

## Innovative Approaches for Promoting Resilience, Inclusion and Access to Education Amidst Covid-19 Pandemic in Kenya

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### Abstract

Education has the potency to not only initiate but sustain change for development of an individual and the society at large. As such, education needs to be accessible and inclusive to all members of society regardless of their social and economic status. Education that is accessible to all, has the potency to usher in unending returns and benefit to individuals and society at large. Kenya has recently commenced implementation of competence-based education curriculum which is geared towards empowering her citizens with innovative skills and competencies for development of self and society. Nevertheless the outbreak of COVID-19 pandemic, education in Kenya has been in an awkward and precarious situation in terms of access and inclusion by all learners in the country. Numerous initiatives have been adopted by governments to mitigate the spread of the pandemic as an immediate solution to the pandemic. This paper explores various innovative approaches that educational institutions, communities and the government can institute in order to increase access and promote inclusion of all members from different societal backgrounds and essentially build resilience and promote retention and completion amidst pandemics which have become more of a norm than exception. The proposed approaches will revolve around individuals, communities and society to identify and customise good practices that can be able to sustain resilient against COVID-19 and other related pandemics.

**Key words:** *access, education, inclusion, innovation, pandemics, resilience.*

### INTRODUCTION

#### Background to the study

Education is a major human right and the foundation for every society. In 1948, discrimination in education was solved by recognising education as a basic human right (UNESCO 1960). UNESCO GEM Report II, 2020 states what governments must do to enhance equality of treatment in education. According to GEM report, 2020, 17% equivalent to 258 million of children globally have not had the opportunity to access education despite the fact that education has the potential to transform lives. Education is both a fundamental human right in that it aids in realisation of other human rights. Education is seen to be primary driver on aspects of progress across all seventeen Sustainable Development Goal and a global common good (UN Policy Brief, 2020). To date, education has continued to be seen as an important instrument in driving progress towards sustainable development (commonwealth-educationhub.net). The Sustainable Development Goal 4 adopted as one of the 17 SDGs addresses education in as far as inclusive and equitable quality education is concerned as well as promotion of lifelong opportunities for all. In this regard, member states are obliged to develop mechanisms that will enhance access to quality education to all, irrespective of position, gender, race, colour, physical and economic abilities in times of normalcy as well as in adverse conditions.

As a result of the COVID-19 pandemic the largest disruption of education in history has been witnessed. The disease has affected education systems and has become a real challenge to

children, parents, sponsors as well as government. 94% of learners worldwide were affected by the pandemic by mid-April 2020, representing almost 1.58 billion children and youth, from pre-primary to higher education, in about 200 countries (UN Policy Brief, 2020). This resulted in a near universal impact on learners and teachers around the world, from learning establishments.

In Kenya, the extended school closure due to COVID 19 has significantly affected the education system. The pandemic has deeply aggravated school system and social inequalities in the country (Njenga, 2020). To contain its spread, the Kenyan government closed all learning institutions countrywide on March 15<sup>th</sup> 2020. Data from Ministry of Education (MoE), Kenya, shows that the pandemic affected both the basic and tertiary institutions resulting in the closure of about 30,000 primary and secondary schools being closed indefinitely to mitigate the impact of COVID-19. This closure of schools was unexpected and affected about 18 million learners and over 310,000 teachers countrywide threatening the education gains made in the last few years and the implementation of a new the new education system and the Competency Based Curriculum (CBC). Major effort to counter the effects the school closings have had to be put in place to mitigate the effects of this closure such as to learning loss, increased dropouts, and higher inequality (MOE, 2020). Even before COVID 19 crisis, learners especially those from low-income families, children with disabilities, children in marginalized communities, children from refugee camps and internally displaced places and children in conflict areas had lower education and social outcomes as compared to their peers and were already facing barriers to participating in education and learning (UNICEF, Europe & Central Asia 2020).

It is clear that the right to safe, quality, inclusive and equitable education has to continue even during the times of emergency. The results of long and prolonged school closure will be felt in future as many of the children and youth may be unable to attend school and more likely never to return, especially girls and those from low-income households. 1.6 million learners depend on Government supported school meals program. Girls in public upper primary schools benefit from the government by accessing sanitary towels through the Government's sanitary towels programme. Such learners may be affected by the school closures due to COVID 19 (MOE,2020). To Mitigate lasting repercussions to learners, families and the society in both social and economic terms, the government and communities need to rise to this situation. The government should address drivers of social exclusion such as low income, ill health, social capital housing unemployment, and local networks.

