal the extent to which the disaster has undermined the capacity of Kenya's education system to prepare school-age children with disabilities for adult citizen roles (e.g., employment, community participation) (Angode & Ressa, 2021; Ressa, 2020; UNESCO, 2020). This study examines the impact of the COVID-19 pandemic on the schooling of 1.785 million learners with disabilities, pre-kindergarten through secondary school (as per the 2019 Kenya census; Kenya National Bureau of Statistics-KNBS, 2019), and the place of physical and virtual education in the disaster management and recovery programs (United Nations Development Programme-UNDP, 2010a; United Nations Office for Disaster Risk Reduction-UNISDR, 2015).

The peripheral position of learners with special needs and their families in the disaster management and recovery process is harmful to the broader Kenyan society (UNDP, 2010b; UNISDR, 2015). Disability communities often are traumatized by disasters; yet, habitually, they are not considered or are the last group considered during disaster response. Their challenges are compounded by a culture of deficit, ignorance, fear, and/or concerns of the disability community about lack of prioritizing their support (e.g., vaccination), the shortage of personnel including teachers and other service providers such as social workers, assistive technology experts, or medics, and lack or limited medical and educational services, lack and limited resources including personal protective equipment (PPE) for physicians and educators, inadequate infrastructure, inefficient utilities (e.g., little or lack of water, sewerage system, power—electricity outages), mismanagement of the few resources (e.g., corruption and theft and vandalism), and biases including triage in the healthcare systems. Prejudices aggravate the situation when it leads to the invisibility and hypervisibility of the disability community and when biases further predispose disabled individuals to the primary and secondary effects of disasters. Primary impacts of disasters and pandemics are instant outcomes such as injuries and deaths of humans and destructions of infrastructures. In contrast, secondary effects of disasters include long-term factors such as insecurities due to collapsed economy and social structures, for example.

Therefore, response to disasters (e.g., pandemics, plagues, floods, earthquakes, hurricanes) during and after their occurrence is critical for the wellbeing of the affected communities (UNISDR, 2015). Unfortunately, the disability community, including learners with disabilities, is often left out in disaster response and

management even though their full participation is critical for the recovery processes (UNDP, 2010a, 2010b; UNISDR, 2015). Education is a crucial component in the disaster management and recovery process. Then making education opportunities available to school-age children and youth with disabilities is good for the broader local and global communities in mitigating the effects of disasters such as the COVID-19 pandemic and achieving both the Kenya's and United Nations' Visions 2030 poverty reduction (KNBS, 2019). Yet, many studies about the containment and management of pandemics have not focused on how the education of children and youth with disabilities, particularly in low-income countries such as Kenya, even though the involvement of the disability community should be part of the disaster management and recovery programs (UNISDR, 2015). Therefore, this study is guided by the question, "How can Kenyan primary and secondary school-age children with special needs be involved in disaster management and recovery programs through education?"

2. Literature Review

Kenya has prioritized the fight against ignorance, sickness, and poverty since independence from Britain in 1963 (Ressa, 2020). Accordingly, successive Kenyan governments have heavily invested in the education sector with the sole aim of improving the wellbeing of citizens (Sifuna & Otiende, 2006). Kenya's heavy investment in education started in the 2000s (Kiru, 2019). Since then, Kenya has recorded an increased enrollment of all learners, including those with disabilities, after introducing universal primary education in 2003 and affordable/free secondary education in 2008 (Mulinya & Orodho, 2015; Oketch & Rolleston, 2007; UNESCO, 2020). Still, increased enrollment of students with disabilities in primary and secondary schools has not matched those without disabilities, and pre-COVID-19, millions of children and youth with disabilities did not access education (Ministry of Education Science and Technology & Volunteer Service Oversees, 2014).

Moreover, the government has not fully taken charge of the education of students with disabilities, possibly because many special schools were initially established by faith-based organizations, which invested in finding, rescuing, and educating students with disabilities (Ressa, 2020). The government's limited involvement in the lives of citizens with disabilities is seen in the undependable disability population data in the past censuses (KNBS, 2019), in which the population of people with disabilities has been underreported below the WHO 15% threshold (Kiru, 2019) (e.g., less than 4% in the 2019 census) (KNBS, 2019). The unprecise population of people with disabilities has hindered proper government planning and led to inadequate provision of resources and services, which again have contributed to the cyclic poverty of citizens with disabilities and their families (Ressa, 2020, 2021). The same factors have contributed to the slight emphasis on the education of school-age children and youth in disaster management and recovery programs (Ressa, 2020, 2021).

