COVID-19 Pandemic Impact on Kenyan Education Sector: Learner Challenges and Mitigations

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***Abstract:** Globally, and Kenya in particular, economic growth has been and will be negatively impacted by COVID-19 shocks with direct consequences to the poor, vulnerable and marginalized households who rely on informal employment and businesses to fend for their children. Their ability to finance school related expenditure such as school kits, meals, learning materials has been severely compromised with the pandemic. With the Government adopting remote teaching to support distance learning and online education delivered through radio and television and internet, leaners from poor, vulnerable and marginalized household have no access to these mediums of learning further worsening inequality in access and quality of education. There is need to navigate through these challenges to ensure continued access to provision of quality, equitable and inclusive education during and after the pandemic. Effective implementation of the proposed interventions by education managers and stakeholders will ensure uninterrupted learning in educational institutions in future .These will be the gist to be tackled in this reflective paper. This being a theoretical review, it relies on review of secondary data material to discuss the challenges and mitigations for COVID-19 in the Kenyan education sector, with specific reference to learners. Classical Liberal Theory of Equal Opportunities advocated by Sherman and Wood and the theory of justice and fairness advanced by Rawls John guided this theoretical review.*

***Keywords:** COVID-19, Impact, Education, Challenges, Mitigations*

1. Introduction

Education, training and research is a major platform for national socio-economic transformation globally. In light of this, the Kenyan Government like other governments world-wide appreciates that education and training of all citizens is vital for the attainment of the Kenya's Vision twenty thirty and a springboard to the 'Big 4 agenda'. In order to achieve the national development goals, quality and relevant education and training is vital to realize the citizen development prerequisites of a fast transforming and a more diverse economy. Conversely, major challenges emerge, in enhancing and ensuring quality, equity, access, and relevance in education and training (Ministry of Education Sessional Paper, 2019). More recent challenge in the sector is the Corona Virus pandemic outbreak globally in the year 2019/ 2020.

The COVID-19 virus has affected education sector globally, resulting to the near-complete closures of schools, colleges and universities. As of 26th April 2020, about 1.8 billion students were affected owing to institutional closures in reaction to the pandemic. As per UNESCO monitoring, one hundred and eighty nine states had effected nationwide cessations and five had effected local closures, affecting approximately ninth eight percent of the world's learner population. On 23rd March 2020, Cambridge International Examinations (CIE) gave a brief shelving of Cambridge O Level, Cambridge International AS & A Level, Cambridge IGCSE, Cambridge AICE Diploma, and Cambridge Pre-U exams for May/June 2020 series across all states. International Baccalaureate examinations were also suspended (UNESCO, 2020).

Institutional closures affect not only leaners, instructors, and household, but have extensive societal and economic consequences. Institutional cessations in reaction to coronavirus has brought forth numerous economic and social issues, including digital learning, learner debt,

homelessness and food insecurity, as well as access to childcare, health care, internet, housing, and disability services. The effect was more severe for underprivileged children and their households, leading to disrupted learning, nutritional challenges, childcare challenges, and resultant financial cost implication to households who could not work. In reaction to institutional closures, UNESCO and various governments suggested the utilization of distance learning programs and open educational applications and platforms that institutions and instructors can use to reach students distantly and limit the interruption of education. This undertaking was already marred with various challenges (UNESCO, 2020a).

The Corona Virus Ailment (COVID-19) is illness triggered by a novel strain of coronavirus which is a group of viruses that infect both animals and human beings. Human corona virus can trigger mild illness comparable to a common cold, whereas others trigger more severe illnesses such as Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS). Some types of common cold. Human coronaviruses are commonly spread through coughing droplets and close individuals' unprotected interaction with an infected person (touching, shaking hands). The signs and symptoms are typically respiratory symptoms and include cough, fever, shortness of breath, and other cold like symptoms. Learners in basic education are at high risk of being infected or infecting others since they are in close contact with other learners, teachers and parents. (World Health Organization, 2020).

The Corona Virus Disease was first detected in, China Wuhan in December 2019.China had reported 83,878 infected cases and 4636 deaths. As at 30th January 2020, World Health Organization (WHO) declared the Corona Virus outbreak a Public Health Emergency of Global Concern. The COVID-19 has since continued to spread across the world with immediate and long term social economic effects on national economies and their individual citizens. As at 28th April 2020 globally the pandemic had infected over 3.04 million people with over 211,305 deaths and with slightly over 895,261 confirmed recovered cases. United States of America was leading with over 988,469 infected cases, 56,253 death cases and 111,583 recoveries. Italy had 199,414 infected cases, 26,977 deaths and 66,624 recoveries. UK had 158,348 infections, 21,157 deaths and 809 recoveries. Spain reported 229,422 infected cases, 23,521 deaths and 120,832 recoveries. In Africa the first COVID19 cases were reported by the beginning of February 2020. As at 28th April 2020, Africa had reported 33,389 cases. South Africa had reported 4,793 infected cases, 90 deaths and 1,473 recoveries. Egypt had reported 4,782, infections, 337 deaths and 1,236 recoveries. Ghana had reported 1,550 infections, 11 deaths and 155 recoveries. Nigeria had reported 1,337 infections, 40 deaths and 255 recoveries. Tanzania reported 299 infections, 10 deaths

and 48 recoveries. Uganda had 79 infected cases, 0 deaths and 47 recoveries while Rwanda had 207 infections, 0 deaths and 93 recoveries (Nation Media Newsplex Team, April 29th, 2020).