This paper presents some innovative approaches that may be used to initiate, promote and sustain resilience in education at individual and community sphere in the wake of COVID-19 pandemic and other pandemics that continue to bedevil education and society. Africa and indeed, Kenya has had its fair share of the COVID-19 pandemic where schools have remained closed, curriculum left uncompleted and time lost to graduate students from one level to another and young boys and girls dropping out of school to help parents look for food while young girls are married off early due to economic hardships brought about by COVID-19 pandemic among other pandemics. Due to limited resources, many countries in Africa have low testing rates which undermine continental efforts in the war against the pandemic (Soy, 2020). This suggests that innovative and inclusive approaches in matters education need to be seriously rethought to help anticipate pandemics, take appropriate actions to mitigate the pandemic to reduce its severity,

develop systems to manage the pandemic and ensure that there are adequate activities or programmes to retain the condition to a level that is acceptable to community.

Education is a value laden enterprise that has the potency to not only provide sustainable solutions but also resilience against the challenges posed by unending pandemics human history. Globally, prosperity, modernity, civilization and peace in every nation is anchored on the quality of content in innovative knowledge, values and skills contained in her education. Education content has the potency to change mindsets and negative attitudes that stand in the way to achieve development in embracing innovative ideas that can enable individuals and communities to promote healthy living and enable longevity of life. Education can enable individuals and communities to explore and adapt innovative traits within their means to promote resilience against COVID-19. Education has the transformative content that can initiate and sustain a paradigm shift to empower individual, communities and societies to bounce back when faced by catastrophes and calamities. Education promotes training and research that midwifes innovative knowledge, values and skills that are potent tools for humanity to fight diseases and pestilences to safeguard gains made from development and modernity. Education that is loaded with accurate scientific content on COVID-19 has the potency to outdo false information, fallacies and conspiracy theories that have led to increase resistance and hesitancy to vaccines against COVID-19 (Geopoll, 2021). Human beings by nature are creatures who enjoy the benefits of education for survival in the face of pandemics. Indeed, from the cradle of humanity, every pandemic that accosted humanity has been outsmarted through education that promotes resilience and tenacity to ensure livelihood and sustainability. Education on the what/why and how brings forth innovative knowledge and resilience which are quintessential tools in the war against pandemics. Education that is inclusive, accessible has the potency to promote values, skills and knowledge that can be used as weapons to combat pandemics that accost humanity.

The Kenya government like other global governments underscores the need for innovative Education to promote and sustain development of her citizens and communities by empowering them to acquire essential knowledge, skills and values for self and national development. Education is a tool for prosperity of individuals communities and nation at large.

### **Statement of the problem**

The potency of education to provide innovative solutions that promote resilience in any society to overcome any pandemic cannot be gainsaid. The COVID-19 experience has taught individuals and communities about hard lessons on resilience and adaptability to not only endure deep but enduring humanitarian crisis that threatens lives and livelihood across the globe. COVID-19 has caused untold suffering to global education community, Kenya included. COVID-19 experience in education sector has taught individuals and communities hard lessons on the need to put in place systems and programmes that can enable education systems, organizations or businesses to withstand any form of disturbance, undergo changes and yet be able to retain the same functions, structure and identity in the face of ongoing disturbances or pandemics. Lockdowns, prolonged institutions and county closures, containment measures put in place to slow down the spread of the virus have had immediate and long-term ramifications to education as a social institution in Kenya; where inclusion, access, retention and completion have adversely been affected. Based on the understanding that COVID-19 has taken a huge toll of disturbances on education there is need to continuously explore and landscape inclusive, innovative, proactive and reactive

strategies that can be used to promote resilience to safeguard access, retention and completion of education by learners amid vagaries of COVID-19 and other pandemics. The paper proposes innovative approaches that could be deployed in education systems to enhance resilience, access and inclusion in education even during a pandemic.

### **Research objectives**

This, study sought to; interrogate innovative strategies to promote and sustain resilience among educational stakeholder in Kenya, explore innovative ways to promote access, inclusion, retention, completion in education amid COVID-19 in Kenya and explore innovative strategies to promote individual and community resilience amid COVID-19

### **Significance of the study**

This paper landscapes proactive and reactive innovative strategies to promote resilience, access and inclusion in education during COVID-19 and other related pandemics that continue to devour gains made in sustaining and promoting access, inclusion and completion in education. The innovative findings, conclusions and recommendations suggested in this paper can be used to initiate and sustain resilience among stakeholders in education industry to outsmart novel COVID-19 pandemic and others.

## **LITERATURE REVIEW**

The reviewed literature is organized thematically on three broad areas: access, inclusion and finally innovative approaches that can be devised to prepare, mitigate, adopt or adapt any form of disaster and bounce back despite all odds.

