

The COVID-19 Pandemic, its Consequences, and the Recovery: Implementation of Disaster Education and Management is Key to the Schooling of Children with Disabilities

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Abstract:

COVID-19 pandemic has eroded gains towards Kenya Vision 2030's poverty eradication goal by denying Kenyan children and youth with disabilities access to (quality) education. Situational analysis on the impact of COVID-19 pandemic on education of primary and secondary school-age individuals from March 2020 to December 2020 reveal that the education opportunities for learners with disabilities remained unpredictable as the disease ravaged communities to the end of the year. Learners with disabilities fell behind academically after school closure and COVID-19 related biases predisposed them to academic failure and failed adulthood. Then, the implementation of disaster education and recovery plans are overdue and must intentionally target education of children and youth with disabilities.

Keywords: Disasters, pandemics, COVID-19, Kenya, Africa, disability, education, infrastructure

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INTRODUCTION

In 2000 the United Nations (UN) set eight Millennium Development Goals (MDGs) to be achieved by 2015 and then on September 25, 2015 MDGs were replaced by seventeen Sustainable Development Goals (SDGs) to be achieved by the year 2030. SDGs include Goal 1 End Poverty and Goal 4 Quality Education. The SDGs align with the 2008 Kenya Vision 2030 poverty eradication and universal education goals (KNBS, 2019; Mulinya & Orodho, 2015). Driven by MDGs and now SDGs (United Nations Educational, Scientific and Cultural Organization [UNESCO], n.d.b), Kenya has heavily invested in education since 2003 to improve the literacy rates and quality of life of her citizens, including those with disabilities (Kiru, 2019; Leonard Chesire, 2019). The 2030 SDGs require countries to commit to the inclusion of people with disabilities to achieve the “world’s globally agreed plan for peace and prosperity for all on a healthy planet” (UN, 2019, p.i.). However, the COVID-19 pandemic and the resultant nationwide lockdown, school closures, economic recession (IMF, 2020b), and the prevalent stigma (Malplat, 2020) are quickly eroding these gains and potentially condemning children and youth with disabilities (hereby referred to as children with disabilities unless otherwise stated) to failed adulthood.

For decades, children with disabilities have experienced harm due to barriers related to biased cultural practices (Kiru, 2019; Ohba & Malenya, 2020), mismanagement of limited resources (Transparency International, 2020; Winters et al., 2017), and disasters such as droughts and floods (Ayugi et al., 2020; Willett & Sears, 2018), infectious diseases such as cholera (Okaka & Odhiambo, 2018), and terrorism (Krause & Otenyo, 2006). Considering present and future damages to the wellbeing of learners with disabilities, this paper examines the consequences of the COVID-19-induced school closures (March-December 2020) on the wellbeing of Kenyan children with disabilities. The purpose of this research is to identify the impact of COVID-19 on the schooling of learners with disabilities by examining the interactions of micro and macro factors that influence the education of children with disabilities. The aim is to delineate factors responsible for the inaccessibility of education in the COVID-19 era, and to support the development of disaster education and intervention and recovery programs that will facilitate quality schooling of learners with disabilities and successful life in adulthood.

This article is guided by the question: How has school closure between March 2020 and December 2020 impacted schooling of children with disabilities in Kenya?

Literature Review

Population of Students with Special Needs in Kenya

The introduction of universal primary and secondary education and the emphasis on quality accessible tertiary education have led to increased school enrollment (Kiru, 2019; Ngugi et al., 2015; Ohba & Malenya, 2020). Still, that population remain erratic as shown in Table 1. Kenya’s population was 48 million as per the 2019 census data (Kenya National

Bureau of Statistics [KNBS], 2019), which translates to 7.2 million Kenyans with disabilities (based on the 15% population estimate designated by the World Health Organization [WHO], n.d.a). As of 2019 there were 3.3 million children in pre-primary school, 10 million in primary school, 3.4 million in secondary school, 500,000 youth in middle-level colleges, and 471,000 pursuing university education. The 2014 survey by the Ministry of Education, Science and Technology (MoEST) in partnership with Volunteer Service Overseas (VSO) and Department for International Development (DFID) that covered 22 counties of the 47 showed the prevalence of disability among children ages 3–24 as 13.5%. Then MoEST through the Kenya Institute of Special Education conducted a national survey on children with disabilities and special needs in education from September 2016 to June 2017. The survey findings showed 11.4% disability prevalence of children with special needs ages 3–21 (Kenya Institute of Special Education [KISE] 2018).

Table 1.