The COVID19 has since continued to spread across the world with immediate and long term social economic effects on national economies and their individual citizens as already underscored. The pandemic has disrupted learning for more than 1.7 billion learners worldwide. As the global death toll from the pandemic continues to rise, large numbers of children will be orphaned and become vulnerable to exploitation and abuse. Businesses and schools' closures have resulted in many and diverse challenges such as physical and psychological health risks, widespread job and income losses, family confinement, isolation and economic vulnerability (Olingo, 2020).

Kenya confirmed its first case of COVID-19 on 13th March, 2020 and the cases have continued to steadily rise and spread across the country. As of 28th April, 2020, Kenya had reported 374 confirmed cases of COVID-19, with 124 recoveries and 14 deaths. Most of these cases were concentrated in the counties of Nairobi, Mombasa and Kilifi, Kwale and Mandela with other cases spread across all counties. To curb the spread of the disease in learning institutions, the government of the Republic of Kenya abruptly closed all schools and higher institutions between 16th and 20th March, 2020. Additionally, the ministry of health has set policy priority that aims to reduce the burden of communicable disease including the out break of COVID-19 (Nation Media Newsplex Team, April 29th,2020).

In matters of education, the Kenyan government has developed a three-pronged approach to aid the continuation of learning remotely, adhering to the international and national guidance for social distancing, quarantine and self-isolation. The Education Ministry has developed online content that some school going children are accessing through various channels to ensure uninterrupted learning for learners in the country while they are at home. However this is riddled with a lot of challenges (MoE, 2020).

The lockdown and prolonged institutional closures have long-term ramifications, particularly for the marginalized and most vulnerable children who already experience barriers accessing education, or who are at higher risk of being excluded for a number of reasons. These include learners with disabilities, those in urban slums, informal settlements; remote locations, asylum seekers and refugees, and those whose families have lost have lost livelihoods as a result of job cuts or businesses closures and casual jobs among other difficult situations. Regardless of these prevailing circumstances, the Kenyan

constitution provides for the right of every person to achieve the highest attainable standard of education, training and research (RoK, 2010). This theoretical paper review therefore endeavors to provide interventions to mitigate negative effects of the COVID-19 pandemic on delivery of quality basic education in Kenya. The focus of these interventions is the marginalized and poor learners in the Kenyan school system. These include children living in the remote and hardship places in Kenya, the girl child, Orphans and Vulnerable Children (OVCs), learners with extraordinary educational necessities and disabilities, learners from poor urban informal settlements, children in refugee camps among others.

1.2 Study Objectives

The study is objectively purposed to:

i. To establish COVID-19 Leaner Educational Challenges in Kenya
ii. To mitigate COVID-19 Leaner Educational Challenges in Kenya

1.3 Statement of the problem

The education sector is seriously affected as millions of learners stay at home for unspecified period of time following the closure of learning institutions in Kenya. The disruptions touch citizens across countries, but their effect is mainly severe for underprivileged girls and boys and their households especially in hard to reach areas, urban informal settlements, pockets of poverty in rural areas, IDPs and refugees hence there is need to underpin these challenges and mitigate them for delivery of inclusive, equitable, quality and relevant education, training and research that promotes lifelong learning opportunities for all..

1.4 Significance of the study

Significantly this theoretical study will guide Education Sector and stakeholders in the overall readiness and response measures for the infectious diseases such as COVID-19 and others to enable learning to continue and education system to transit smoothly post the COVID-19 pandemic and related unforeseen infirmities.

2. Methodology

This being a theoretical review it relied on review of secondary data material to discuss the challenges and mitigations for COVID-19 in the education sector.

3. Theoretical and philosophical thought for the study

This theoretical study is grounded on the Classical Liberal Theory of Equal Opportunities advocated by Sherman and Wood cited by Njeru & Orodho,(2003) who advances the perspective of the need for equal opportunities in education for every learner. The classical Liberal Theory of Equal Opportunities affirms that every learner is born having some amount of ability which to some bigger margin is congenital and cannot be substantively altered. Therefore, education systems and structures ought to be structured in a manner that removes challenges of any form (social, economic, political, geographic, gender etc.) that prevent ingenious learners from lesser economic upbringings from taking full gain of innate talents, which fast-track them to social promotion. The Classical Liberal Theory insinuates that social mobility would be stimulated by equal opportunity of educational structures. According to this theory, education systems and structures ought to be planned with a view to eliminating obstacles or challenges of any form for instance, challenges based on socio-cultural, socio-economic and ecological factors, and institution-based dynamics which inhibit students from gaining from their innate talents. The education delivered to marginalized and vulnerable students would accelerate them to social promotion as education is a great equalizer.