### **Access to Education**

Universal access to education is basically the mechanisms in which educational institutions strive to ensure that students have equal and equitable opportunities to take full advantage of their education ([www.edglossary.org](http://www.edglossary.org); 2021). At Independence, many African countries saw Education as the means to help eradicate poverty, ignorance and disease (Kenya). To date, education has continued to be seen as an important instrument in driving progress towards sustainable development([commonwealth-educationhub.net](http://commonwealth-educationhub.net)).

Kenya like other nations of the world acknowledges that Education is vital to her socioeconomic development and the right to education is enshrined in her constitution and supported by various legislations. The Constitution of Kenya (2010) article (43.1.f) obligates the government to ensure that “every person has the right to education” while article (53.1.b) obligates the government to ensure that “every child has the right to free and compulsory education”. Further the constitution avers that “a person with any disability is entitled to access educational institutions....” (Article 54.1.b) and the state is obligated to put in place “affirmative action’s programs to ensure that youth access relevant education and training” (Article 55). In addition article 56 obligates the government to ensure that “marginalized groups re provided with special opportunities in education”. The Children’s Act (2001) equally reiterates the above clauses by stressing that “every child shall be entitled to education the provision of which shall be the responsibility of the government and the parent” (Article 7.1). Hence, the need to explore innovative ways of promoting resilience in education amidst COVID-19 to empower individuals and communities in the war against COVID-19.

Despite above interventions, the Education system is still bedevilled by widening inequalities in access. Gender disparity in the education sector has been exacerbated by the outbreak of Covid-19. A UNESCO (2020) report by the Institute for Statistics, points out that large gender gaps exist in access, learning achievement and continuation in education in many settings. The prolonged closures of schools during COVID-19 pandemic and associated economic challenges has led to a sharp rise in teenage pregnancies as well as early marriages. Globally statistics point out that 1 in 4 women are married off as children thus having a negative impact on gender equality in learning and teaching. Though teenage pregnancies have always been there in Kenya, the issue has shown a steady and a dangerous rise during COVID-19 period (Ajayi & Mwoka, 2020; Moraa 2020) thus contributing to high levels of school dropout levels. This will affect learning as the young girls take up a dual responsibility at a very early age which will affect academic performance.

These statistics should be of great concern to education planners who should be challenged to think creatively and innovatively to address this disparity and ensure education for all is a reality.

COVID-19 pandemic has amplified in a significant manner the pre-existing inequalities of the gender digital divide in education. Several studies on use of internet (Diogo, et al., 2020; Melhem *et al*, 2014; UNESCO, 2020) have established the continuing digital divide in access and use of information communication technologies thus limiting access to education by women and girls particularly in developing countries and hence deter women's absorption and adoption of ICTs to access information and knowledge" (p.22). They continue to add that in some cultures such centers are often not open for women. To ensure equality of access to education for all despite the various unfavourable environment, socioeconomic and cultural conditions, governments must work out ways to control these.

The outbreak of COVID-19 pandemic and resultant use of online teaching and learning has contributed to a great challenge in access to education due to a number of factors such as poverty, socio-cultural factors as well as ignorance. In Kenya, a study by Azizi Afrique Foundation (2020) to access continuity of learning as well as the vulnerability of learners in poor households across Bungoma, Turkana and Tana River Counties, Kenya established that ownership of gadgets for remote learning was a great impediment. Only 20% and 8% owned a radio and a TV respectively. Access to education to special needs learners is amplified during periods of adverse conditions. The situation is aggravated due to the diversity of users with special needs who normally encounter a variety of challenges to access education but in times of a pandemic like COVID-19 the situation becomes worse.

### **Inclusion in Education**

Inclusion is a term that means a process or act of including someone or something as part of a group or list (Cambridge Dictionary) and becomes part of it. In the education arena it is education that incorporates everyone with non-disabled and disabled children learning together in mainstream schools. Inclusion in education focus on including all children with/out disabilities so as **to** promote greater social change. Initially inclusion in education was focused on including children with disabilities but it has changed and become much broader in its interpretation. The main focus now, is greater social change and restructuring of schools to accommodate all forms

of diversity. All learners need to be included in education, both boys and girls regardless of their linguistics and ethnic diversities.

Other groups of learners include those from rural populations, the marginalised, learners with disabilities for instance those with difficulties in learning. An ‘inclusive and equitable’ education is at the core of the SDG 4, that aids to achieve “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”. Inclusion can enable every child, youth and adult to learn and fulfil their potential as it is the foundation of good quality education. The global community targets achieving right to quality education for all adolescents and children by 2030. Issues such as location, poverty, disability, gender, age, ethnicity, indigeneity, or displacement status, incarceration, language, religion, migration beliefs and attitudes should not be reason of exclusion of any learner from quality and relevant education (UNESCO GEM report, 2020).