Disability Prevalence in Kenya

Items	2019 Total Population in millions	Census Kenya in millions	Total Population in millions, based on 15% Estimate	Disabled in WHO	Total Population ages 3-24 in millions, based on 13.5% MoEST&VSO Estimate	Disabled ages 3-24 in millions, based on 11.4% MoEST Estimate
Kenya total population	48		7.2		--	--
Total Student Population in pre-primary school through high school	18		2.7		2.43	2.05
a) Pre-primary school	3.3		0.5		0.45	0.38
b) Primary school	10		1.5		1.35	1.14
c) Secondary school	3.4		0.5		0.46	0.39
d) Middle-level colleges	0.5		0.08		0.07	0.06
e) University education	0.47		0.07		0.06	0.05

Even though there was about 2.4 m children with disabilities in pre-primary school through secondary school (depending on the disability prevalence rate calculator), in reality, however, less than 5% of school age children with disabilities access school or receive quality

education according to the VSO and MoEST Report of 2014 and KISE Report of 2018. This is happening at a time when the Persons with Disabilities Act of Kenya 2003, the 2010 Constitution of Kenya the Convention on the Rights of the Child (CRC 1989), the UN Convention on the Rights of Persons with Disabilities (UNCRPD, 2006), and the Basic Education Act 2013 prohibit disability-based discrimination and guarantee citizens with disabilities the right to education (Republic of Kenya, 2010). Unfortunately, this is also happening when there is increased prevalence of disasters. Sadly, most children with disabilities have limited access to basic needs and efficient infrastructure (KNBS, 2019; Leonard Chesire, 2019) to endure disasters.

Impact of Infectious Diseases on Communities

In comparison to 30 years ago, the number of global disasters has increased, mostly due to climate change, and the list includes infectious diseases such as Ebola and Middle East respiratory syndrome (Braden et al., 2013; Chan, 2014; Okaka & Odhiambo, 2018) and drought, famine, plague, hurricanes, earthquakes, wildfires (Field et al., 2012). Other challenges include displacements due to wars and terrorism (Krause & Otenyo, 2005). Unfortunately, disasters have serious economic, political, social, cultural, and linguistic impacts on the communities affected, and so they cost countries billions of dollars in damages of infrastructure and expenditures to treat injuries and deaths (Field et al., 2012; Heymann et al., 2015; Shreve & Kelman, 2014; van der Keur et al., 2016). In 2019 and 2020, Kenya dealt with various disasters—including floods, a locust plague, and the coronavirus pandemic—that caused injuries, deaths, destruction of property, an economic recession, and the closure of schools (IMF, 2020b). However, the nationwide impact of the COVID-19 pandemic on education of school-age Kenyans with disabilities remains unknown.

Infectious diseases spread very rapidly among individuals when vectors either intentionally or unintentionally carry the disease from the epicenter to other regions of the world, often aided by the improved infrastructure, including transportation systems, that facilitates the increased mobility of people, thereby making it easier for infectious diseases to spread (Chan, 2014; Heymann et al., 2015). The rapidity by which infectious diseases spread across borders means that management requires both individual and collective health security protocols (Heymann et al., 2015). Individual health security measures involve personal initiatives to protect oneself from infectious diseases by moving to safe areas and using appropriate medical materials (where available, e.g., wearing masks) to protect oneself and one's neighbors. In contrast, collective health security involves a concerted approach aimed at addressing the global spread of infectious diseases, bringing together various national and international actors in designing and implementing prevention, treatment, and recovery plans. Individual and collective health security measures ensure the rapid detection of outbreaks and an equally rapid response for effective management of the disease (GHSA Preparation Task Force Team, 2015; Heymann et al., 2015).

Infectious diseases such as that caused by Ebola virus can be devastating to communities, including the medical community in a country with an inefficient healthcare system (Chan, 2014). The Ebola virus, which is found in animals, was first identified in humans in the Democratic Republic of Congo in 1976. Since then, there have been 11 sporadic outbreaks that have killed people mainly in Central Africa and West Africa. The most devastating outbreaks occurred in 2014 and 2016, which killed 11,000 people in Guinea, Sierra Leone, and Liberia (Chan, 2014). This attracted aid from across the globe after WHO declared Ebola to be a global pandemic. Besides affecting ordinary citizens, the disease also negatively impacted the medical community. Most medics from the global north who had contracted the Ebola virus while working in West Africa were repatriated to their home countries, where they received appropriate medical interventions in well-equipped hospitals with the necessary medication. Most recovered from the infection. In contrast, most West African medics who contracted the virus did not survive because many hospitals had a shortage of staff or equipment, including limited personal protective equipment (PPE), medication, electricity, and even water (Heymann et al., 2015). Thus, infectious diseases always have a devastating effect, particularly in low-income countries with less resourced healthcare systems (Heymann et al., 2015).

The outbreak of the bubonic plague, cholera, smallpox, and yellow fever in the 20th century encouraged the international community to come up with regulations to promote a global response capable of preventing the cross-border spread of infectious diseases (Centers for Disease Control and Prevention, n.d.; WHO, 1983). However, the outbreak of severe acute respiratory syndrome (SARS) in 2003 proved to the world that strong border control is not sufficient to tame infectious diseases that do not respect the border rules (Heymann et al., 2015). Current measures therefore require governments to share information immediately when an infectious disease arises to prevent its spread globally (WHO, 2005). However, this global health management framework has not been fully or equally implemented across all countries, thus predisposing other global communities to infectious diseases that occur in a specific region, as happened with the 2007 avian influenza virus outbreak in Indonesia (Braden et al., 2013; WHO, 2011) and the COVID-19 outbreak in Wuhan, China in 2019/2020. The collective approach may fail when, as in these cases, unwilling global partners do not share information, resulting in the spread of the infectious disease to other regions that are not at the epicenter. Previous failures by governments in sharing critical information about infectious diseases (e.g., in the case of avian influenza virus) have led to development of another health framework—equal sharing equal benefit—aimed at strengthening individual health and collective health security (WHO, 2011). Countries agreed on sharing information about the composition of diseases and available medication, including vaccines (Heymann et al., 2015). Nonetheless, the outbreak of the COVID-19 has revealed the shortcomings of these frameworks and the need for governments to iron out their differences and work on building trust to improve international response mechanisms to infectious diseases.

