

Covid 19 Global Crisis, Socio-Economic Lockdown and Sustainability Development in Nigeria: A Review on Covid 19 Pandemic, ICT and Educational Development

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Abstract: Covid-19 pandemic outbreak remains a major problem experienced around the world and Nigeria to be specific in the recent years. This paper investigates Covid-19 pandemic, information communication technology (ICT) and Educational Development. The coronavirus (COVID-19) has now spread to over 177 countries and territories and an international conveyance since the virus first emerged in China in late 2019. Education is a continuous process that compasses teaching and learning which commences from birth till death. These processes is described as the aggregate by which a child or adult develops the abilities, attitudes and other forms of behaviors which are of positive value to the society in which he lives. The global provision of schooling is facing unprecedented challenges as a result of the COVID-19 crisis. More than 1.5 billion students from pre-primary to university-level have been affected by these closures, with classroom-based learning interrupted for indefinite periods of time. In the context of COVID-19 school closures, ICT and digital distance education platforms have become essential to the continued provision of education for all. Reports of parents, teachers, communities and networks that have developed innovative and makeshift interventions, such as mobile-based Wi-Fi networks as well as on-demand content and textbooks available in clouds -- to broaden digital capacities have certainly sparked optimism. Conclusion, the immediate consequences of the Covid-19 pandemic might be dire, but this crisis offers unique turning points, an opportunity to learn, reshape, and build resilience into the educational system in Nigeria. Recommendation government and all stakeholders should focus on building ICT centers in all level of our educational system

Keywords: Covid19, Pandemic, ICT, Education, Development

I. INTRODUCTION

Education is a process of teaching and learning whose primary purpose is to develop individuals' knowledge, skills and behaviour (Burke, Lawrence, El-Sayed, & Apple, 2009). This process can fairly be compared to that of reforming people, whereby people can be reformed perhaps by preventive detention like in police or by reading the Bible like in churches (Campbell & Sherington, 2002). People can similarly be educated through reading books, excursion, exploring their environment or even by attending classes (Peters, 2010). Furthermore, processes in education are viewed as tasks related to achievement; that is to refer to what people can consequently achieve in terms of production at individual, national and international levels (UNESCO, 2015).

It is within these premises that the importance of education can be attached to its role in guaranteeing sustainable socio-economic development in countries. Arguably, nations with educated people are likely to achieve strong social cohesion

and exhibit remarkable economic growth based on productivity. On the other hand, the lack of education leaves nations stranded in illiteracy and with low or no productivity (Campbell & Sherington, 2002). In the same angle of discussion, UNESCO and UNICEF (2020) contend that the better the adopted education policy, the more the education system will be productive. Thus, countries have established different policy frameworks to ensure basic education for every citizen to eradicate poverty and improve production in different sectors. As put by UNESCO (2020), nations have a quest to provide learning environments that are economically, socially, culturally and physically accessible for all children. It is, therefore, for this quest that countries keep adapting and updating their basic education policies.

II. COVID 19 PANDEMIC

The coronavirus (COVID-19) has now spread to over 177 countries and territories and an international conveyance (Diamond Princess) since the virus first emerged in China in late 2019. As of March 23, 2020, the death toll has risen to 17,147 while the number of confirmed cases has risen faster to 392,336. It is very likely that the number of true cases in Nigeria today is significantly higher than the 42 confirmed cases at the time of writing - either due to asymptomatic persons carrying the virus or simply because individuals have not shown symptoms yet (Giannini S. 2020)

When Hubei in China was put on lock down on January 23, 2020 there were 400 new cases that day. In reality the true number of cases stood at 2,500. It is unclear what the true magnitude of the spread and impact of the virus will look like in Nigeria - including how it will react with factors such as humidity, its densely populated cities and its young population. But if it is anything like the numbers other countries have seen so far, numbers will rise - exponentially. This is already seen from the rise in daily confirmed cases very similar to other country experiences. Hallgarten J. 2020

Applying the average growth rate in countries from when confirmed cases exceeded 30, in the next 7 days, we could see as much as 200 confirmed cases in Nigeria. This could translate to as many as 1400 true cases in the country - left undetected and doubling at an average of 6.5 days.² In the next 14 days, confirmed cases is projected to reach as high as 1200, then 2300 in 17 days - at which point the number of true cases could have reached as many as 16,400. As more data is gathered in the coming days, the impact of the virus will become clearer.