The COVID-19 crisis has put SDG 4 and other international goals on education into jeopardy more than ever before. Beside the already existing exclusion factors, the pandemic has added another form of exclusion in relation to accessibility of distance learning opportunities, as it is seen to affect the new categories of the population. The COVID 19 crisis has sliced opportunities for many of the most vulnerable youth, children and adults – those living in poor or rural areas, persons with disabilities, girls, refugees and forcibly displaced persons – to continue their learning and aggravated the pre-existing education disparities. Learning losses as result of this crisis threaten to extend beyond this generation and erase decades of progress (UN Policy Brief, 2020).

### **Online learning and challenges**

Though the Kenya Institute of Curriculum Development (KICD), has tried to engage learners and mitigate loss of essential learning time, by stepping up key measures needed to facilitate teaching and learning processes through different platforms such as radio, ed-tech apps, the Kenya Education Cloud, TV, and mobile phones access and inclusion has continued to be a big issue. The Kenya Education Cloud is the home of interactive digital content, radio lessons on demand, textbooks for all levels, to serve learners and teachers, and online courses on curriculum implementation and use integration of ICT in learning for teachers (MoE Sessional Paper, 2019). All these are effective modes of learning but only a few students who have access to computers and smart phones at home, appropriate technology may benefit from them.

Learners from most rural communities who lack electricity and smartphones and those with low literacy levels and limited education resources may not benefit much from E-learning as those from urban areas. Therefore, online learning may result in the exclusion of many rural and marginalized children in remote villages including those in refugee camps as well as those living with various disabilities including learners who have poor digital skills and the least access to the hardware and connectivity required for distance learning solutions implemented during school closures. Most of these children are among the most vulnerable and may lose learning due to the school closures (UN Policy Brief, 2020). Despite the high advocacy for learning solutions loaded on radio amidst the COVID-19 Pandemic, ownership of radio in arid and semiarid areas in Kenya is below 30%, which is a major challenge for learners in continuing with learning. In addition, TV ownership in arid and semiarid areas is less than 10%, 15% for smartphones while

18% of the households do not even own a mobile phone. This points to further learning vulnerability for learners in arid contexts in the wake of the pandemic. All this suggests, learners in arid and semi-arid areas are likely be left behind by those in other areas unless deliberate measures are not put in place to accelerate inclusive learning (Zizi Afrique, 2020).

Online learning and radio learning cannot replace classroom learning as it is only intended to supplement knowledge that children already have and therefore, learners who are already behind cannot benefit effectively from these modes of learning (Kathula, 2020). This may further create a wider gap in relation to education inequality, inclusivity in education, equity and access in education (Njenga, 2020). This paper focus on measures the government and other stakeholders can put in place to not only mitigate a pandemic but to prepare in advance, put measures in place, adopt or adapt to the disturbance and eventually come out stronger than before.