The outbreak of pandemics like COVID-19 and related infectious ailments, which send schools to unexpected prolonged closures, pause a lot of challenges to marginalized and vulnerable learners. While the parents for learners from well to do backgrounds afford good meals, decent accommodation, best medication and robust digital gadgets to continue learning from the comforts of their homesteads, the contrast for the disadvantaged learners is true. Hence, for access and equity concern, it virtually becomes incredible to disregard the premise that uneven involvement in education will finally complicate the status of the underprivileged and the susceptible learners (Njeru & Orodho, 2003). The classical liberal theory was established to be appropriate for this study as COVID-19 pandemic challenges affected more the poor, marginalized and vulnerable parents and guardians consequently the effect trickled down to their children who cannot afford to provide the basic necessities both at home and school. The situation was worsened by the digital divide; as the fortunate learners were being taught through radio, TV, Yutube, among other digital gadgets, the less fortunate were busy laboring to put a meal on the table hence not having equal opportunity to education.

This theoretical study was further steered by theory of justice and fairness as advanced by Rawls John (1971)

who is for the values of justice to govern modern social order. The theory gives a structure that explicates the importance, in a society presumed to comprise of equal and free persons of political and individual liberty of equal opportunity and cooperative organization that profit the privileged and less privileged members of the society. It advances the notion of justice from the perception that individuals are equal and free thus, educational structures ought to be planned so as to eliminate peripheral obstacles of any form (social, cultural, economic, political or, ecological) that inhibit ingenious learners from less privileged upbringings from maximizing innate talents which triggers them to social promotion.

The theory of justice and fairness stresses that all social key goods (income and wealth, liberty and opportunity and the bases of self-respect) are to be shared equally so that everybody in society would equally have ability to realize their interests. Any uneven sharing of any or all of these goods will be to the detriment of the underprivileged. Economic and Social inequities are to be organized so that they are, to the larger magnitude, profit the less privileged and also be issued to offices and locations accessible to all under rules of fair equality of opportunity. Theory of justice and fairness stresses that every citizen should be accorded, through education, a chance to exercise freedom and advance their social rank. By availing education to students from every social stratum, it is believed that one eliminates the barriers that are congenital by the virtue of being born in less unfortunate background, marginalized or vulnerable (MoE, 2018). This theory supports the view that learners should have equal chance at all levels of education disregarding their socio-economic background. This will ensure that ideal conditions are created to implement the vision of equal opportunity, where every learner has admittance to the education being offered. The theory of justice and fairness was established to be appropriate for this study given that unequal provision of out of school education through the digital platform discriminates upon the poor families in their quest for basic education as they cannot afford to purchase the digital infrastructure to equally learn from home just as their counterparts of means hence not giving them equal opportunity and this perpetuates inequalities.

4. Kenya's Emergency Education Policy

In July 2018, Ministry of Education (MoE) launched its Disaster Management policy whose objective was to establish an inclusive institutional framework for disaster management in educational institutions in Kenya. The Policy launch came at a time when the education sector was challenged by the effects of heavy rains as well as the wave of fires that had ruined institutional infrastructure in

several parts of the country (Education Sector Disaster Management Policy, 2018).

The policy was purposed to steer efforts in mitigating these risks in order to promote the safety of educators and learners in the Kenyan learning institutions. The interventions delineated in the policy encompass strengthening and development of capacities at all levels of personnel and leaners on disaster management in the education sector. The policy provides a framework to guide coordination, collaboration and management of emergencies in the education sector.

The 2018 MoE Disaster Management Policy further reinforces other policies and guidelines such as The Education Sector Policy for Education for Sustainable Development, The Education Sector Policy on Peace Education (2014) and the Health and Safety Standard Guidelines for institutions, which are presently being executed in educational institutions.

All these policies are limited in scope as they address immediate concerns in specific time frame and context. These concerns include fires in schools, floods, peace and routine common safety guidelines. Global pandemics disrupting the regular school routines and learning from home through digital platforms during such pandemics are not envisaged exhaustively in these policies hence need to re-evaluate them to incorporate more emerging issues and approaches of global concern.