Despite the prevalence of disasters in Kenya, there is dearth of literature on disaster education geared towards children with disabilities and their families. Given that most Kenyans with disabilities live in poverty due to biased systems including education system (KISE, 2018; KNBS, 2019), the aim here is at understanding the impact of school closures on learners with disabilities to determine how best to improve their post-COVID-19 pandemic education and adult life.

METHOD

This paper employs a situational analysis framework (Annan, 2005) to understand the Kenyan education system in the era of disasters. Situational analysis focuses on the style, ideology, and structure of an organization or system. To understand education situation of children with disabilities in Kenya, a comprehensive literature search was conducted using Elsevier, Google Scholar, and Springer Online Journals using a combination of keywords relating to disasters, plagues, floods, and pandemics in Kenya (e.g., cholera, delude). See Table 2. I narrowed down the search using the following sentences:

- 2019-2020 journal articles related to disasters, plagues, floods, and pandemics in Kenya
- 2019-2020 journal articles related to disasters, plagues, floods, and pandemics affecting Kenyans with disabilities
- 2019-2020 peer-reviewed journal articles related to pandemics affecting Kenya students with disabilities
- 2019-2020 peer-reviewed journal articles related to COVID-19 pandemic affecting Kenya students with disabilities

Studies that did not focus on the impacts of disasters in Kenya during 2019-2020 time frame were eliminated. This led to 14 relevant studies. Some of the gray literature that met specific inclusion criteria were included, such as that focused on disasters in Kenya.

Table 2

Extant literature

Sources:	2019-2020	2019-2020	2019-2020	2019-2020
Using a combination of keywords relating to disasters, plagues, floods, and pandemics in Kenya	journal articles related to disasters, plagues, floods, and pandemics in Kenya	journal articles related to disasters, plagues, floods, and pandemics affecting Kenyans with disabilities	journal articles related to disasters, plagues, floods, and pandemics affecting Kenya students with disabilities	relevant journal articles related to disasters, plagues, floods, and pandemics and the impact on the education of learners with disabilities
Elsevier Journals	Online 685	178	67	6
Google Scholar	581	164	135	5
Springer Journals	Online 630	146	94	3
Total	1,896	488	296	14

In addition to the desk-based review, virtual field research was performed (e.g., observations of teachers as they created virtual fieldwork experiences) (Cliffe, 2017) and data were collected from key informants through online and remote interactive interviews and focus group discussions with representatives of the disabled people's organizations (DPOs; ten people), government representatives from the Ministry of Education (two people), Ministry of Health (two people), and Ministry of Labour and Social Protection (one person), and representatives from non-governmental organizations (NGOs; three people) via zoom (Zoom Video Communications, Inc.), WebEx (Cisco Webex), and WhatsApp Messenger (depending on the interviewee application). See Table 3.

Table 3

Virtual field research

Key informants:	
a) Disabled people's organizations	10
b) Ministry of Education	2
c) Ministry of Health	2
d) Ministry of Labour and Social Protection	1
e) Non-governmental organizations	3
Total	18

Also, data collection involved document analyses (including big data reports from KNBS, International Telecommunication Union (ITU), National Council for Persons with Disabilities (NCPWD), UNESCO, United Nations Children's Fund [UNICEF], WHO, World Bank; a review of previous studies; and national and international e-media reports about Kenya published on social media—Facebook, and through national and international digital media organizations including radio (e.g., National Public Radio of America, Kenya Broadcasting Cooperation [KBC]), e-newspapers such as *Daily Nation*, *The Standards*, *the EastAfrican Standards*; observations of the evolving situations in Kenya, and personal experiences as a result of my schooling in Kenya (Ressa, 2009). As shown in Table 4, analysis of collected information revealed an array of difficulties which were categorized into two major barrier topics.

Table 4

Mega effects of COVID-19 pandemic on education

Difficulties linked to:	Mega Learning Barriers
<ul style="list-style-type: none"> • Different systems of education • inadequate infrastructure (e.g., internet, electricity) • geographical challenges • time differences 	<ul style="list-style-type: none"> • Challenges in public and low-cost schools
<ul style="list-style-type: none"> • difficulty to teach STEM content online • different curricula • many subjects 	<ul style="list-style-type: none"> • Challenges with the curricula and digital infrastructure •
<ul style="list-style-type: none"> • lack of resources—computers • different stakeholders with different interests • lack of political will; 	<ul style="list-style-type: none"> • Poverty in households with children with disabilities
<ul style="list-style-type: none"> • computer illiteracy/lack/limited skills • home challenges • limited/lack of motivation 	<ul style="list-style-type: none"> • Unfavorable home environment
<ul style="list-style-type: none"> • teachers, parents, and students fear, panic 	<ul style="list-style-type: none"> • Fears and Uncertainties about the Future

FINDINGS

The study revealed that the COVID-19 pandemic has created a humanitarian crisis in Kenya that has significantly affected education of children with disabilities.