III. THE MEANING OF EDUCATION

Education is a continuous process that compasses teaching and learning which commences from birth till death. These processes is what UNESCO (2020) described as the aggregate

by which a child or adult develops the abilities, attitudes and other forms of behaviors which are of positive value to the society in which he lives. Education is also perceived in three dimensions. They are development of knowledge, training of mental abilities and development of character (Anyagou, 2011). The three areas accentuated above can be attained through the rendering of assistance to students, teachers, parents school management which is what counselling entails. Education is a mirage of all activities that involves the learners, teachers and content to be learnt or taught. In most of these activities counselling is required to make teaching and learning experiences worthwhile. A section of the National Policy on Education (NPE) states that education should be geared towards: “Self-realization, better human relationship, individual and national efficiency, effective citizenship, national consciousness, national unity, social, cultural, economic, political, scientific and technical progress” (NCE, 2004). The laudable objective indicated above cannot be achieved by teachers’ effort alone. The input of e-counselling through the effort of professional counsellors is required to help pupils and students alike achieve these e-learning educational goals. Therefore, electronic communication involves the use of e-mails, internet and communication aided strategies in counselling clients. In addition, counsellors are not left out in this all-important phenomenon which has potential to transform not only counselling practices but education as well. Counsellors who lack basic skills in electronic services may not be able to email and make internet contact with distant clients that need such help. This may have been necessitated by lack of access to the electronic gadgets or lack of training in their usage. It is within these premises that the importance of education can be attached to its role in guaranteeing sustainable socio-economic development in countries. Arguably, nations with educated people are likely to achieve strong social cohesion and exhibit remarkable economic growth based on productivity. On the other hand, the lack of education leaves nations stranded in illiteracy and with low or no productivity. Thus, countries have established different policy frameworks to ensure basic education for every citizen to eradicate poverty and improve production in different sectors. As put by UNESCO (2006), nations have a quest to provide learning environments that are economically, socially, culturally and physically accessible for all children. It is, therefore, for this quest that countries keep adapting and updating their basic education policies.

The global provision of schooling is facing unprecedented challenges as a result of the COVID-19 crisis. Within the span of a few months, 191 countries had closed their schools to deploy social distancing measures in accordance with the World Health Organisation (WHO) recommendations. More than 1.5 billion students from pre-primary to university-level have been affected by these closures, with classroom-based learning interrupted for indefinite periods of time. While some education systems, teachers, students and parents were somewhat prepared to adapt to existing distance learning programmes and platforms, millions were not. UNICEF 2020

In the context of COVID-19 school closures, paper-based and digital distance education platforms have become essential to the continued provision of education for all. After more than a month of school closures across the world, many students are still struggling with remote learning. Global estimates suggest that 826 million students are without a household computer, 706 million lack internet accesses at home and another 56 million lack coverage by mobile 3G/4G networks. To better gauge the scope of the impact of school closures and of the

ensuing national education responses, a survey of ministries of education developed jointly by UNESCO, UNICEF and the World Bank was recently launched to more accurately inform a collaborative global education response. Jall, N. 2020

Without adequate information and communication technology (ICT) devices, internet/mobile network access, educational resources and teachers’ training, students simply cannot partake in distance education to continue on their learning trajectories. At most risk of being left behind are students from resource-poor areas, remote rural areas and low-income households. In addition, learners with disabilities or those who use a different language in the home than in school will require more individualized support.