## **STUDY METHODOLOGY**

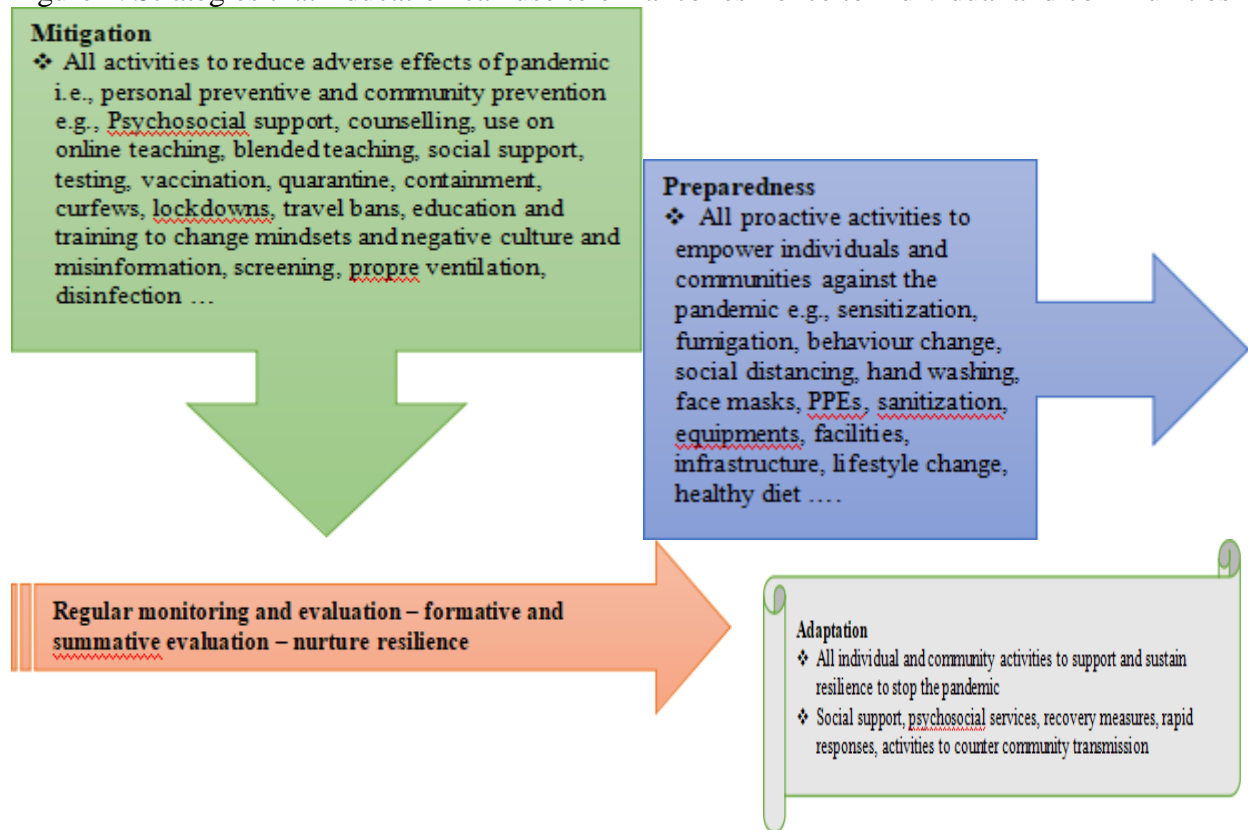
The study used descriptive survey design to conduct incisive landscaping of available peer reviewed published articles, abstracts, policy documents and other relevant references. This is critical to document proactive and reactive innovative strategies to promote education and educational stakeholders in Kenya in the era of COVID-19 to safeguard gains in access, inclusion, retention and completion in education. The centrality of education to resilience among stakeholders and government is quintessential in times of crisis and pandemics.

### **The concept of resilience**

Pandemics by their nature, scope, ferocity and aggressive nature require resilience that is inclusive in terms of individual and communities to explore opportunities available to fight the pandemic.

### **The conceptual framework**

Figure 1. Strategies that Education can use to enhance resilience to individual and communities



In figure 1, in order to ensure proactive resilience, preventive measures such as advocacy, sensitization and induction for capacity building on issues related to COVID-19 prevention. In addition, use of personal protection equipments (PPE) such as face masks and other recommended protection equipments for members of school community and fraternity need to be used.

## Findings on innovative models and approaches in promoting resilience

### Stakeholders’ engagement

Wide stakeholder’s engagement at all levels and at all steps of planning cycle in education is critical to promote resilience, access and inclusion in education amidst COVID 19 pandemics especially in times of uncertainty. All stakeholders, students, teachers and parents and local communities have to be involved in the planning and execution of education goals. Local communities need to be empowered to make their own choices about education, nurturing local contexts and building an innovative school practices. Scenario planning may be necessary for the next one or so depending on the evolution of the pandemic planning, revising plans regularly and early mobilizing human resources as situations evolves become key. In uncertain times, ensuring strategies and plans are well understood by users, stakeholders and beneficiaries is of utmost importance. There is need to ensure continuous monitoring on how proposed measure are implemented and perceived by students, teachers and parents and education community. As a community-based initiative caregiver will be given a voice to be heard and knowledge management platforms will be developed where innovative ideas, success stories, lessons learnt are captured for dissemination. Use of existing initiatives such as ‘nyumba kumi’ will ensure



that scarce resources will be shared among members within these households and reduce the gaps in education. Heads of neighbourhoods to be empowered and motivated to monitor progress. Resources distribution will be easier and issues of congestion dealt with. Meetings will either be in open spaces within the neighbourhood and where learning facilities are provided to ensure equality of access to education for all despite the various unfavourable environment, socioeconomic and cultural conditions. The government of Kenya need to expand the existing remote learning opportunities for learning continuity for all students in basic education in primary and secondary school through the Stakeholder Engagement Plan (SEP) in order to support access and delivery of online content to all students, (MOE, 2020).