5. COVID-19 Leaner Educational Challenges in Kenya

5.1 Widened Physical contact between the Teacher and the Learner

One of the chief impact of COVID-19 to learners is absence of physical contact with teachers for content delivery. This has been occasioned by Ministry of Health's (MoH) regulations of social distancing to avoid fast spread of the virus. This has been momentarily substituted with digital learning. However inaccessibility of technology or quick, dependable internet access has barred learners in rural regions and those from underprivileged families. Paucity of access to technology or sound internet connectivity is a hurdle to continuous learning, particularly for learners from underprivileged families. In reaction to institutional closures instigated by COVID-19, UNESCO recommended the utilization of distance learning platforms and open education applications and any other platforms that institutions and instructors can utilize to get in touch with students distantly and minimize the interruption of learning (UNESCO, 2020a)

5.2 Cessation of Public Library Services

To support efforts by MoH in reducing the spread of COVID-19, many of the libraries were momentarily closed. In the United States, frequent main states publicized public library cessations, such as San Francisco, Los Angeles, New York and Seattle, affecting two hundred and twenty one libraries. In Kenya library services were put on halt as from March 15th, 2020 when President Uhuru Kenyatta ordered for the closure of all schools and other public converging places in the country after Kenya reported its first COVID-19 case. For learners minus library and other educational learning resource centers and internet at home, this escalates the struggle of coping up with distance learning (Hauck, 2020).

5.3 Economic shocks spillover to Underprivileged Leaners' Families

Performance of global economy and Kenya in the year 2020, will largely be determined by how long economic activities are going to be interrupted by the Coronavirus pandemic. Most of the economic activities have been slowed down by precincts resulting from cessation and containment of sections of the population, the nationwide curfew and stoppage of international passenger travel. The first case of COVID-19 in Kenya was confirmed in March 2020 and since then a number of protective and precautionary measures have increasingly been executed to counter the impact of the virus on the population. For a short while, the government of Kenya's fiscal policies in the national budget are likely to focus on re-location of expenditure to initiatives purposed for control and ultimate purging of the virus in the country. Generally, factors against accelerated growth are likely to overshadow pro-growth aspects by big margin in 2020 hence affecting the less fortunate more (Kenya's Economic Survey, 2020).

As noted the 2020 decelerated economic growth is highly pronounced to the poor, vulnerable and marginalized households who rely on informal employment and businesses. Their ability to finance school related expenditure such as school kits, meals, learning materials has been severely compromised. With the Government adopting remote teaching to support distance learning and online education delivered through radio, television and internet, leaners from poor, vulnerable and marginalized households have no financial muscle to access these mediums of learning availed further worsening inequality in access, relevancy and quality of education (MoE,2020). Loss of jobs and income for some non-teaching staff; BOM teachers and those from private institutions as a result of the pandemic will result into increased economic dependence ratio and upsurge in the vulnerable groups.

5.4 Schools as Social Protection Hubs

Schools play a significant part in the protection of leaners, especially girls in poor, vulnerable and marginalized communities. With over 32, 000 schools closed over 18 million pre-primaries; primary and secondary school learners and over 150,000 refugees are now confined at what they may call 'home'. The risks which the schools they reside in protect them from, are now staring at them bluntly. These learners require home based learning in the so called 'homes' which is hardly available. Similarly, their teachers are at home and require support to help them to remotely learn and ensure continuity of learning process which is impossible (MoE, 2020).

5.5 Unequal Access to Digital Educational Resources and Materials (Digital Gap)

It is an obvious known fact that unequal access to educational resource by learners pauses a serious challenge to vulnerable groups. Ministry of Education Sector Disaster Management Policy drafted in 2017 and launched in 2018 asserts that, diverse types of disasters hit the country from time to time. Consequently, need for Education Emergency interventions to be designed to respond to the diverse and unique needs of the affected communities where learners reside. Unfortunately this has not been realized (MoE Disaster Management Policy, 2018). Further the Kenyan Ministry of Education through its Sessional Paper of 2018 on Reforming Education and Training for Sustainable Development acknowledges that the unequal access to educational resources especially digital by the marginalized learners is critical. To this end, MoE proposed the following policy guidelines for adoption which have not been realized to address education digital challenges for the marginalized and vulnerable groups of learners:
(i) Utilization of ICTs to upsurge access to quality education for the vulnerable and marginalized and learners.
(ii) Allotment of funds for the delivery of appropriate ICT infrastructure to address equity, access and quality challenges in education for the vulnerable and marginalized leaners.
(iii) Utilization of ICTs to stimulate alternate modes of delivery (satellite, computers, radio, television and mobile phones) to reach the vulnerable and marginalized learners.
(iv) Upsurge affordability of ICT infrastructure through discussions with the providers for cheap rates for education institutions

However good and robust policies can be without implementation, they only gutter dust in the shelves. As schools closed abruptly in March 2020, MoE turned to remote learning. In Sub-Saharan Africa 89% of leaners do not have access to home computers and 82% do not have internet. Around 56 million learners live in places not

served by mobile networks as per UNESCO Report (Abidjan, 2020). A survey in Kenya by Nation Team immediately after closure of schools revealed that only a small percentage of the 17 million Kenyan leaners mostly in urban centers are able to access digital gadgets while their counterparts in rural areas are unable to study digitally. The situation is worse for special learners who are not catered at all. A survey by ICT Authority revealed that MoE has not installed CBC content into digital devices 3 years since its inception. The laptop project of over Kshs 30 million which was meant to provide laptops to class one in 2014 has not been a success story yet (Ouma, 2020).