Multiple delivery channels are an essential component to reach all children and youth during this pandemic. A recent UNICEF (2020) survey found that 68% of the 127 countries were using a combination of digital and non-digital delivery of remote education (i.e. TV, radio and take-home packages). Even before the COVID-19 related school closures, the use of radio, video and television for remote learning has proven to be strong components of well-designed numeracy, literacy and financial education programmes for children, youth and adults living in remote and rural communities. However, the implementation and reach of such programmes require the monitoring and support of trained educators.

Distance learning also requires that school systems consider the needs of parents and guardians who have to step in to facilitate learning to ensure the pedagogical continuity of their children, especially for the children in earlier grades (Grades 1-3) who need more one-on-one support. The ability for parents and guardians to effectively facilitate home-based learning depends on a variety of interacting factors, including their education level, native language and time availability. Understanding parental digital literacy – which could be estimated from SDG 4 Indicator 4.4.1 that assesses ICT skills among youth and adults – is essential for targeting skill support and development for parents. Without ICT skills support for the adults in the home, children from families with poor digital literacy are likely to fall even further behind Jall, N. 2020

Developing ICT skills to ensure education weathers the storm of future crises

Reports of parents, teachers, communities and networks that have developed innovative and makeshift interventions, such as mobile-based Wi-Fi networks as well as on-demand content and textbooks available in clouds -- to broaden digital capacities have certainly sparked optimism. However, these grassroots efforts largely serve as a short-term band-aid solution. Although they are inspiring, more fundamental developments to bolster access to and use of ICT are required – both at home and in schools, and especially for younger learners at the primary and secondary levels where gaps are largest. Hastily put-together remote teaching approaches have not proven to be optimal learning experiences and could be off-putting to some students Watson, J. 2020

School closures such as those currently experienced by the more than 1.5 billion students worldwide are commonplace in some countries due to natural emergencies, conflict as well as budgetary or labour negotiations. Once schools reopen, building skills and support for distance education in schools so learners can continue learning in the home can help minimise learning interruptions as well as deter learners from leaving school early or dropping out in the event of future crises. In addition, there remains a possibility that the COVID-19 crisis

and its ensuing confinement measures may not be short-lived as flare-ups of cases may spark future school closures in certain countries. According to Watson, J. 2020, As some countries begin to reopen their schools, they will need to select innovative remote teaching modalities that blend with face-to-face teaching to ensure that learners are better prepared for future school closures. Thus, given the importance of distance education in the current context and in anticipation of future crises, countries need to take responsibility for monitoring, facilitating and enabling access to ICT in schools as well as in the homes of all learners.

Current measures of ICT availability fall short of capturing the needs in certain countries and regions as they fail to report on factors, such as the availability of electricity (grid- or solar based) and access to computers for pedagogical purposes, which are primary necessities. Jall, N. 2020. At a global level, these indicators are needed to monitor ICT use and detect national trends. However, they are not sufficiently detailed or policy-oriented to provide governments with adequate information to improve access to and use of ICT in education as well as sufficient information on teacher training and digital skills. For instance, counting the number of computers per school or per student poorly reflects the use of computers, which may in fact be minimal if these devices are locked in computer labs.

Bridging the digital divide at home and in schools

Evidence indicates that there is a substantial 'digital divide' in access to ICT between countries. For example, according to estimates from the International Telecommunication Union (ITU), 21% of learners in Africa cannot be reached by 3G mobile networks. In terms of internet access, 82.2% of households in Africa lack access in the home. To bridge the divide and encourage mobile-based education, and in addition to infrastructure investment, lowering the cost to consumers to gain access to online data needs to be considered as these are prohibitive in many countries Mundy, K. and Hares S. 2020

Under Sustainable Development Goal (SDG) 4 to ensure inclusive and equitable education and promote life-long learning opportunities for all, governments have committed both to increase digital skills and expand ICT infrastructure in schools. UNICEF 2020 said to support distance education, schools will need to better equip learners with the skills to migrate onto these online learning platforms. Moreover, closing the 'digital divide' will require governments to invest in supporting learners in the early grades of school. In this endeavor, the first step is to map within and between countries where investment is most needed. This requires better measures of access to and use of digital technologies in schools.