Disasters, including pandemics, are inevitable and likely to be frequent and costly due to global environmental changes such as global warming due to unsustainable human activities, including deforestation and pollutions (Chan, 2014; Krishna et al., 2018; Field et al., 2012; Tanaka, 2005; UNDP, 2010b; UNISDR, 2015). Locally and globally, many nations and organizations are cognizant of these occurrences and continue to take measures to prevent or reduce the negative consequences of disasters on people's lives (UNDP, 2010a; UNISDR, 2015). For example, in 2020-2021, Kenya faced many disasters, including floods, droughts, pandemics (Ressa, 2020). At the same time, in conjunction with international partners, the Kenyan government took costly measures to mitigate the impacts of locust swarms and COVID-19 to normalize the lives of Kenyans, including the schooling of students. Actions such as the acquisition of loans from international institutions (e.g., IMF, World Bank) (IMF, 2020), investments in infrastructure (Ressa, 2020), provision of online learning spaces (https://theeducationmonitor.com/), and restructuring the education calendar (Ressa, 2021), all aimed to cushion citizens from harsh economic conditions caused by disasters including COVID-19 pandemic.

Persistent disasters have led to more research to understand their evolving effects on local and global communities (IMF, 2020; UNDP, 2010b). Since the outbreak of coronavirus in 2019, many studies have aimed at understanding the consequences of the COVID-19 pandemic on different groups of students, primary school to college (e.g., Bentenuto et al., 2021; Chatterjee & Roy, 2020; Haleman & Yamat, 2021; Jain, 2020). Other research has investigated the schooling of learners with disabilities from different perspectives (Kiru, 2019; Nyeris & Koross, 2015), and most recently, on the impact of COVID-19 on learners with disabilities (Angode & Ressa, 2021; Ressa, 2020, 2021), which points to the importance of education in disaster management and recovery process (Hoffmann & Muttarak, 2017; UNDP, 2010a). Involvement of all community members in the disaster management and recovery process reduces the negative consequences (e.g., trauma, underdevelopment) to the affected individuals (Chan, 2014; Krishna et al., 2018; Tanaka, 2005; UNDP, 2010b; UNISDR, 2015). Still, in many low-income countries such as Kenya, children, and youth with disabilities and their families remain on the margin of society and disaster management and recovery programs.

Virtual learning has grown since the advent of the Wide World Web (Weiss & Brown, 2013). However, the COVID-19 pandemic hastened virtual schooling globally and in Kenya (Ressa, 2020). Nevertheless, the rapid evolution of the virtual school may not reveal much about the teaching and learning effectiveness, especially during the school closure period. Even though many nations and schools implemented virtual schools from scratch, which affected the day-to-day organization of learning, it may take a while to quantify the effectiveness of virtual schooling on learners, including those with disabilities. Virtual learning environments affected students' attendance (i.e., time on task, task completion,

time on the computer). It also affected teachers' and parents' roles and responsibilities, which markedly hurt students' academic performance and future adult roles (Weiss & Brown, 2013).

3. Methods

The UNDRO/UNDP Disaster Management and Recovery Program provided the frame to assess Kenya's disaster preparedness (UNDP, 2010b). Anchored on the UNDRO/UNDP Disaster Management and Recovery Program, this study examined the locus of learners with disabilities in Kenya's disaster management and recovery programs as the country grappled with the COVID-19 pandemic. Moreover, the study used a situational analysis framework (Annan, 2005) to assess Kenya's disaster readiness and the current mitigating measures, and the impact on primary and secondary school-age children with disabilities.

Data Collection and Analysis

Various publicly available data, including archival and extant literature from multiple sources—KICD, KNBS, Kenya MoE, Transparency International, UNESCO (UIS), UNICEF, IMF, World Bank, WHO—were collected and analyzed to delineate how learners with disabilities are impacted by the COVID-19 pandemic and the Kenya government's measures (e.g., school closure) to contain its spread. The above data were analyzed relative to the information gathered from publicly-available electronic information about Kenya, such as the national media (e.g., *Daily Nation*, *The Standards*) and international e-media (e.g., EduMonitor, Reuters), to enhance the credibility of the findings. Additionally, the researcher observed the evolving circumstances in Kenya via social media (e.g., Facebook, YouTube, Twitter, Instagram) and used his experience gained from his education in Kenya to comprehend the happenings and their impact on the educational lives of children and youth with disabilities (Ressa, 2009). Furthermore, the researcher used his insider's accumulated knowledge (i.e., born, raised, and schooled in Kenya) and outsider experiences (residing in the US and exposure to varied disability experiences) to evaluate the Kenyan education system during a disaster. Finally, the researcher reviewed previous studies on Kenya's ICT state (e.g., Njenga, 2018; Obiero et al., 2020). These multiple sources helped with the triangulation of data.

Key points were identified thematically to delineate factors, and ways education of disadvantaged children, including children and youth with disabilities, is influenced by disasters and government and community measures such as the closing of schools. Findings are presented below.