### **Support for parents**

To promote resilience, access and inclusion to education it is necessary to support parents in the engagement of their children in schooling. Studies have revealed that parents, have found themselves involved in supporting learning during the pandemic shut-down irrespective of their level of education. Learners from less developed households face several challenges such as poor living conditions, economic stress, and low education levels of parents, including lack of digital skills, which makes it difficult to benefit from digital content even when they can access it. According to UN Policy Brief, (2020), children from lower socio-economic backgrounds are more likely to lack parental support during school closure, access to quiet room, and other reading opportunities. A stable environment and learning support needed to adapt to these new modes of instruction was reported to be lacking in most of these learners. This implies parents require alternative support structures such as community-based teachers to mediate the literacy gap for those households without a literate adult. (Zizi Afrique, 2020). Digital literacy should be declared our motto right from ECD level of education up to university. Children should be introduced to tablets early enough and teachers provided with laptops as tools of their work. The slogan should be “One Child One Tablet “.

### **Innovative community approaches to promote resilience**

COVID-19 had taken aggressive community transmission where the novel variant is spreading fast. This unprecedented nature of spread requires communities to adapt various innovative strategies to promote resilience. Education has the wherewithal to ignite broad and collective innovative community approach to promote resilience against pandemic using resources and ideas available. Education can break negative mindsets and barriers that prevent either prevent ability, agility and resolve to adapt to preventive paradigms that accommodate change to prevent the spread of the COVID-19 pandemic. Studies have observed that agility and flexibility to adapt bold, decisive action to embrace out-of-box solutions because unprecedented times call for unprecedented actions (Research report, 2020). This is critical since voracity of COVID-19 is self-evident due to its rapidly mutating tendencies. The resilience of the community may be enhanced when the subsystems, infrastructures, economy, civil society and other social service providers to mobilize the community to prevent and combat rapid spread of the pandemic (Carison et al., 2012). Education and awareness campaigns on behaviour change communication needs to sensitize communities that when containment measures are eased that the virus has not sopped but it's a temporary reprieve to open the economy; so individual and communities need to proactive preventive measures every time everywhere.

### **Innovative measures that school communities can use to enhance resilience**

Education is one of formal social institution in human society and schools are social institutions through which schools socialize socializees to acquire values, knowledge and skills that can enhance individual and collective resilience to avert pandemics. Since COVID-19 has taken community transmission which leaves us with us with not safe places then schools have to assume their social responsibility to inculcate proactive and reactive measures to combat the pandemic by including the content on education about the virus. Schools need to use up-to-date scientific knowledge about the ABC of novel virus to teach and train learners on the what/why/how so that can enhance their individual and collective resilience. Pathways and opportunities that schools can use include school assemblies, parades, integration and mainstreaming of COVID-19 content in teaching content in all subjects in various languages that are used in curriculum. Schools can also use local dialects and languages to sensitize local communities in and around the school peripheries. Schools need to use teachers and fellow students to provide psychosocial support to each other and share experiences to learn collaboratively on handwashing, social distancing, screening, testing, using empty spaces in schools and neighborhoods keep safe. School can train pupils on how to improvise masks, handwashing soaps and other resources that can help to preventive rapid spread of the virus. Inclusive strategies to combat the virus need to involve everyone including persons living with disabilities. Teachers can use transparent masts to enable learners with hearing challenges to benefits from teaching and learning. Schools need to train and teach pupils how to grow and prepare to eat health promoting foods to boost immunity of the body to fight any infections.

### **Accelerated learning**

Accelerated learning modes such as simplifying the planned curriculum to accelerate learning can promote resilience, access and inclusion to education amidst COVID 19 pandemics and support recovery when learning loss is likely to have occurred for entire cohorts. Sierra Leone used a simplified and accelerated curriculum to cover two academic years in one year following the Ebola pandemic. This experience of Sierra Leone suggests that accelerated learning can help get students back on track, facilitate quality catch-up with a simplified curriculum of select core components to cover thoroughly in the time available. Therefore, accelerated curriculum can help recover lost learning time. (Carvalho et al, 2020). Zizi Afrique jointly with the Ministry of education, Kenya and county-based community organizations has been implementing the Accelerated Learning Program (ALP) in Bungoma, Tana River and Turkana since 2018 targeting learners lagging behind in foundational literacy and numeracy skills, selected from grades 3 to 5 aimed at equipping them with skills to ‘read with understanding’ and ‘reason with numbers. Zizi Afrique found out that in only 30 days, more than half of the learners acquire the desired level of proficiency in foundational literacy and numeracy (Zizi Afrique, 2020).