Challenges in Public and Low-Cost Schools

The unfortunate school closures on March 16, 2020, to contain the COVID-19 pandemic left millions of learners including those with disabilities at a disadvantage, and by December 31, 2020, it remained unclear when public schools will resume normal school calendar (Daily Nation Group, 2020; Waita & Njehia, 2020). The experiences of learners in public and low-cost private schools that mostly serve low-income families remained

unknown throughout the year. Analysis of e-newspapers (e.g., Daily Nation Group, 2020; The Standard) revealed that low-cost private schools such as Bridge International Academies that operated in 40 of the 47 Kenyan counties closed on the eve of the COVID-19 outbreak, and staff and teachers were placed on temporary compulsory leave without pay, eliminating their obligations to their learners. This is contrary to the happenings in high cost private schools. Interviews with ten representatives of the DPOs and analyses of documents (from various organizations such as UNESCO, UNICEF, WHO, World Bank, and media organizations including social media—Facebook, e-newspapers—Daily Nation, The Standards, the EastAfrican Standards) revealed that although learning was suspended in public schools, virtual learning at a number of upscale private schools went on. High-cost schools have international affiliations that make it easy to adopt curricula from other countries. They also do not need their online learning programs to be licensed by the Kenyan government, as is the case with public education. For instance, Brookhouse Schools offers the International General Certificate of Secondary Education, which is an English language-based examination similar to the General Certificate of Secondary Education in the United Kingdom. Even though some families questioned the quality and cost of online learning in these upscale private schools (Muthoni, 2020), students experienced an academic atmosphere that helped maintain their learning tempo. This trend caused panic among families who felt that children who attended public schools were being left behind by the education system, which has for a long time inadequately prioritized their needs.

Challenges with the Curricula and Digital Infrastructure

Interviews with representatives of DPOs and NGOs and Media reports (Peralta, 2020) revealed that public schools indicated that learners with and without disabilities spent most of their time on non-academic and unproductive and hurtful activities (e.g., teenage sex). Idling of learners prompted the government to take drastic measures to support virtual learning as it contemplated opening schools in 2021. On March 23, 2020, the Ministry of Education started broadcasting primary and secondary school lessons via the radio, television, and the Kenya Education Cloud throughout weekdays through the Kenya Institute of Curriculum Development (KICD, n.d.). KICD's EduTV Kenya, a production of Edu Channel TV, was available as a live stream and on-demand content on YouTube channels and covered classes in early childhood through high school. The KBC English Service radio program targeted learners in primary schools and covered multiple subjects, including English, Kiswahili and Fasihi, mathematics, science, hygiene and nutrition, Christian religious education, social studies, life skills, civic education, business studies, geography, biology, and agriculture. KICD also partnered with the Kenya Publishers Association to provide learners with free electronic copies of textbooks on the Kenya Education Cloud. In addition to the government's effort, some individuals and organizations based locally and abroad banded together to provide learners with education opportunities via online platforms such as Facebook and WhatsApp. This allowed some students from public schools to participate in online learning offered by companies in the

U.S., such as EduMonitor, which had free programs, e-books, worksheets, and games for children in pre-kindergarten through to the fifth grade (EduMonitor, n.d.).

Moreover, inadequate infrastructure (e.g., internet, electricity) made it difficult to support universal virtual learning. To boost internet access for students and families in less served regions, the Kenya Civil Aviation Authority collaborated with Telkom Kenya and Alphabet Inc. to float Google's Loon Balloons, carrying 4G base stations, over Kenyan airspace (Etherington, 2020; World Bank, n.d.b). Also, other local private mobile providers such as Safaricom partnered with Longhorn Publishers, Eneza Education, and Viusasa to provide free access to educational e-content for primary and secondary school students. Despite these innovative and noble ideas, virtual learning remained inefficient and inaccessible for most children with disabilities because little effort went into tailoring digital lessons to individual learners in different parts of Kenya (e.g., Turkana has inefficient infrastructure and a harsher climate than the highlands of Kericho or Nairobi City).

The problem with the learning material, content, and time remained because it was not easy to virtually teach certain subjects at a certain grade level at a certain.. For instance, it was difficult to effectively teach virtual science, technology, engineering, and mathematics (STEM) lessons, including science laboratory work, because few schools or families could afford computers or the apps, and few teachers were competent in modeling. Also, Kenya has two public education systems running concurrently—the new 2-6-3-3-3 education system that was introduced in 2017 to replace the 8-4-4 education system. This made restructuring the content of varied subjects difficult especially for foreign-based educators. Besides, the time difference, for example, between Kenya and the U.S. (an average of eight-hour difference—East Standard Time) complicated remote teaching and learning since afternoon in the U.S. would be late night in Kenya, the time most families are asleep.