4. Findings

Findings revealed the negative impact of the COVID-19 pandemic on the education of Kenyan disabled students. COVID-19 compromised the schooling of students with disabilities. Whereas education of Kenyan students with disabili-

ties had faced difficulties pre-COVID-19, their schooling troubles were exacerbated by the COVID-19 pandemic. The Kenya government instituted school closure in March 2020 as a measure to curb the spread of COVID-19. As a result, much learning took place virtually during school closure, from March to December 2020. Virtual learning was limited to specific regions of Kenya with adequate infrastructure (electricity, Internet, or cybercafé). Still, in many places, learning never happened among vulnerable families because of many factors. Online learning remained challenging where children did not have regular access to electricity, the Internet, computers, television, and radios. Most children and their families relied on the radios and phones, which were not efficient in doing most online activities that require a lot of concentration when manipulating learning activities.

Additionally, the COVID-19 pandemic interfered with the regular school calendar, negatively affecting school programs and schooling of various grade levels. In compensating for lost time due to school closure in March 2020, the Ministry of Education crammed many school activities within the available time. For instance, the schools reopened in January 2021 for selected grades 4, 8, and 12, in particular, to allow grades 8 and 12 candidates to prepare for the national summative examinations that they took in March 2021 instead of October 2020 (i.e., Kenya Certificate of Primary Education and Kenya Certificate of Secondary Education). Immediately after the national examinations, schools reopened for the remaining primary and secondary grades in early May 2021 after a year of "virtual" learning.

Nonetheless, not all schools were ready for physical learning since many school buildings had deteriorated due to neglect and vandalization. Many school buildings lacked windows, doors and had leaking roofs. At the same time, many schools lacked appropriate resources; classes lacked desks and learning materials such as books and chalks due to theft and mismanagement. In addition, many schools lacked funds to make repairs and construct extra facilities and buy personal protective equipment (PPEs) for managing COVID-19. Successful reopening of schools depended on sanitizers, soap, and water, but some schools could not provide these materials for lack of funds from the central government. Continued lack/limited resources and services, especially for vulnerable students and their families, exacerbated schools' historical challenges that make education inaccessible to students with disabilities. Many schools, especially in the rural areas, slums, and remote arid and semi-arid regions, did not have enough resources to implement safety measures in classes. They could not afford to invest in plexiglass shields around children and providing enough space to maintain 1.5/2 meters apart among students and between students and teachers.

Additionally, lack of resources limited possibilities for screening the temperatures of students, staff, faculty. Schools also had limited resources to conduct frequent tests of COVID-19 or to provide disinfectants and set aside disinfection chambers as COVID-19 mitigating measures. Besides, learners from low-income

households struggled to access appropriate PPEs. In some Kenya parts such as Turkana County, poverty is so high that many families and children rely on school feeding programs and healthcare services provided by the government and non-governmental organizations. Resources and services (e.g., lunch and immunization) are the impetus of students going to schools in these regions. In addition, many families own camels, goats, sheep, and donkeys. These animals are sources of food and clothes. Also, several families lead a nomadic life in search of water and pasture for their animals. Families also depend on the labor of their children due to big herds and scarcity of water and pasture. Circumstances, therefore, make schooling of children less a priority for most families. Families that allow their children to attend school do so because of the meals and medicines provided by the school. Unfortunately, school closure to contain the spread of COVID-19 left these parents with no means of providing for their children, and so many resorted to nomadism. Many schools lacked the infrastructure to offer online learning, and many families in these semi-arid parts of Kenya are illiterate. They do not have access to utilities and computers and televisions, and radios. However, the continued lack of school resources and services for vulnerable families as COVID-19 gained footage in the country forced parents to pull out from schools even before school closure.

Moreover, limited school resources after schools opened in January 2021 meant that students that lacked masks because of poverty but relied on schools to provide most PPEs had to deal with health and education risks. This again contributed to low school attendance and low academic performance. While some families lacked the money to buy masks, other children forgot their gears at home. In contrast, others intentionally refused to use PPEs or put on masks because of the misinformation about the pandemic. There was a prevalent myth that COVID-19 only affected people in the Global North or foreigners' disease. This again saw increased exposure to risks already in a population with little access to medical care.