The latest UIS data for SDG Indicator 4.a.1 on the availability of electricity, computers and internet in schools for pedagogical purposes indicate that certain regions are behind in their capabilities to support learners. Although sub-Saharan Africa as well as Central and Southern Asia do not have sufficient data for this indicator in lower education levels, there is adequate data for upper-secondary schools. Only about one quarter of upper-secondary schools in sub-Saharan Africa and one-half in Central and Southern Asia are equipped with internet access. Electricity – another necessity – is also not available equitably across regions and school levels. In sub-Saharan Africa, only 33.8% of primary schools have access to electricity while the same holds true for 57.2% of upper-secondary schools in the region. The situation is bleaker still in

the Democratic Republic of the Congo where only 13.7% of upper-secondary schools have access to electricity.

Empowering and Assisting Parents

Parent/guardians irrespective of their education level will be required to play a pivotal role to ensure learning is uninterrupted. In order to ensure proper uptake of the available resources, the government will also need to ensure that parents are equipped to create a conducive learning environment, and support children in this new mode of learning. At this time, parents would be required to act as intermediaries between the school management/ government and the children in learning delivery. In some instances, parents would need to take on the role of a teacher in home schooling their children, although relying on guidance from school. Additionally, most of the learning mediums would be shared amongst household members, and the responsibility will fall on the parents to determine and allocate usage among family members. Therefore, it is essential that the government support them in understanding and executing their roles during this crucial time Manaus Consulting 2016

To ensure digital technology provides equitable and inclusive access to education, we have to focus on closing such digital divides. Even where getting online is possible and affordable, extra efforts are needed to empower groups that are excluded. Projects such as Close the Gap (CTG) that offer high-quality, pre-owned computers to educational projects in developing countries are just one example of how we can achieve this. Jall, N. 2020

Teacher training as part of the solution to closing the ICT skill gap

As noted, beyond the provision of internet access and ICT equipment in education, there is also a need to support learners by building their ICT skills. But what about teachers? During this period of school closures, teachers require training in the use of distance learning platforms to ensure teaching and learning can continue. While some of the 63 million primaries and secondary school teachers who were displaced by COVID-19-related school closures have managed to reach students with their existing set of skills and equipment, many have not received basic teacher training. It is therefore disconcerting that most teacher training programmes do not include the use of ICT in education to develop appropriate learning and teaching strategies. In sub-Saharan Africa, only 64% of primary and 50% of secondary teachers have received minimum training. Indicators recommended in the *Practical Guide to Implement Surveys on ICT Use in Primary and Secondary Schools* can point to specific areas in which teacher training needs to be reinforced to improve ICT skills. Jall, N (2020). Use of ICTs for education during the COVID-19 crisis and beyond is a reality for which teachers and learners must be better prepared. This crisis marks the time for government-led initiatives for schools to test innovative methods to reach out to students, learn from other countries and incorporate effective approaches into the regular provision of education. Digital technologies need to be integrated within sound learning programmes to create effective student learning experiences. Countries need to make the necessary preparations to better map teaching and learning needs for future crises in education. As a necessary step, this requires collecting robust survey data on ICT use in schools to adequately guide policymaking. (Watson J 2020)

Another useful response is to create an online one-stop-shop of resources that students can access directly or with the support of their parents:

Educational resources are already available on the internet, such as the Khan Academy. A wide range of open educational resources are freely available; distance courses for school-aged learners published under open licences such as British Columbia OpenSchool may be rapidly repurposed. But policymakers must understand that online resources vary in quality and are rarely designed for local curricula, culture or language. Countries should invest in their own free resources for students and families and draw on partnerships with alternative or non-formal providers to help strengthen digital learning materials — both in the immediate term and for long term preparedness. As noted above, the provision of education during the crisis) and what can improve equity (to overcome persistent problems of access to education). One way to effectively gather data would be to use mobile phone-based apps where teachers can report information about the progress and needs of their students – and the app would then collate and display this data geographically. Already, UNICEF (2020) is mapping connectivity of schools worldwide- but the next step is to map the connectivity and learning needs of every student. When doing so, countries should plan to set good data standards across the system, to ensure compatibility, to match any micro services they acquire to their data systems, and to provide the right governance of data for their context, including data privacy considerations.