Challenges with the curriculum, geography, and time made it difficult to support universal virtual learning. So, online learning only served a small population that have electricity, internet, and computers and can access the required media (e.g., Edu TV Channel on YouTube), and according to a KNBS survey, less than 40% of students accessed digitally delivered content (i.e., via television and radio and mobile phones—which is discomfoting) (World Bank, n.d.b). E-learning requires utilities, technology, and experienced educators who are computer literate and competent in online pedagogical practices (Mutisya & Makokha, 2016). ...

Poverty in Households with Children with Disabilities

Document analyses (e.g., from the ITU; World Bank, n.d.b) and interviews with representatives of DPOs, NGOs, and MoEST revealed that government and individual/group initiatives to promote digital teaching and learning, though well intentioned, did not reach the most vulnerable learners who did not have computers or access power. Many teachers and families did not own computers, nor were they computer

literate (UNICEF, 2017) while most low-income private and public schools had limited capacity to provide virtual classes. In 2013, the government promised every child in primary school a laptop computer with free internet access to facilitate digital learning (Mariga et al. 2017; Mugendi, 2019). However, this plan was shelved for political reasons, and because of the lack of political will and financial incapacity, the government was not able to broadly facilitate digital learning. With many countries turning to online schooling, the global demand for computers outstripped the supply, which made computers unavailable or costly for ordinary Kenyan families. Other households resorted to mobile devices. However, the small screens of most phones made learning for hours tiresome thus causing disinterest of strenuous subjects/topics in learners. Though mobile phone services are relatively good in Kenya (KNBS, 2019), they were shared with family members, and in a household with four children, it was difficult to access the internet due to data plan restrictions (Opeke 2018; UNICEF, 2017). Instead, most students accessed the internet through public cybercafés (Wamuyu, 2017), which tend to be unsafe or insecure and therefore predispose students to cybercrimes. For this reason, many informed and concerned parents refused to allow children to participate in these learning environments.

Unfavorable Home Environment

E-learning requires a lot of self-discipline and an appropriate setting since personal technology can be distracter to learning (Schneider, 2018). Even in situations where families had computers, many students failed to log on or stay focused on their computer. Whereas some online programs can track students' attendance and participation, the process is cumbersome and can be overwhelming to teachers and learners new to the system. This led to unreliable data-collection practices such as filling out e-google attendance sheet. Thus, those who were absent were predisposed to experience low performance, low self-esteem, and to drop out of school as a result. Furthermore, in face-to-face learning, students are more likely to be guided by the teacher's physical presence. In contrast, online classes predisposed the entire class to behavioral challenges, such as crying, yelling, and the use of profanity out of frustration when learning materials did not load. For this reason, many online classes were shortened versions of the face-to-face classes, which compromised the quality and quantity of learning.

While online learning requires a favorable home environment, many homes lacked the amenities necessary for conducive learning, such as electricity, running water, the internet, and bathrooms. Many families of children with disabilities lived in single-room houses, grass-thatched houses, or houses with corrugated iron sheets without a ceiling, which made it impossible to learn when it rained, which happened during the long rains month April through August. Homes/houses without children's bedroom left little space for different learning activities in the same space. One-roomed house served multiple purposes—storage, dining, sleeping, or even bathing. These conditions negatively affected the access and participation of children with disabilities with respect to digital learning.

Fears and Uncertainties about the Future

The Kenyan education system is majorly controlled by the government. The decision to postpone schooling until 2021 received support from national teacher and parent organizations. However, the disruption of schooling intensified families' fears and uncertainties about the education of their children with disabilities since it is apparent that the 2020 school calendar year was lost. School closures and cancellation of national summative examinations that were to begin in September 2020 (i.e., Kenya Certificate of Primary Education - KCPE and Kenya Certificate of Secondary Education - KCSE) meant mass repeating at all levels of schooling is unavoidable. With an inadequate education system that less meet the national education demand, this will lead to high competition for few places in 2022 and the coming years especially in grades 1 and 9 and college places.

DISCUSSION

This study was based on a quick review of the situation in Kenya to inform program development on the current status of learners with disabilities. The findings have revealed that children with disabilities are losing ground academically because COVID-19 has profoundly impacted their education and daily lives as evidenced in the mega learning barriers: Challenges in public and low-cost schools, challenges with the curricula and digital infrastructure, poverty in households with children with disabilities, unfavorable home environment, and fears and uncertainties about the future. These mega learning barriers show the toll of COVID-19 and school closure on the education of learners with disabilities.

The Academic Toll of School Closures on Children with Disabilities

The Kenyan government's drastic measures to contain COVID-19 pandemic caused unquantifiable academic harm to millions of learners who were kept at home without learning opportunities, especially children with disabilities. The most impactful measure in this respect was the closure of learning institutions on March 16, 2020. Due to limited healthcare facilities and the surge of the pandemic, the central government gave the directive to county governments to designate 20 residential schools in each county as isolation health facilities, thereby ordering that the schools function as hospitals, testing centers, or quarantine centers (Waita & Njehia, 2020). However, this decision made schools hazardous and unavailable for throughout 2020. Kenya placed safety before education in 2020 and because of the virulent nature of the pandemic, Ministry of Education issued conflicting opening dates that made it difficult for educators and families to plan appropriately. With the unpredictable disease ravaging across Kenya, and the eagerness of the government to contain it before it overwhelms the inadequate healthcare system, on July

6, 2020, the government announced that schools will remain closed for the rest of the 2020 academic year.