Moreover, the successful reopening of schools depended on the enforcement of COVID-19 preventive measures such as wearing masks. In general, enforcing social distancing and physical distancing and other COVID-19 preventive measures, including wearing masks, require the presence of adults such as teachers to monitor students. Also, basic prevention protocols are difficult to enforce with young children, teenagers, or students with challenging behaviors. They are also difficult to implement with disabilities who may not be able to comprehend the circumstances and the requirement that they remain isolated and away from their friends or service providers or professionals (e.g., physical therapists) or paraprofessionals. Unfortunately, the shortage of staff and teachers monitoring of students' behaviors was difficult, again creating environments for the spread of COVID-19 in schools and homes. Schools reopened in early January 2021 (for grades 4, 8, and 12) and then May 2021 for the remaining grades. However, schools reopened amid the ravaging COVID-19 pandemic, and Kenya did not achieve much in vaccinating the populace, including essential service providers

in the healthcare, safety, and education systems. Critical service providers include teachers, administrators, nurses, school drivers, cafeteria service, cooks, guards, and school suppliers. For example, school drivers are responsible for driving school buses and ensuring students get from home to school and back home. At the same time, nurses are responsible for ensuring that students get appropriate preventive measures, tests, and medicine for the COVID-19. Only a few schools provide transportation services or healthcare services in the school. And in many situations, teachers provide these services besides teaching. Therefore, COVID-19 mitigating measures were not implemented 100% by the time schools reopened in January and May 2021.

Shortage and unavailability of teachers also compromised students' schooling with disabilities after school closure and reopening due to COVID-19. Many senior teachers missed schools during virtual learning. In addition, many are computer illiterate and/or incompetent in online pedagogy and continued to miss schools after schools reopened on the ground of health risk. The news of the high mortality rate among older adults affected by COVID-19 in Global North countries such as Spain, Italy, and the United States reached Kenya early at the pandemic outbreak. As such many Kenyan senior teachers (i.e., those over 50 years, those with the compromised immune system, or those who thought they were vulnerable to COVID-19) were hesitant to go to in-person classes, thus making it challenging to teach and meet the educational needs of students including those with disabilities. Also, many teachers (not necessarily in the group mentioned earlier) feared getting infected, becoming vectors, transferring the disease to their families, or dying from COVID-19 and health complications.

Furthermore, misinformation about COVID-19 (e.g., about its origin, or that it doesn't affect Africans) affected people's (including medics and educators) caution and willingness to address the disease proactively. Kenya has a relatively better network in comparison to many countries in Africa. So communication and flow of information from the Global North and other parts of the world easily reach the populace. However, the Kenyan atmosphere was full of different information, myths, and facts mixed up to the level that threatened people's faith in government systems and trust of government and school agents, which made the public doubt whether the COVID-19 measures would materialize. Mistrust of medics and lack of training of various professionals also contributed to the mishandling of the COVID-19 pandemic, which again fueled doubt of the government agents. It, therefore, spread COVID-19 and, consequently, the infrequent lockdown of certain counties (e.g., Nairobi, Kiambu in March-May 2021). For instance, the lack of proper training of teachers and learners on how to properly use the mask, among other procedures, lowered possibilities of managing the diseases and implementation of preventive measures in schools and public spaces. Thus, myths, assumptions, fears, and concerns contributed to the mismanagement of COVID-19 at the individual, family, and community levels, which also contributed to missed school days, which again created teaching and learning challenges for both virtual and in-person classes, thus burdening learners

with disabilities.

Faced with a foreign disease when Kenya dealt with drought and locust invasion, COVID-19 caused mental stress on families and especially children and youth with disabilities. Children whose family members had been struck by COVID-19 or those who had lost their loved ones, including parents, grandparents, brothers and sisters, friends, neighbors, or those who were aware of the fatalities caused by COVID-19, were left worried. Many children were terrified of losing their loved ones, including their teachers and friends. Also, many lost periods of sleep, which again made them struggle mentally and physically, primarily because of the school closure and confinement at home. Children wondered why the school closed for a long time and when they would get back to school and meet their friends and teachers. In addition, the home environment became stressful because of the change in routine, particularly for students with disabilities who often are used to routine to maintain their health and functionality (e.g., children with autism prefer familiar settings and routines and so work better with predictable activities and events). Furthermore, COVID-19 measures (e.g., lockdown, curfew) and lack/limited safety nets caused poverty and increased crimes that again caused fear and affected learners' mental health. As a result, many children were not mentally set and physically capable and prepared to start school after schools reopened for in-person learning in January and May 2021.

Furthermore, COVID-19 predisposed families to poverty, and in the process, poverty exacerbated the spread of COVID-19 and other insecurities that consumed children and youth with disabilities and their families. Many self-employed families lacked sources of income after the government institutionalized curfews to control the spread of COVID-19. However, these measures again exacerbated the poverty of some families of children and youth with disabilities. Many families of children and youth with disabilities live in poverty, but the COVID-19 pandemic placed low-income families in a catch 22, wanting money and staying healthy. They did not want to get to work because they were afraid of becoming ill, infecting their loved ones, and dying from the disease. At the same time, they were ready to risk the situation and eke out a living, especially in a country with limited safety nets for vulnerable people, further adding to the stresses children and youth with disabilities already experienced. Also, children played a significant role in family labor and during school closure. They assisted with household chores and family businesses that made their participation in online learning difficult. In many situations, children became babysitters, herded family animals, while others took care of their ill, sickly, or elderly parents. Many Global North countries passed laws (e.g., the US passed CARES Act) to provide millions of federal monies to programs considered essential and cushion businesses from closing and therefore encourage the employment of workers who otherwise would lose out because of the closure of businesses. However, many Global South countries like Kenya did not adequately implement measures to cushion the most vulnerable people from adverse effects of COVID-19. These challenges