### **Innovative psychosocial support**

In order to promote resilience, access and inclusion to education amidst COVID-19 pandemics, all learners, teachers and parents require psychosocial support. The government need to plan and develop flexible national education systems, to give teachers and caregivers the right support to deliver distance learning and maintain adequate funding even to the vulnerable children to ensure none is left behind. By conducting mentorship and psychosocial counselling service programs for the psychologically and socially affected members of the school community as well as strengthening of guidance and counselling departments and programmes in schools through

building the capacity of teachers and instructors in life skills, guiding and counselling to efficiently respond to variations in social behaviour, the Ministry of Education will make education more inclusive. MoE plans 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 (Kathula, 2020). To support student's transition back to school, ensure safe school environments, and provide remedial learning activities, teachers have to be equipped and trained with the right skills to facilitate remote learning (Carvalho et al, 2020). The government, through the Stakeholder Engagement Plan (SEP), 2020, intends to train teachers in interactive remote learning pedagogies. It entails supporting capacity building of teachers in online and distance learning pedagogies to ensure teachers play a role of supporting remote learning. Teacher training interventions builds on the existing trainings for teachers for the digital learning programme (Digi school) conducted by Ministry of ICT, Information and Communication Technology Authority (ICTA) and TSC where over 92,000 teachers in early grades were trained.

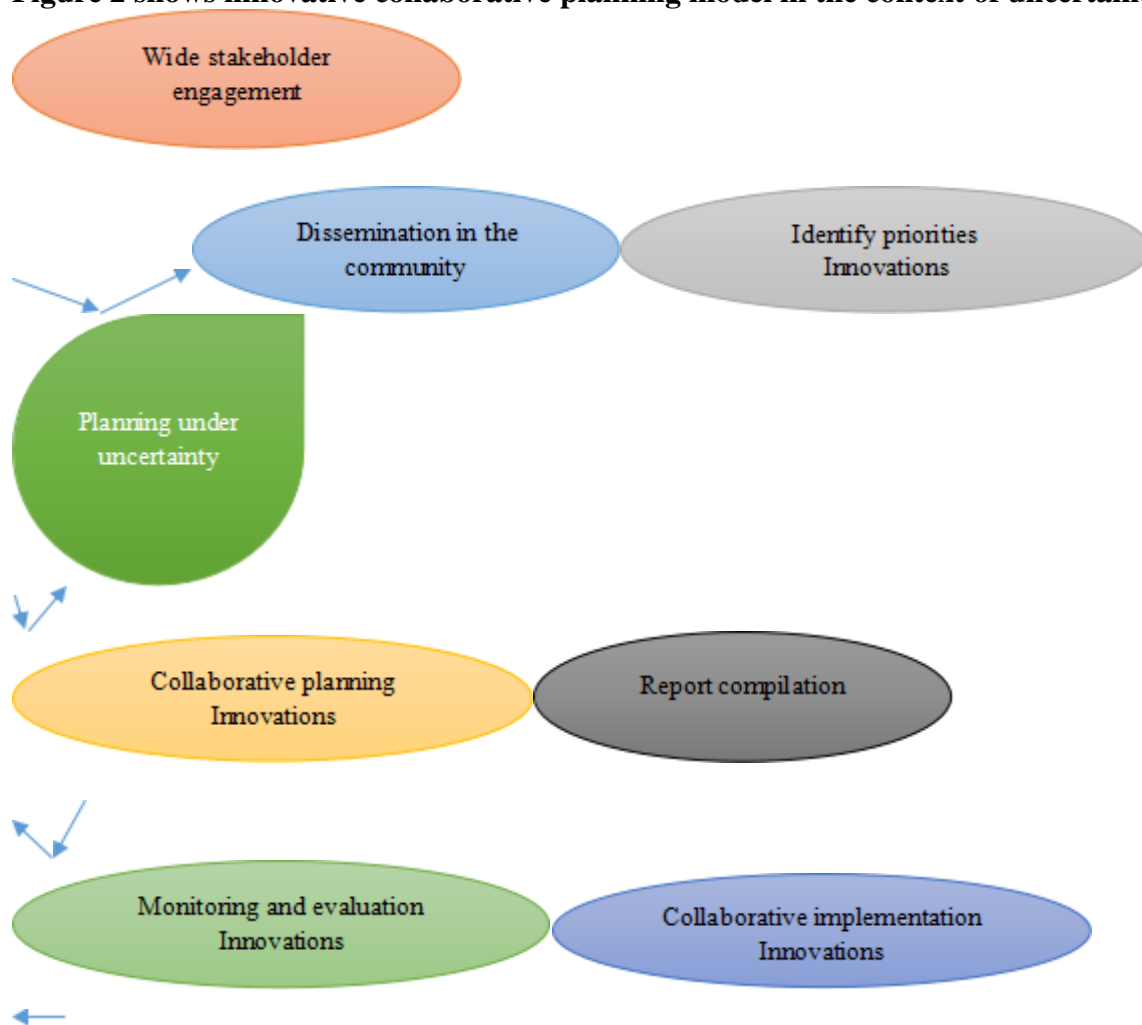
### **Open access**

Another approach to promote resilience, access and inclusion to education is to enhance open access to education resources. To enhance open access the government needs, enhance learners and educators have accessibility to open education resources, do away with online and copyright restrictions tied to online learning resources and other materials. Publishers and authors, in some countries like New Zealand and Australian, came up with exceptional measures that aided libraries to provide educational content and allow for virtual public readings of their materials from classroom settings and libraries.