Although schools opened in January 2021, the COVID-19 pandemic induced school closure will continue to negatively affect children with disabilities (i.e., lead to illiteracy, biases, aggressions, and a lack of appropriate information about COVID-19 preventative measures) and therefore predispose them to increased likelihood of academic failure and failed adult life. Even though the government cautiously opened schools and eased the restrictions of movement introduced in early March 2020, challenges persists and normalcy far away in the horizon. The two-meter distancing rule makes traveling expensive and difficult since few passengers in the bus translate to high fares in order for the operators to recoup costs and make profit (IMF, 2020b). Traveling costs and restrictions on movement and inefficient sanitization in schools at a time when the communal transmission of COVID-19 is on the increase is likely to scare some learners with disabilities and their families and teachers and therefore lead to unfavorable learning environment that predispose students with disabilities to school failures. Lack of resources and services increase COVID-19-related demotivation factors especially now when learning institutions are considered high-risk settings due to the high congregation of students from different places. Unfortunately, the abilities of parents, teachers, administrators, and other stakeholders (e.g., suppliers of school resources) to provide the support children need to navigate the education system from home are already limited. Previous studies have shown that disasters interfere with social structure and infrastructure (Chan, 2014) and pandemics cause serious harm to the affected communities (Chan, 2014; Heymann et al., 2015). For instance, the Ebola virus outbreak in West Africa caused deaths and damaged the fragile economies making it hard for patients as well as survivors to trust their governments' health guidelines (Heymann et al., 2015). Inadequate infrastructure, such as transportation systems (roads, railway, or seaways), and insecurities caused by the lack of basic needs such as clean water, food, or air, all lead to biases, desperation, fear, and violence that negatively affect economies and contribute to restlessness and mistrust of communities, institutions, and governments (Chan, 2014). As in the case of Ebola outbreak in West Africa that disrupted social and school life, vulnerable children—including those with disabilities, those from pastoral or nomadic communities, and the urban poor—are at increased risk of sexual exploitation, teen pregnancy, school dropout, and child labor (UNESCO Institute for Statistics [UIS], n.d.; Winters et al., 2017).

Moreover, school closures caused the kind of educational and social inequity (Bourdieu & Passeron, 1990) that is already felt in other realms of essential activity—including healthcare, employment, and housing—that determine quality of life. The COVID-19 induced economic recession (IMF, 2020b) has also triggered disability-based biases and aggressions. Many families of children with disabilities are becoming poorer, and children with disabilities are now vulnerable to violence as schools stayed closed and digital learning remained inaccessible in 2020, as it happens in disease ravaged communities (Chan, 2014). While schools already opened, the disease has gained foothold in Kenya and the

mitigating measures remain inadequately implemented. As with Ebola in West Africa, the severity of the infectious disease in this case is likely to be magnified by poverty, which make it difficult for it to be contained, treated, and prevented. Poverty limits information flow and access to the medical equipment, vaccines, and medicines needed to manage an infectious disease. It also promotes health fraud, rumors, fears, violence, and the further spread of disease (Chan, 2014). Considering the mega learning barriers of children with disabilities, alleviating effects of COVID-19 is paramount.

Empowering the Disabled through the Collective Health Security

Health security initiatives are to provide protection from threats to health (Fidler, 2003; Heymann et al., 2015). It helps affected individuals increase their ability to withstand the effects of calamities so that they can improve their own wellbeing and that of the community. Chan (2014) has analyzed the impact of Ebola outbreak in West Africa in terms of health security arguing that local and global responses are critical in the management of infectious diseases, many of which require control of misinformation along with the allocation, distribution, and management of resources to ensure that help reaches the targeted communities and localities. Individual and collective health security measures are critical to the management of infectious diseases and the improvement of the wellbeing of society. This can be achieved when citizens of all cadres are provided with education that helps them participate in their own development as well as that of the broader community. While taming the COVID-19 pandemic requires collective initiatives, at the present time, the disability community has mostly been left out of consideration with respect to COVID-19 management initiatives. Key to the containment of COVID-19 pandemic and its negative impact and overall eradication of poverty is the provision of quality education to all community members especially learners with disabilities so that they can acquire the appropriate knowledge to function in the community now and in the post-pandemic period. Improving digital infrastructure is therefore key to the provision of disaster education and engaging communities in the recovery process.

Empowering the Disabled through Disaster Education

Although school closure is just one COVID-19 mitigating measure, the global scale and speed at which it disrupted education reduced the chance of children with disabilities accessing appropriate education on the level of non-disabled learners. Moreover, children with disabilities and their families are less prepared for disasters, and many are caught in the mix of wanting to adhere to the COVID-19 preventative measures while also eking out a living in a country with limited safety nets (Kabare, 2018). Further, even though disaster preparedness can lower the rate of injuries, deaths, and destruction of property (Hoffmann & Mutarak, 2017), many families of children with disabilities are not provided with the necessary knowledge of how they can survive or protect themselves in the case of disaster. This is opposed to Mutarak and Pothisiri's (2013) argument that families with people with disabilities are better prepared than non-disabled families.