again contributed to tensions in the home and an unconducive learning atmosphere that stressed children out. Unfortunately, these children and youth with disabilities did not receive appropriate psychological support or counseling for their mental health because of the inadequate healthcare system to attend to many sick people.

5. Discussion

The out-of-school report released by UNESCO on September 2022 revealed that an estimated 244 million children and youth between the ages of 6 and 18 worldwide were out of school in 2021 (UNESCO Institute for Statistics, 2022). 98 million of the children and youth were in sub-Saharan Africa. Though not mentioned, it is assumed that the high rate of out-of-school children and youth are those with disabilities. There is no exact population of disabled children in primary and secondary schools in Kenya, majorly because of poor data collection processes and a lack of resources and services to facilitate credible data collection (Moyi, 2019). Nevertheless, the 2019 national census estimated 1.785 million learners with disabilities in pre-kindergarten through secondary school (Kenya National Bureau of Statistics-KNBS, 2019). This population, however, is entirely below the 15% World Health Organization (WHO) disability prevalence rate in any population (World Health Organization & World Bank, 2011). As per the WHO disability prevalence, there are 2.55 million school-age children with disabilities. However, the previous studies revealed the population of disabled learners to be around 4.3% (Moyi, 2017). Besides, it is thought that over 2 million children, mostly from disadvantaged communities, were out of school pre-COVID-19 pandemic (Ressa, 2020, 2021). However, the situation worsened after the outbreak of disasters, including COVID-19 (Muhumuza, 2020; United Nations Office for Disaster Risk Reduction-UNISDR, 2015).

5.1. Disaster Management and Recovery Programs

There is increased frequency and magnitude of disasters globally (United Nations Development Programme-UNDP, 2010b). Disasters, including pandemics, ruin social, economic, cultural, political, and linguistic structures of communities, especially when prevention, management, and recovery systems are inexistent or deficient or unable to withstand the magnitude of disasters (Field et al., 2012; UNISDR, 2015). Often, countries with little or no disaster management programs have their structures collapse upon disasters, predisposing the affected community and the whole country to failures and chaos (Chan, 2014). There are high possibilities of low-income countries collapsing in the event of disasters, which makes appropriate response to disasters—before, during, and after—critical for the wellbeing of the affected communities and regions (UNDP, 2010a; UNISDR, 2015). Unlike high-income countries, nations with ill-established disaster management infrastructure often do not quickly mitigate adverse short-term and long-term primary and secondary effects and sometimes are incapable of reduc-

ing their chances of further destabilizing communities (UNDP, 2010b). Being proactive rather than reactive helps communities easily and quickly cope with disasters in ways that reduce the chances of nations descending into chaos (Chan, 2014). Sadly, for many low-income countries such as Kenya, lack/limited resources and services and sometimes coupled with mismanagement of resources (i.e., inefficiencies due to corruption and wrong priorities) usually restrict the capacity of communities to respond to disasters. Such communities frequently lack resources and other infrastructure to manage disasters and recover from their devastating effects effectively. Often lack/limited resources leave communities unprepared or underprepared when disasters strike. This leads to other secondary effects such as the closure of schools and limited learning opportunities, scarcity of food, hoarding of goods, violence, and other insecurities, hence anxiety and fear, poverty, and the state of helplessness and hopelessness. This is evident in the areas of healthcare and education systems in which vulnerable society members such as the Kenyan disability community, especially children and youth with disabilities, have bored the brunt of COVID-19 (Angode & Ressa, 2021; Ressa, 2020, 2021).

Nonetheless, the impact of COVID-19 constitutes only one of the many perspectives on the scope of education of learners with disabilities in low-income countries such as Kenya in times of global pandemic. Irrespective of the occurrence of the pandemics, what matters is providing all school-age children with appropriate access to education opportunities during and after disasters to ensure their growth and development but above all as a means of disaster management and recovery process (Hoffmann & Muttarak, 2017; UNDP, 2010a; UNISDR, 2015). This is important in poverty eradication efforts. UN Vision 2030 depends on achieving the seventeen Sustainable Development Goals, including Goal 1 End Poverty and Goal 4 Quality Education. This makes education an essential component in poverty eradication. Therefore, creating educational opportunities for school-age children, especially those with disabilities, is good for the disability community and Kenya society in achieving the Kenya Vision 2030 (KNBS, 2019) and the global society in achieving the United Nations Vision 2030 of global poverty reduction (B1G1 Business for Good, n.d.; UNESCO, 2020). Disaster Management and Recovery Programs are vital for Kenyan society and the disabled community, in particular. Therefore, investments must be made to create an appropriate home environment, create a proper school environment, support in-person and distance learning, and increase government funding of schools.