### **Innovative planning with active stakeholders' engagement during COVID-19**

All stakeholders, students, teachers and parents and local communities have to be involved in the planning and execution of education goals. Local communities need to be empowered to make their own choices about education, nurturing local contexts and building an innovative school practices to combat COVID-19 and related pandemics. Scenario planning may be necessary for the next one or so depending on the evolution of the pandemic planning, revising plans regularly and early mobilizing human resources as situations evolves is key. In uncertain times, ensuring strategies and plans are well understood by users, stakeholders and beneficiaries is of utmost importance. There is need to ensure continuous monitoring on how proposed measures are implemented and perceived by students, teachers and parents and local community

**Figure 2 shows innovative collaborative planning model in the context of uncertainty**



The innovative collaborative model planning model in figure 2 can be effective with involve of all stakeholder in any local community where the school is located. Collaborative efforts of the community with synergize community and individual resilience towards fighting the pandemic. The collaborative approach in community education is inclusive and participatory which makes effective in promoting resilience amidst pandemics.

Studies have demonstrated that education that promotes curiosity and mindsets that are open and willing to explore new opportunities and pathways among individuals and communities to solutions enable innovative answers and solutions that promote the best course of action that may address local challenges and problems created by the pandemic (Research report, 2020).

## CONCLUSION AND RECOMMENDATIONS

The review has come up with a variety of innovative individual, whole school and community approaches and strategies to initiate, promote and sustain resiliency amid COVID-19 and related

pandemics through Education. Education has the wherewithal and transformative preventive and curative measures to avert excess of COVID-19 and other pandemics. Education had the content, skills and pedagogy to avert pandemics by empowering individuals and communities on how to survive and live amidst challenges posed by novel COVID-19 and related pandemics. The onus is on governments as the custodians of lives of her citizens to mobilize human, capital resources to ensure sustainable resilience is in place among individual and communities to social good and survival of humanity, which education loaded with innovative content on COVID-19 and related pandemic is quintessential.

There is need to mark all places in the school to promote social distancing. Social distancing needs to be observed in transport vehicles that ferry students to and from school. In all school facilities everyone needs to observe safety measures to immunize human contact. Regular temperature taking needs to be done. Schools and communities need to come up with innovative policies guidelines on prevention of COVID-19 and socialize members of their fraternities to observe them. Regular monitoring and evaluation (M/E). Schools can sensitize parents in the immediate communities to observe safety measure at home.

The war against a pandemic ought to be inclusive and everyone is equally predisposed to the virus. This implies that each of us in every community is predisposed to COVID-19 infection, hence a need to empower each with innovative preventive education about the virus to prevent, slow down or stop infections altogether. Occasional resurgence of highly transmissible variants of the virus in deadly waves has indicated that occasional closures, containment measures and partial lockdowns in some regions are inevitable to slow down the aggressive spread of the virus. These and other proactive measures can be instituted where need arises to secure gains in the war against aggressive variants of COVID-19.

Pandemics like COVID-19 that are smart and tricky require extraordinary measures aka abnormal treatment where all arsenals need to be mobilized on target. The government being the overall custodian of national interests and protection of all can mobilize and marshal different players in society to create multiple battle fronts to educate and train individual and communities on various initiatives to outsmart the virus. This is critical because the pandemic has taken community transmission where every section of community and society is a battle zone to combat this invisible enemy and every innovation counts.

The government can prevail and mobilize different types of mass media channels to disseminate preventive and promotive public health education content through electronic and print media in different languages to promote inclusion and access to preventive knowledge and skills that can be used in various community settings to prevent the spread of the virus. The media can use media creativity and innovation to create various innovative products loaded with health content on the virus and preventive strategies that can be used to educate and train members of public on finer details of the evolving virus.

The government at national and county level can proactively guide communities and institutions to proactively identify preventive measures and opportunities that can be adapted to protect the spread of the contagious virus. Innovative measures can use the available resources, safe spaces to adapt to scientific preventive measures guidelines by ministry of health.

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