Covid-19 Crisis and Educational Infrastructure

During this time of crisis, education will not be business-as-usual, and EdTech alone cannot close the gap. Education policymakers must be realistic — with or without EdTech, usual targets of learning will not be achieved. However, there is much that can be done, both to advance learning now, and to be better prepared to return to classrooms when school closures end; allowing teachers and learners to pick up from where learning will have got to and address gaps that will have emerged. To this end, countries need to manage their expectations of what can be done over the next weeks and months, by identifying the key constraints to educating learners remotely. Large investments in EdTech will deliver few results if not based on clear assessment of the limitations of the system. (Watson J 2020)

1. Students' progression against formal curriculums will slow down: Country-wide school closures have happened very rapidly, leaving very little or no time for schools to prepare a strategy and transition to distance learning. Syllabuses which are exam-oriented are no longer fit for purpose as tests and examinations have been put on hold. Much of the curricula cannot be adapted quickly mentoring by teachers' educators — but teacher capability will be a core constraint, and cannot be quickly overcome.

2. The movement to out-of-school learning will exacerbate already weak education management and data collection systems: There is a reasonable amount of evidence in aggregate about the effects of school closures. For example, it seems that numeracy and mathematics progression is particularly affected. What we know less about is whether distance learning and EdTech can help offset these negative consequences. Most education systems around the world are teaching online and students face the anxiety of not knowing how their school year will progress. As a result, exam orientated progress will slow down for all learners. Certain groups of learners may be particularly affected such as primary

school learners who are building the foundations for later learning, vulnerable learners or those supported by adults who often have not had access to a formal education themselves.

3. Many children will not have access to technology or a suitable learning environment at home: The digital divide means that internet and mobile network access varies greatly in low income countries, for instance access to the internet is over 80% of the population in some Southeast Asian countries, but as low as 39% in Vietnam and some African countries. The reality is that online learning will be easier for those with access and will exclude large groups of disadvantaged learners. A large number of learners may have no electricity, some will have a radio but not a television at home, others will have basic feature mobile phones but not smartphones, and others will have only low bandwidth internet available.

4. Teachers' ability to adapt to delivering education remotely will vary greatly: Some teachers will champion video conference lessons, keep in touch with their students on social media or SMS messaging and produce teaching materials. Others may feel overwhelmed if they are suddenly required to use technology new to them, and if they are held accountable to new standards. Education system managers must be aware of their teachers' levels of ability and set expectations accordingly. Ed-Tech might remedy some of this—for instance through flexibly adapting materials to different technological channels of delivery or opening up channels to rapidly support struggling teachers through instruction skills. Ultimately, it will be dedicated teachers and resilient educators who will make sure learning doesn't stop — but they can be helped by the right Ed-Tech tools.

Distance learning through low-cost Technology

Reaching the vulnerable population in Nigeria will require adopting multiple learning delivery modalities ranging from television, radio and SMS-based mobile platforms that are more easily available to the poor. With over percent of the adult population having access to radio and phones, it would be possible to reach most children left behind with target instructions via these mediums. However, while online platform offers personalized learning, other delivery modalities require a central planner, as coordination between all three tiers of government, and the private sector (media platform owners). This is where the role of the Ministry of Education will crucially extend beyond traditional policy making and regulations UNESCO 2020. The commissioners of education could help in the deployment and use of these tools within states, while the federal government coordinates the state efforts by plugging capacity and finance gaps. The government could draw on the experience of Sierra Leone, where the Ebola crisis led to school closures for about 9 months. To reach the most vulnerable and excluded children, the Government of Sierra Leone harnessed radios and televisions to deliver lessons Hallgarten J 2020. Whatever strategy the government chooses to incorporate, they must ensure that it is cost-effective (at least available within the home) and easy to use (children and their parents/guardians have some knowledge of it beforehand or can easily learn to use them).