5.1.1. Creating Appropriate Home Environment

The negative influence of the COVID-19 pandemic has shown that conducive home and school atmospheres are vital for families of children and youth with disabilities. Appropriate school and home environments are suitable for the control of the COVIID-19 pandemic but also for the education of learners with disabilities. Most children and youth with disabilities come from poor house-

holds and, because of poverty, lack a conducive home environment that can promote or sustain their good health and support their successful schooling. Different learning activities require different environments: some students require quiet environments when engaged in silent reading or online tests. In contrast, others prefer cool music when performing group work involving drawing or measuring items. Children from low-income countries or low-income households with limited home spaces and facilities may struggle to find appropriate spaces for learning.

Housing or home is equivalently crucial in the management of the COVID-19 pandemic. Since social and physical distancing is a critical way of reducing person-to-person infection, people with a decent home space or environment are more likely to practice social distancing more effectively than people living in crowded homes without enough spaces for different activities. Children living in overcrowded homes are more likely to be infected and pass the disease to siblings or other children in their schools. They are also likely to infect their parents once back home from school. Limited/lack of physical spaces in the house, school, or buses may make it challenging to implement social and physical distancing and predispose children and families to diseases and lowered productivity. Moreover, this is also likely to cause tension between low-income families and high-income families because of COVID-19 stigma and misinformation and again contribute to such economic disparities, which again may lead to myths and stereotypes and affect the security of the community and country in general. Misinformation or rumors leave citizens in a state of anxiety, and these can cause tensions. Tensions and fears are a threat to collective health security.

5.1.2. Creating Appropriate School Environment

The learning of students, especially those with disabilities, was compromised in schools because of a lack of facilities. Oluremi and Olubukola (2013) study revealed that school facilities markedly influence students with disabilities. Schools with accessible facilities and equipment provide a suitable climate and culture that supports students with disabilities. Unfortunately, many schools in Kenya continue to face challenges in providing education to vulnerable students with disabilities because of limited resources and services and inaccessible environments. Physical challenges make it difficult to include many learners with disabilities. Some schools are detached even though they have significant compounds. However, many classes are overpopulated, and structures are rigid, making repurposing of classrooms difficult to meet full split classes or create more spaces between learners and teachers to meet social and physical distancing. An alternative way of creating more spaces between learners and teachers may involve holding some classes outside classrooms. However, this also faces a challenge considering the unpredictable nature of weather due to climate change. Kenya is on the equator and has two major seasons—rainy and dry seasons. At the same time, over 80% of the country is semi-arid and arid. During the dry season, the temperatures can rise above 38 degrees Celsius. This scorch-

ing sun rays and heat would make children thirsty, uncomfortable, inattentive, or unhealthy to concentrate or learn, especially if they have to sit outside for more than eight hours of the school day in an environment with scarce (clean) water or appropriate sewerage system.

Moreover, the high temperature would make it difficult to use electronic gadgets such as watches, computers, and phones. Furthermore, it tends to be windy and dusty during dry seasons. So many electronic devices are bound to break down quickly or work inefficiently. With few experts on the ground, any repairs or acquisition of new machines would take a long or never happen. Since outdoor learning would happen under a tree, the unrelenting heatwave would make it difficult to hold classes outside. Many schools have few trees cover, and most canopies cannot provide a safe shade for children to sit and safely learn.

On the other hand, it is difficult to hold classes outside during the rainy season since students would be rained on, and their books, devices, or computers would be destroyed. Moreover, it may be uncomfortable for these classes in the regions with overall lightning but lack lightning arrestors. Then, efforts should reduce the challenges facing schools in Kenya and the schooling of students with disabilities. All schools need to have permanent buildings with appropriate facilities (e.g., air conditioner, heat regulator, Internet, computers) to support learning in all circumstances—in-person and virtual.