The negative impact on children are likely reverberate for decades, since those unable to access education services or resources as well as those traumatized by COVID-19 and its effects may not resume school at all when this disaster is over. Often it is assumed that rescuers will provide them with special support in the case of a disaster. Sadly, many are left out from the disaster intervention programs even though preparing children for disasters is key to building their resiliency (Krishna et al., 2018). Toughness is necessary for survival during and after disasters. When it comes to demographics, families tend to be more prepared for disasters than single people, and those with disabilities also tend to be more prepared than non-disabled families (Muttarak & Pothisiri, 2013). When it comes to socioeconomic status, high-income families tend to be better prepared than low-income families because they can use their disposable income to buy additional supplies and build appropriate structures that can withstand disasters (Mishra & Suar, 2007). People who have lived in a certain geographical area for a long time and understand the different local hazards tend to be more prepared for these disasters than newcomers who may be less familiar with the situation. Also, home owners tend to invest more in disaster prevention or management than renters, who often see themselves as capable of moving to a different location in case a disaster hits (Tanaka, 2005). Some individuals tend to be psychosocially prepared for hazards and often invest in disaster management, which also helps them to develop self-resiliency and coping mechanisms (Hoffmann & Muttarak, 2017).

Krishna et al. (2018) conducted a study with adults to determine the disaster preparedness, response, and recovery experiences of children living in poverty who were affected by the 2015 floods in Tamil Nadu, India. They found that resiliency (the capacity to recover quickly from difficulties) during and after disasters was key to their survival. Resiliency is influenced by many factors, such as education, health, ability, age, awareness, sex, gender, socioeconomic status, class, income, and degree, depth, frequency and intensity of trauma (Bonanno et al., 2007; Krishna et al., 2018). Since psychosocially prepared individuals can more easily develop self-resiliency and coping mechanisms (Hoffmann & Muttarak, 2017), it is important that children with disabilities and their families are provided with disaster education. Introducing disaster education will ensure that students with disabilities learn about disasters, develop appropriate repertoires, prepare for them, increase their resiliency, and feel encouraged to participate in the recovery process. Since disasters have serious economic, political, social, cultural, and linguistic impacts on communities, establishing priorities and resources to mitigate their impact is critical in helping the affected communities recover from the challenges and continue with their lives (Heymann et al., 2015).

Disaster education and other interventions and recovery effort require a multi-systemic approach (Masten, 2014) that centers on the child and family (Hielkema, 2017) to ensure that every reality of the child's experience is addressed (Bronfenbrenner & Ceci, 1994). In addition, preparation for the effects of disasters and interventions during and after disasters should consider the context and culture of the community in order to promote

adaptation and recovery (Jordans et al., 2016; Krishna et al., 2018). Education has been shown to improve the management of disasters and the propensity for survival in various settings and conditions (Hoffmann & Muttarak, 2017; Krishna et al., 2018). Offering disaster education can help children with disabilities and their families cope with the current situation and put them on the road to recovery.

Involving Children with Disabilities in the Disaster Management and Recovery Process

Disasters are damaging. They ruin economies and infrastructure while also causing death. Disasters tend to affect low-income countries more significantly than high-income countries because of a lack of preparedness and the destruction of utilities and infrastructure that lowers the possibility of a quick delivery of necessary survival materials (Shreve & Kelman, 2014; van der Keur et al., 2016). Various measures are taken to reduce fatalities and the destruction of facilities, for example, by building earthquake resistant houses or developing warning system for those living in risky areas to facilitate early escape (Andrews & Quintana, 2015). The extent of the damage caused by disasters can be devastating, even to well-prepared individuals. It is therefore recommended that people stock up on enough materials, such as food and water, that can help them survive for more than 72 hours just in case they do not get immediate relief after a disaster hits (Russell et al., 1995).

Children make up the biggest population in Kenya, and they are the most affected by disasters (Martin, 2010). Children are vulnerable to direct and indirect effects of disasters, including injuries, trauma, diseases, and illnesses (McDermott & Cobham, 2014; Mitchell & Borchard, 2014). Children are also vulnerable to exploitation as a result of displacement; separation from parents; death of their loved ones and caretakers (Taylor, 2014); inaccessible basic needs such as water, food, and shelter (Babugura, 2008); the inability to understand the disaster and the circumstances they are in; and the difficulty in coping with the changed situation (Buechner, 2020), especially when the structures of society break down (Masten, 2014). All children are gravely affected by disasters, but the most vulnerable categories are infants and young children, girl child, and children with disabilities. As previous studies show (McDermott & Cobham, 2014), unfortunately, Kenyan children are never prepared for disasters, often being caught in difficult environments that they cannot make sense of, leading to the most devastating consequences on their physical and mental health. They are vulnerable to physical and mental abuses (e.g., neglect, aggressions, rape, murder).