5.6 Upsurge of Ant-social Behaviors by Learners

Prolonged school closures resulted to stress on parents and guardians on provision of childcare and management of distance learning while leaners are out of their institutions of learning. In the absence of substitute options, employed parents frequently leave learners on their own when institutions close and this can result to hazardous behaviors, such as amplified substance abuse and influence of peer pressure. It has been proved that protracted closures of schools compounded with restricted movements with acute challenges around space among poor households have exacerbated cases of exposure to pornographic materials, drug and substance abuse, increased rape, Gender Based Violence (GBV) including defilement of children (UNESCO, 2020b)

5.7 Learners' Nutritional Challenges

Challenges in regards to nutrition and food insecurity are bound to be dire. Diet plays a significant part in cognitive growth and academic performance for learners. Several leaners globally depend on discounted or free meals at schools. When institutions close, diet is especially compromised for children in schools where food is provided. In the United States, institutions lunch programs are the second-largest anti-hunger undertakings after diet stamps. Each year, approximately thirty million students depend on institutions to supply low-cost or free meals as in breakfast, lunch and dinner. In Washington, about 45 percent of the states' 1.1 million learners registered in public and charter institutions are legible for subsidized institutional meals. About 520,000 schoolchildren and their households may be affected by food uncertainty as a consequence of school cessations (McCary, September 2006). In Alabama, where state-wide institutional closures as of 18th March, 2020 affected approximately 720,000 learners, the state Superintendent declared that staff in institutions excessively affected by poverty would create food sharing networks to deliver food for schoolchildren who depend on school meals (Powell, 2020)

Similarly, in Kenya, schools play a significant part in social protection and in particular the provision of basic needs for children from poor, vulnerable and marginalized communities. Many children in ASALs, urban slums and pockets of poverty in Kenya rely on school meals and sanitary towels provided by government and partners. With the closure of schools, children who rely on them for these basic needs may experience hunger and suffer detrimental nutritional effects (MoE, 2020).

5.8 Anxiety for National Exams and other forms of Summative Evaluation

The interruption of learning processes will further increase anxiety and uncertainty regarding the National Examinations, increased psychological trauma among learners, teachers and parents; inequity in the ongoing online programs as majority of learners do not have access to digital platforms due to lack of devices and internet connectivity at home; different levels of parental knowledge and attitude given that parents are supposed to support children in learning. Confirming parents' and stakeholders' anxiety over exams Education Cabinet Secretary for Education Prof. Maghoha while addressing media briefs organized by Ministry of Health on 26th April,2020, he indicated that Kenyan schools will remain closed for the next one month, following a directive by the government in measures purposed to prevent the spread of coronavirus. The CS, however, reported that the national examinations for primary and secondary schools remain on schedule. He pronounced this while not categorical on the opening of schools which he said depended on interventions of the government on the control of the virus. Several Kenyan students pursuing internal curricular in various institutions were left in limbo after cancellation of exams scheduled for May and June 2020 due to COVID-19 (Kariuki, 2020).

5.9 Negative Effects on Learners' Learning Outcomes

Learners' learning outcomes are likely to be affected. Unplanned Institutional closures negatively affect learners' learning outcomes (UNESCO, 2020a). Being in School provides vital learning and when institutions abruptly close, learners and youths are dispossessed chances for growth and development. The drawbacks are disproportionate for economically poor learners who tend to have less educational chances outside school (UNESCO, 2020b).When institutions close, parents are frequently asked to enable the learning of their leaners at home and often struggle to accomplish this duty. This is particularly true for parents with limited resources and knowledge.

5.10 Upsurge on Leaner Drop-out Rates

Learner drop-out rates tend to upsurge as an effect of institutional abrupt closures and no effort is made to ascertain that all learners return to school once school cessations ends. This is particularly true of prolonged closures (UNESCO, 2020b). Underprivileged, at-risk, or homeless learners are more often likely not to report to school after the closures are ended, and the impact will often be a life-long disadvantage from lost opportunities (Baker, 2020). Institutions are also hubs of social activities and human interactions. When institutions are closed and for that purpose for a long time, several learners and youths lose out on social interaction that is crucial to learning and development. Additionally, prolonged closure of schools could lead to child labor; school drop outs; child pregnancies and early marriages all which may lead to low transition rates of learners in education sector consequently undermining the already laid down novel strategies in the Kenyan Education sector to propel more access as evident in 100% transition policy.

5.11 Discrimination and Stigmatization of Learners Infected by the Virus

There will likely to be discrimination and stigmatization of learners who would be affected and or infected. Kenya has been identified as a high risk country of the introduction of COVID- 19, the risk factors of high number of foreign learners in institutions of learning, high enrolment rates in schools, refugees in Kakuma and Daadab and other social cultural practices. With measures to prevent the spread of COVID-19 hugely reliant on information campaigns, hand washing and social distancing, messaging targeted for consumption by children is scarce if not downright non-existent. Social distancing in learning institutions may be challenging due to congestion.