5.1.3. Supporting In-Person and Distance Learning

Education is a critical component in the disaster management and recovery process (Hoffmann & Muttarak, 2017; UNISDR, 2015). Considering the malevolency of the COVID-19 pandemic, the infections, increased fatalities, and the unpredictable nature of the impacts on individual health and the economy, two broad ways of schooling have gained momentum—in-person schooling and distance learning. Studies are ambivalent about which mode of education is best, but most educators hold that in-person learning is better than distance learning (Ressa, 2020). In-person learning is quantitatively and qualitatively better than distance learning. In-person learning has many advantages, for it provides opportunities for authentic interaction between teachers and students and between students and peers. It offers a genuine environment that allows social norms and learning of critical behaviors necessary for successful adulthood. Besides providing initiation opportunities that will enable children to acquire essential repertoires needed for successful living in the community, schools also create opportunities for children and adults to know each other, cultivate trust, share experiences, and therefore opportunities for teachers to identify children who may be suffering or being abused or are neglected. This way, teachers can provide interventions before the situation gets out of hand.

Furthermore, many schools provide meals that may be the only meal some children from low-income families get, especially the homeless children, streets and runaway children, and many other children living in shelters or orphanages or under foster care. In-person learning also provides opportunities for educa-

tors to diagnose the physical and mental health of learners. It allows teachers to identify the child's academic needs and recommend other interventions, including provisions of special education services. It also creates an opportunity for parents and teachers to partner in various activities in a more authentic manner, and because of familiarization, families, and educators can collaborate to address the child's needs—social, cultural, political, physical, mental, linguistic, ethical, moral areas—and therefore help the child develop holistically. Home-school partnership and collaboration between teachers and other service providers such as doctors, counselors, nurses, social workers, drivers, physiotherapist, motivational speakers, all these effort help reduce child neglect, abuse, school dropout, low academic performance, violence, and aggression in the school and the community, and other social ills such as pornography and sex or prostitution.

Also, schools keep millions of children at school during school years allowing millions of families, employees, and workers to get to their jobs without worrying about staying home to care for their children. Children spend most of their time in schools or school-related activities and events most of the weekdays and sometimes even during weekends and holidays and breaks such as half-term or during breaks when schools provide extracurricular activities (e.g., football, swimming programs for children, football camps, summer camps, boot camps) or when schools provide more curricular activities (e.g., tutoring services to struggling learners or accelerations programs to fast learners), or when schools offer study abroad programs or field experience where students work in clinical settings or explore the environments, or participate in other experiential learning opportunities.

Moreover, in-person schooling is a source of income for all schools, particularly those that offer childcare services, health services, or residential services that require living in the dormitories, eating on-campus dining halls, using libraries' and laboratories, and other school resources and services, including recreational facilities, meeting rooms and corridors, or those that provide entertainment competitive services such as school games (football, soccer, badminton, music competition, science exhibition). Also, schools make massive money out of the resources and services they provide to staff, faculty, families, and learners such as children with and without disabilities, visitors, state national and international students, and other stakeholders, for example, politicians and visitors such as research presenters or motivators who come to make a presentation to various organizations or participate in conferences and workshops and seminars that are organized on school campuses. Thus, in the long run, the in-person school benefits the child, families, broader community, and larger society when appropriately implemented. Unfortunately, however, many learning institutions in Kenya are in a dire situation because of historical factors (e.g., neglect and underfunding by the government) and current COVID-19 induced difficulties. So have limited resources, including faculty and staff, and insufficient PPEs. Thus, even though most stakeholders still value physical learning (e.g., parents, teachers, administrators), there is an increased provision of distance learning af-

ter the outbreak of the coronavirus pandemic in early 2020.

Successful schooling of children with special needs during disasters depends on the government of Kenya factoring them in the disaster management and recovery programs, which include supporting collaboration of various professionals and home-school partnerships in prioritizing their education. Considering the importance of education in disaster management and recovery process (Hoffmann & Muttarak, 2017; UNDP, 2010b; UNISDR, 2015) then, there is a need for Kenya to invest in physical and digital infrastructure (i.e., computers, Internet, electricity) (Etherington, 2020; Moner-Girona et al., 2019) that can be used in a multipurpose manner to address education and health gaps in society especially within the disability community (Angode & Ressa, 2021; Ressa, 2020, 2021). Furthermore, knowing how curricula, technology, and educators' competence, attitudes, and reactions toward emerging technologies have impacted teaching and learning practices in Kenya is equally vital in structuring education as a critical component in disaster management and recovery programs. Addressing current and future trends in technology in special education, inclusive education, and teacher education in Kenya requires assessment of the nature of infrastructures, especially technologies available in Kenya and the service delivery and personnel preparation for disasters. Equally important is availing resources and services and training educators competent in using digital teaching and learning tools in various settings, physical and virtual, so they can switch from one teaching mode to another as the circumstances dictate. This can only be achieved when the Kenyan society and government in particular avail infrastructure including digital and train educators acquire repertoires that would allow them to implement digital lessons that will enable participation of school-age children with special needs in learning from safe spaces at school and/or home (Ressa, 2020).