Kenyan children with disabilities have a lot of experience with disasters, and so further preparation and involvement in recovery is essential (Krishna et al., 2018). As other studies have shown (e.g., Amri et al., 2017; Ronan et al., 2016), the capacities of Kenyan children with disabilities (e.g., their resiliency, inquisitiveness, innovations) can contribute to the management of risks caused by disasters in any community. The participation of children in the management of disasters is critical for the wellbeing of society (UNISDR, 2015). Community members aware of the impact of disasters are more prepared to handle

the disaster and its after-effects than unaware communities. For instance, Hoffmann and Muttarak (2017) demonstrated how education about disaster education promoted the coping ability of individuals in Thailand and the Philippines after hazards had occurred. They found that disaster preparedness lowered the risks of harm caused by natural hazards, such as earthquakes and hurricanes, and outbreaks of epidemics or pandemics. Then, involving Kenyan children with disabilities in the recovery process is especially important at this time. Such involvement will help to nurture their resiliency, reduce their school dropout rates, and promote success in adulthood, thereby ensuring that they can contribute to the welfare of their communities.

The UN Goal 13 of the SDGs requires nations to prepare their citizens for various natural hazards due to climate change to avoid serious harm to society (UNISDR, 2015). The government of Kenya in partnership with international financial institutions— International Monetary Fund (IMF) and World Bank—have dedicated huge resources to mitigate effects of COVID-19 pandemic. This includes \$739 million grant from the IMF (2020a). For instance, the government set aside \$43,772,920 for May-June 2020 payment cycle to a total of 1,094,323 beneficiaries who each was paid \$40 to cushion them from hurts caused by COVID-19. The beneficiaries of these funds were in three major money transfer programs known as the Inua Jamii Cash Transfer Programs—Orphans and Vulnerable Cash Transfer Program, Older Persons Cash Transfer Program, and Persons with Severe Disability Cash Transfer Program (NCPWDS, n.d.). However, corruption has seen families of children with disabilities denied financial support. ALMedlij and Rubinstein-Ávila (2019) study found that government support, implementation of disability legislation, disability awareness, and training of highly qualified teachers contributed to the development of education for students with learning disabilities in Saudi Arabia. Similarly, it is important to establish structures that promote disability awareness and inclusion and participation of children with disabilities and their families in the education sector. Equally, it is important to restructure the mechanism of distribution of COVID-19 funds to ensure that resources and services reach all needy families. Vital is sharing these information with the public especially the disability community and educating the masses not just about COVID-19 but also disability rights. Educating the masses ensures that appropriate information flows from one region to another to counter any misinformation that may be spreading and causing hostilities or mistrust in the community (Chan, 2014).

The approach of the intervention or response teams should be inter-disciplinary to allow various practitioners, such as doctors, anthropologists, preachers, economists, police officers, educators, and other professionals, families and lay people, to work with the affected community without agitating them or raising further suspicion. For instance, in situations where medics are suspected to be vectors, the communities should avoid any hostility as has been witnessed in countries like Nigeria, Pakistan, or the Democratic Republic of Congo where medics providing polio vaccines or administering quarantine orders have been killed (Chan, 2014; WHO, 2011). Such killings instill fear and mistrust,

discourage medics from well-established institutions or countries from aiding, cause closures of hospitals, schools, and exacerbate insecurity (Chan, 2014). Thus, improving digital infrastructure is key to addressing disasters by providing updated information, containing fear, providing education to all, and preparing and engaging learners with disabilities in the disaster recovery process.

CONCLUSION

COVID-19 pandemic exposed children with disabilities to multiple disastrous circumstances—discrimination, stigma, aggression, and violence—that increased their miseducation since Kenya closed schools to control the spread of the virus. The nationwide lockdown and closures of schools significantly interrupted the economic, social, cultural, political, economic, linguistic, and technological structures of Kenyan society, thereby causing further educational harm to learners with disabilities. Deferment of learning left children with disabilities behind and caused physical, economic, and psychological hardship and trauma. Millions of learners with disabilities face many structural barriers in schools and community, including biases and infrastructural issues that make it difficult to participate in learning. Consequently, the disruption of education leaves behind a trail of damage that children with disabilities may not fully recover from without the implementation of mitigating measures. Therefore, making disaster education and involving children with disabilities and their families in the disaster management and recovery process is paramount to stopping COVID-19 pandemic from eroding the educational opportunities and threatening Kenya’s realization of Vision 2030 poverty reduction.

Limitation and Future Studies

This study focused specifically on the impact of the COVID-19 pandemic on the education of children with disabilities during the period March-December 2020. However, the disease continued to interrupt a wide range of groups and various sectors in Kenya into 2021. Before the COVID-19 pandemic, Kenya had recently dealt with flooding and locust plague and extreme drought. Therefore, future studies should focus on the intersectionality of these disasters to understand their impact on the education of students with disabilities and their families. Also, studies should compare the impacts of the COVID-19 pandemic on students with and without disabilities. In addition, future studies should focus on disaster education and management to understand their impact on children with disabilities and their families. Despite these limitations, there remains a gap in disaster education and disaster management as pertains children with disabilities. Nonetheless, this study provides a kind of starting point from which it is possible to initiate disaster education and recovery programs in Kenya. This way, this paper makes social realities by assessing the negative impact of COVID-19 pandemic on schooling of students with special needs in Kenya and by giving voice to learners with disabilities, this paper also contributes to possibilities of addressing the very invisible education and life aspects of students with disabilities.

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