5.12 Religious Effect

The COVID-19 pandemic has affected religion in several ways globally this includes the suspension of the worship services of several faiths as well as the cancellation of pilgrimages characterizing observations and festivals. Various churches, mosques, synagogues and temples have always supplemented schools, parents and guardians efforts in imparting moral values to children. Reprieve wings of religious organizations have always donated medical supplies and other assistance to affected regions where several children are affected. (Burke and Daniel, 2020).

5.13 Co-curricular Activities Effect

Co-curricular activities scheduled for first term in the Kenyan schools calendar like drama, athletics and ball games were interrupted mid-way and stopped as schools were closed abruptly and indefinitely. Play is crucial in as far as learning is concerned. Gergen (2012) submits that it is only by means of play that the intellect of humanity is uncovered. By means of play learners are able to explore, create experiment, adapt, learn, communicate, socialize, and learn problem solving techniques. Further play permits learners to build and have extension of their skills and knowledge in the process of interaction with others, environment, and own on their own.

6. Proposed mitigations

This theoretical study outlines hypothetical interventions that will enhance prevention and response to educational needs during and after the COVID-19 crisis in line with the overall government health priorities. This section provides mitigation and learners' return to school interventions aimed at ensuring continuity of learning during the COVID-19 crisis. Some mitigations maybe short term (immediate), medium term (six months to two years) or long term (five to ten years).

6.1 Grant of learners and educators open access to digital education resources

As already underscored, absence of restrictions and exemptions to copyright could also have effect on the capability of leaners to access the materials and textbooks they require to study. Some measures have been taken by some countries to grant that learners and educators can have accessibility to open education resources, or comprehend copyright restrictions. The International Council for Open and Distance Education issued a special website to offer, tips for online instruction, webinars and resources for educators (*ICDE*, 2020).

In New Zealand, a group of publishers agreed to allow for virtual public readings of their materials from libraries and classrooms (*LIANZA, 2020).* A similar agreement took place in Australia, where the Australian Publishers Association, the Australian Library and Information Association and the Australian Society of Authors agreed on a set of exceptional measures to allow libraries to provide educational content (Books Create Australia, 2020).

An advocacy organization in Netherlands launched a website to allow teachers use free-licensed music and video for their classes. The Maricopa Millions OER Project launched a special emergency fund for building open educational resources. In Senegal Futur Media owned by the singer Youssou Ndour during the pandemic gives lessons three times a day to all classes including Vocational education. In neighbouring Burkina Faso, Burkinainfo private Television broadcasts four times a day for students preparing for the qualifying exams. Across Africa some private and public colleges and universities are exploring distance learning via internet amidst several pitfalls notably network challenges (Abidjan, 2020).

6.2 Guidance on Copyright issues when delivering Online Teaching and Learning

Several organizations are also working to explain to teachers how to navigate copyright complex scenarios. The National Copyright Unit of Australia, a specialist copyright team in charge of copyright policy and administration for Australian schools and TAFE, issued a set of recommendations to follow on copyright issues while doing remote learning and a set of recommendations for using openly licensed content, specially aimed to parents supporting students. Centrum Cyfrowe in Poland is holding open calls to support the work of teachers and educators leading in the open education sector. The Program on Information Justice and Intellectual Property at the American University is holding a set of webinars for different educators to guide them through copyright issues when delivering online teaching. *(www.smartcopying.edu.au. 2020)*

6.3 Initiate Online and E-learning Infrastructure for all Leaners and Geographical Areas

Information Communication Technology (ICT) is critical in transforming education and addressing important challenges of quality, relevance access and equity encountered by the education sector. However this requires sufficient capacity to incorporate ICT in education, training and research. The Kenyan government has made some efforts though not fully done in integrating ICT in all sectors. Education, training and research have leveraged on the government initiative for future prospects in efficient and effective delivery of curriculum, improved governance and management, as well as delivery of quality relevant skills and services. Despite the little gains made in ICT integration in education, training and research, there are inadequacies in internet connectivity, capacity among educators, digital content, as well as ICT standards and guidelines for use in content delivery. Furthermore, unreliable power supply, attitude, and rapid change in technology are other constraints (MoE Sessional Paper, 2019)

As a short term measure for the ongoing COVID-19 crisis, the Kenyan government through the Ministry of Education should synergize the already initiated online and e-learning programs to all leaners and geographical areas to facilitate learning during the period that learners are at home by enhancing curriculum delivery through different media platforms like Radio, Television, Kenya Education Cloud, You-Tube, Zoom, among others. These platforms have proved to be alternative panaceas in the absence of actual classroom learning. They provide learners with out-of-classroom learning experiences if aligned to the school calendar. This will lead to increased hours of broadcast, continuous production of programs and also continuous circulation of content so as to provide access to quality content across the levels of basic education. The Kenya Education Cloud hosts; interactive digital content, radio lessons on demand, textbooks for all levels to serve learners and teachers, and also online courses for teachers on curriculum implementation and use integration of ICT in learning (MoE Sessional Paper,2019)