However, for families that earn below \$1 per day and faced harsh economic realities due to the four-week lockdown in the state, the purchase of radios or TV might be a trade-off that they cannot afford. A suggestion to this problem was the provision of portable solar radios to help bridge the digital divide. The pandemic has unmasked substantial inequities in the education sector UNICEF 2020. Private and non-governmental sectors are tirelessly working to salvage this

situation. Projects such as Dig-iterate and Teach for Nigeria hope to ensure proper tools for education are available to all in Lagos. However, one major issue that may stem from this inequality is that these kids who currently cannot keep up with their peers because of inaccessibility to digital tools may never catch up and will continue to feel the effect of this gap long after the pandemic is over. This may result in a severely diminishing pool of young adults who have not garnered the necessary skills to stay ahead in the future. With Nigeria already behind in preparing its young people for the workplace of the future, the effects of the pandemic further exacerbate this issue.

There are measures that must be taken to help bridge the divide when the urgent needs of the pandemic subside. They centre largely around Public-Private Partnerships (PPPs) and government aid. PPPs can do much to improve the quality of, and increase access to, education for poor children in underserved communities. More schools in such areas, especially Lagos, would go some way to start shifting the teacher/student ratio which has hit alarming lows of 1:83 at points during the past decade. The result of new schools opening would be a reduced burden on teachers, currently ill-equipped to handle the ever-burgeoning class sizes. Voucher schools may also aid in rapidly improving the education system in Lagos as suggested by a World Bank Report addressing the need for more information on the private education sector there, given that private schools are the lead education provider in the state. Voucher schools are schools chosen by students and to which the government provides funding; they may be government or non-government providers or both, depending on the system. (UNICEF 2020)

Government aid is needed in terms of investing in educational tools of the future alongside a total revamp of the educational sector. Reforms in the national curriculum post-pandemic would be an effective way to bridge the gap in inequality. Priorities should include the introduction of courses such as coding and robotics which can usher students into the era of the Fourth Industrial Revolution and prepare them for jobs of the future. In countries such as Nigeria, education should be viewed as a high government priority. Help in increasing awareness of the pressing need for the country's children to be educated, especially those from low-income families, will benefit the country's economy in years to come. Aid provided in this direction can be viewed as an investment in human capital; the more educated a country is, the more productive. Of all sustainable missions surely the most pressing is to improve lives, and there's no better way to do so than proper and sound education for all.

CONCLUSION

Covid 19 pandemic greatly affected educational system in Nigeria but exposed the state of our schools in terms of poor infrastructures, poor educational facilities and poor funding. It was covid 19 pandemic that brought to light how backward the educational system in Nigeria is in the area of technology. Majority of institutions in Nigeria has no facilities for ICT. Teaching and learning is still manually done but with the pandemic schools are realizing that ICT is the way forward if we must survive as a Nation. Training of teachers and parents has become very necessary to enable them effectively use ICT system both in schools and at home. Facilities that will enable free and easy use of this technology should be made available both in the urban and rural area to make learning affordable by the poor and the rich. Facilities such as electricity, roads,

housing, and drinkable water should be provided by all stakeholders in all cities and villages within the country.

Recommendations

1. Government should be committed to funding institutions owned by them and stop complaining
2. Basic infrastructures for easy teaching and learning should be provided by all stakeholders
3. Training and re-training of teachers in the area of ICT at all level of educational system should be encouraged
4. Internet facilities like data, quality network, laptops and others should be provided for both teachers and students
5. Basic amenities like electricity should be available all the time and this is the duty of the government

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