5.1.4. Increasing Government Funding of Schools

Successful schooling during and post-COVID-19 hinges on many factors. These include government funding and improved school budgets, school policies and safety practices, and adherence to national government COVID-19 preventive guidelines. COVID-19 preventive measures require wearing masks, washing hands, social and physical distancing, and other protocols such as staying home when sick. However, intricately, these measures need resources (i.e., money, staff, teachers), space, and time. Schools require enough teachers, staff, and materials such as books, computers, and PPEs throughout the school calendar year. PPEs such as sanitizers and Plexiglas required for partitioning classes to maintain 2 m apart between students and teachers are costly for average Kenyan schools. Further, funds are needed for more learning materials such as books, laboratory equipment, school supplies such as chalks and dusters, pens, computers, watches, and increased services.

Additionally, COVID-19 safety measures for learners, staff, and faculty meant reduced building capacity that may be below 30% - 50%. However, schools lacked

the resources needed to address the learning needs of students after Kenya implemented universal primary and secondary education. Implementing universal primary and secondary education led to more learners attending school. However, it created overcrowding in many schools around the country, particularly in the rural and highly populated regions such as the lake region and slums. As a result of increased enrollments, many schools need more staff and teachers who can teach multiple classes to address split classes (to create room for spacious seating) and other educational and health needs of varied learners.

Furthermore, many teachers are needed to help monitor learners to ensure COVID-19 protocols are adhered to. Since learners are grouped, moved around less, and directed through the hallways or other high traffic areas such as near bathrooms, there is a need for more staff or teachers to control students through these spaces to prevent or limit (re)-infection and school closures. Successful learning, particularly in-person schooling, heavily depends on the teachers buying into this safety proposal marketed by politicians and other stakeholders interested in having normalcy in schools. However, without appropriate funding and accountability to money distributed in schools and efficient implementation of the preventive measures, the learning environment is likely to remain unsafe.

COVID-19 pandemic widened inequality between students of different socioeconomic backgrounds. High-income families hired tutors to teach their children remotely, thus putting their children ahead of the ladder compared to children from low-income families. Besides, high-income families' disposable resources allowed them to invest in a computer and Internet, and other utilities and gadgets needed for online relearning; they invested in books and digital books and provided ample time and space in the home for learning. In addition, they created a learning atmosphere by providing areas for children to study, a library, among others. These are resources that many low-income families lack, making it difficult for them to create appropriate online learning for their children. As a result, many children from low-income families were left behind pre-, during COVID-19, and are likely to lag their peers' post-COVID-19 time. Moreover, many children from affluent families attended private schools or well-resourced public schools. Habitually, the funding of private schools is majorly based on families' income. Because of high tuition, these private schools are more equipped than public schools that primarily serve low-income families. Moreover, affluent schools have the Internet, computers, and classes in computer literacy and foreign language (e.g., French, Chinese). As a result of these disparities in school resources, children from high-income families have more opportunities for high-quality education. In contrast, children from low-income families are predisposed to low-quality education.

The capitalist economic structure informs current Kenyan formal education. This entwines schools and capitalism, making cutting things that connect the two a sure death trap for the other. The structuring of schooling around the financial structure makes decoupling the two difficulties in the current global pandemic. Schools play a significant role in the growth and development of any

nations' economy, and many pro-economics' people in authority, especially politicians, are very much pro-in-person learning. From the economic point of view, having students physically in schools is a good thing. Regardless of their political inclination, many politicians would support having teachers and students for in-school learning as alternative health measures are explored. While many policymakers are concerned with the economic performance of Kenya, few of them value the economic empowerment of people with disabilities (Ressa, 2020). This failure has cost school-age children and youth with disabilities education opportunities since the outbreak of the COVID-19 pandemic. Then, the economic challenges facing schools demand that the government of Kenya allocate enough funds for educating students with disabilities during disasters.

4. Conclusion

The vulnerability analysis of the education system in Kenya reveals gaps in implementing disaster management and recovery programs for children and youth with disabilities and their families. Therefore, this study is an early warning system that unless an inclusive disaster management and recovery process is instituted to contain the harmful effects of the COVID-19 pandemic on education, learners with disabilities are condemned for failed adulthood. Considering the virulent nature of COVID-19 and its unpredictability, mitigating measures should be holistic to avoid exacerbating the secondary effect of COVID-19 control measures such as school closures. The disaster planning and resilience and recovery programs should focus on school-age children and youth with disabilities' access to physical and online education. Besides, COVID-19 mitigating measures should support distance-learning and physical learning when appropriate and make schooling of students with special needs more equitable, feasible for families, and more effective. Critical is reducing risk from the COVID-19 pandemic while still giving students with disabilities opportunities to interact with educators, peers, and the broader community. Therefore, government and community measures should be geared at mitigating the negative impact of the COVID-19 pandemic while still facilitating quality learning in schools and families of youngsters with disabilities.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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