6.4 Strive towards long-term achievable ICT integration strategies

As part of long term measures the MoE needs to enhance Information Communication Technology (ICT) incorporation in education, training and research, through adopting policy initiatives like strengthening ICT incorporation in education, training and research. To execute this policy, the Kenyan government through MoE will need to execute the following strategies:
   a. Expand ICT infrastructure in education, training and research to all counties
   b. Strengthen public-private partnership in ICT
   c. Strengthen innovation centers of excellence to nurture ICT based innovations
   d. Promote linkages on use of ICT between education, training and research, and Ministries Departments and Agencies(MDAs)

e. Develop the capability of managers, instructors, lecturers, teachers trainers and instructors to incorporate ICT in education, training and research

f. Augment availability and utilization of digital learning materials and open educational resource centers at all levels of education, training and research

g. Strengthen ICT-based curriculum delivery and assessment approaches at all levels of education, training and research

h. Promote integration of ICT in the education and training for students with special needs and incapacities

i. Augment policy, regulatory and institutional frameworks to support ICT incorporation in education, training and research

j. Enhance e-waste management in education, training and research

k. Enhance security, safety and ethical use of ICT.

6.5 Improvement on Water and Sanitation Infrastructure

The MoE in conjunction with MoH should improve water and sanitation infrastructure, disseminate knowledge on health and hygienic practices in learning institutions to avert the possibility of infections arising from infectious diseases like COVID-19 and such like infirmities. Efforts should be made to debunk the myths on serious pandemics like COVID-19 and rely on scientific information provided by the MoH and World Health Organization. Such interventions will include: Fumigation of institutions that were used as quarantine and isolation centers, Provision of hand washing facilities and sanitizers; provision of masks; introduction of School-based health programs and enforcement of social distancing in schools. Establishing learner friendly messages for healthcare providers to provide information on perceptions and counter misinformation in messages that can easily be understood by learners through development of pamphlets, posters and fliers will be of great help. Food hygiene and preparation is also key in curbing the spread of pandemics like COVID-19 and related ailments to that effect efforts should be made to train school cooks on hygiene, sanitation and safe food preparation. Education stakeholders need to champion for designing and implementation of comprehensive school health policies that will guide sanitation and hygiene practices during crises of new pandemics. Such policies will guide and

inform the training of administrators, teachers, workers and students on pandemic emergency responses and measures before they occur (MoE, 2020).

6.6 Engaging Health Education on Contagious Ailments for School Learners

Relevant researches show that execution of health education for school learners is favorable for learners to willfully embrace healthy behaviors and lifestyle, eradicating or mitigating risk elements that affect spread of transmittable ailments, curbing communicable diseases, and promoting health and improving value of life. Thus there is empirical evidence in the importance of conducting health education on contagious ailments among primary, secondary, and university students to further advance their knowledge on prevention of transmittable ailments and their general health quality (Juniarti & MNurs, 2008).

6.7 Mechanism for Quality Assurance of Online Content

Mechanism for Quality Assurance of online content developed by various Semi-Autonomous Government Agencies (SAGAs) and other educational stakeholders is essential to check on quality, access and relevancy. MoE through the directorate of Quality Assurance in the ministry should intensify vetting digital programs to assure parents and learners the quality, relevancy and worthiness of programs on TV, radio and online through development of online monitoring tools to parents, guardians, teachers, Head teachers and Principals. Further they should endeavor to develop guidelines to parents, guardians, teachers and Head teachers on learning guidance through radio, TV and online content.

6.8 Development of ICT Platforms for Communication and Feedback

There is need for MoE in conjunction with ICT experts to develop and build expansive robust ICT infrastructure for communication between parents, teachers, Head teachers and QASOs such as bulk SMS, emails and WhatsApp. Further it is critical to develop ICT platform for teachers' online feedback to learners such Zoom, Webinar among other mediums which may be used for teaching while at home.

6.9 Capacity Building on Digital Tools Utilization

Provision of assistance to educators and parents on the utilization of digital tools is key: MoE should plan for brief training or orientation workshops for educators and parents as well, if monitoring and facilitation are required. Help educators to organize the basic settings for instance solutions to the use of internet data if they are needed to offer live streaming of lessons.

6.10 Carrying out Survey on Access and Preparedness of Leaners for Digital Programs

There is need for MoE to carry out a survey and access the preparedness and select the most appropriate tools for digital learning: MoE through the survey can resolve on the utilization of high-technology and low-technology solutions based on the reliability of internet connectivity, power supplies, and digital skills of instructors and learners. This might range from combined digital learning platforms, MOOCs, to broadcasting through radios and TVs video lessons.

6.11 Development of Online System for Academic Certificates Authentication and Issuance

Development of online system for academic certificates by linking examination bodies to ministry for online authentication is key in addition to advancing online evaluation of learners' progress to even contemplating of graduating students virtually if possible by amending the existing policy and statutes. This is significant especially when minimizing physical contact and reducing distance between the teacher and the learner for various reasons among them being infectious disease like COVID-19.

6.12 Scaling up Assistance for Vulnerable and Marginalized Learners

Given the economic backlash caused by COVID-19 globally and more specific to the marginalized and vulnerable members of society and their learners, there is need for MoE to liaise with the Department of social protection to provide additional assistance to beneficiaries of Cash Transfer for Orphans and Vulnerable learners and scale up of the transfers to beneficiaries not already being

covered for sustainability to ensure their continuing stay in school to a void a possibility of dropping out of schools for lack of funds and support. There is need for the government to prepare for post- coronavirus crisis education budgets to cushion the affected learners to recover from the unexpected virus economic shocks.

6.13 Conducting Mentorship and Psychosocial Counseling Services

Ministry of Education to conduct mentorship and psychosocial counseling service programs for survivals of COVID-19 like learners, Teachers, its officials, and Gender Based Violence (GBV) victims during the protracted schools closure period, teen pregnancies victims, drug abusers and pornographic addicts among other psychologically and socially affected members of the school community. MoE should develop content on COVID-19 psychological support awareness and safety measures to disseminate to institutions for use. Strengthening of guidance and counseling departments and programmes in schools through building the capacity of instructors and instructors in life skills, guiding and counseling to efficiently respond to variations in social behavior will be significant too. Further MoE ought to enhance collaboration with Department of Children Services to promote safety and protection of children to increase awareness of reporting protocols for incidences of child abuse and neglect.

6.14 Creation of Scholarly Communities of Practice

MoE should encourage institutions to create scholarly communities of practice and enhance connection for the purpose of sharing experiences from successful cases and stories: Communities of practice for teachers, parents, and school managers will enable sharing of experiences and conversations on coping tactics when confronted with learning challenges especially in the digital platform (UNESCO, 2020b).

6.15 Identification of Learning Gaps for Remedial Interventions through Assessments

The abrupt closure of institutions even with digital mitigation measures put in place by MoE to fill the gap, there is a possibility that learning resulted in minimal learning outcomes. The underprivileged are likely to fall further behind by their more affluent peers. As schools reopen, large-scale assessment should be conducted to identify learning gaps and inform remedial programming and learning opportunities so that all leaners catch up to lost levels swiftly.

6.16 Adoption of Multi Sectorial Coordination Approach for Robust Mitigations

Finally, there is need for MoE to adopt a Multi Sectorial Coordination approach to facilitate inter sectorial coordination and synergy among the actors in education sector for COVID-19 emergency response interventions to ensure that every challenge emanating from the pandemic is mitigated for accordingly. MoE Semi-Autonomous Government Agencies like The Kenya National Examination Council, Kenya Institute of Curriculum Development, Kenya Institute of Special Education, Teachers Service Commission, Longhorn, Kenya Literature Bureau, Jomo Kenyatta Foundation, among others, should collaborate their efforts to boost MoE efforts towards mitigating the impact of COVID-19 in the sector.

7. Conclusion

Conclusively, it is imperative to be ahead of the game purposely to envisage seamless learning in critical situations as evidenced by infectious diseases, like COVID19 and others, to emanate in future to ensure that learners do not lose out on essential learning times that could have an impact on their developmental milestones. Therefore, continuing education, through alternate learning pathways, as soon as possible, must be a top priority for MoE to ensure that the disruption to education sector is as limited as possible. Measures to mitigate any emerging challenges from the laid down strategies are also critical to ensure that MoE is able to provide access to quality, equitable and inclusive education to learners during and after the crisis to ensure continued learning and to keep pace with 100 percent policy.

8. Recommendations

MoE to conduct a study on Post COVID -19 risk factors at the national level for the purpose of building resilience and strengthen education systems and institutions against future shocks. This will be possible through conducting sample assessments at different grade levels to track progress for digital learning in all institutional levels. This is essential to know who was reached and how well learners were learning so that future interventions can be adapted accordingly.

The government through MoE to conduct a comprehensive rapid needs assessment followed by a robust monitoring system to ensure that interventions during Post COVID-19 crisis go to the most deserving cases.

MoE to conduct schools tracking to confirm attendance of learners after the pandemic this will be possible through strengthening Education Management Information Systems in institutions and Ministry of Education that is EMIS and NEMIS

MoE to enhance the already existing Risk Management and Safeguards policies to guide mitigations for COVID-19 pandemic and other related emergencies.

Government to ensure provision of sufficient infrastructure at the Ministry headquarters, all counties and learning institutions to aid digital learning in scenarios like COVID-19.

The Government through MoE should strive early enough to develop and implement intervention programmes for the most vulnerable learners especially the special needs, marginalized and the poor in emergency situations.

The Government through MoE should provide psychosocial support to learners, teachers, education officials and other stakeholders and also provide information to prevent transmission and spread of COVID-19 in the mediums and strategies that can be learner centered.

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