Online Learning during COVID19 and Beyond: A Human Right Based Approach to Internet Access in Africa

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Abstract

Teaching and learning were disrupted due to lockdown imposed as part of efforts to curb the spread of the COVID19 virus that hit the world in 2020. As a result, many national governments requested educational establishments to migrate their teachings online. In Africa, internet penetration has improved in the last decade. However, the continent still lags in integrating the Internet into learning. Besides, there is unequal access to technologies used in online education and unequal access to data and connectivity. Regarding access to quality learning, the COVID-19 pandemic has widened the gap between the rich and the poor and has exposed society's fragility. This paper evaluates the strategies of African leaders in sustaining access to learning and the experience of learners during COVID19 lockdown. It argues that most African countries' educational systems are unprepared for the sudden switch to online learning. Finally, it investigates future policy strategies in bringing more Africans out of the digital desert.

Keywords: Africa, COVID19, Education, Internet Access, universal access

Introduction

In 2020, COVID19 tested the resilience of the educational system. Almost 2 billion students, worldwide, had their studies disrupted due to schools' closure (UN 2020). The closure of educational establishments at the height of the COVID19 pandemic could be resolved in two ways. First, teaching could be suspended until treatment is found COVID19. However, the impact of the indefinite suspension of studies would be far-reaching even outside the educational sector. Second, alternative teaching and learning methods would be needed to mitigate the effects of the pandemic on the educational system. The Internet and other communication technologies like television, radio have become veritable tools in this regard. Of the available technologies, the Internet is the most amenable in alleviating challenges posed to learning. First, it could deliver synchronous and asynchronous teaching. Second, Internet access enhances and facilitates students' engagement during learning, thereby assuming the status of transformative tool for education and training. Tellingly, "[w]hether textbooks will continue as a meaningful category of learning materials is itself put in question by

developments enabled by the internet." (Rens 2016). Third, the Internet could be a gateway to educational resources for students in remote areas.

Access to the Internet enables a learner to participate more fully in their education and to develop skills essential to promoting their lifelong development and success. While COVID19 has deepened the role of technology as an enabler of education, it highlights the intra-digital divide within each country, both developing and developed countries alike. In the UK and Germany, learners in lower-earning households had no access to a laptop, desktop, or tablet and access to the Internet (Coleman 2021, Woessmann, 2020). Correspondingly, the lockdown brought to the fore the intra-African variability where some countries cannot afford or ignore the investment in digital learning infrastructure and platforms (OECD 2020). Although all Africa countries have legal provisions recognising the right to education, there is no corresponding law on access to the Internet. Policies relating to internet access operate in parallel rather than as a component of education provision. Outright lack or unequal access to the Internet could cause "black holes of information capitalism", resulting in further alienation of minority groups (Castells 2021).

Access to ICT infrastructure is crucial for achieving Sustainable Development Goals (SDGs). The 2030 Agenda for Sustainable Development calls for building "... resilient infrastructure, promote sustainable industrialisation and foster innovation by 2030".[1] SDG Target 9c aims at: "significantly increase access to information and communications technology and strive to provide universal and affordable access to the internet in least developed countries by 2020".[2] Considering experience of learners in Africa during COVID19 lockdown, the 2020 target might have come a little too late. Africa will achieve its universal broadband objective when it brings 1.1billion residents of the continent online. This is an aspiration with a $100b price tag that will address the infrastructural deficiency, address the skills gap, and develop an appropriate regulatory framework (World Bank 2019). Universal Access and Service policies ensure the availability, affordability, and accessibility of communications services, including the Internet. Thus, the effectiveness of a country's "internet inclusion policy" is imperative when evaluating internet penetration in any country (Wentrup et al 2016).

As of 10 March 2021, Africa had recorded 3,982,826 cases of COVID19 with 106,422 deaths. The continent reported its first COVID19 case on 14 February 2020 after a Chinese national who flew into Cairo tested positive for the virus. The first case in sub-Saharan Africa was

reported in Lagos, Nigeria, on 28 February 2020 when an Italian businessman tested positive after arriving in the country. Like other continents, COVID19 poses a serious threat to the social dynamics, economic growth, and security of Africa. To combat its spread, commercial and religious activities were suspended while civil servants of lower grades had to work from home.[3] National governments directed educational establishments to stop physical activities and migrate their teaching to the virtual environment. Arguably, Africa has been very proactive in tackling the importation and intra-continent transmission of the COVID19. However, it is doubtful whether strategies to sustain access to education were effective.

This paper evaluates the experience of online learners vis-à-vis access to the Internet during COVID19. What are the prospects of online learning during and after COVID19 lockdown? Drawing from available data, Part II argues that the online learning experience was haphazard and catastrophic. Part III navigates the contour of internet access as a human right in the absence of clear-cut legal frameworks. Finally, Part IV evaluates initiatives for post COVID19 online and broadband access in general.

PART II Learning During Covid19 in Africa: An Evaluation

The national governments strategic responses for continuous delivery of education varied between Africa countries and educational sectors; nonetheless, some commonalities exist. For instance, most governments physical classes and took over the administration of teaching in public primary and secondary schools, but private school proprietors were given flexibility on their operation of remote teaching. Beyond requiring tertiary educational establishments to stop face-to-face teaching, there was no other intervention at this level of education. So, universities and colleges had independence in designing their strategies in sustaining learning.

The sudden migration into the virtual environment for many schools was hindered by challenges not limited to the skills gap, lack of planning and preparation for digital delivery and suitability of online platforms (Hodges et al 2020). Research shows that in Africa, the use of the Internet for teaching and learning remains at the peripheral rather than an integral part of the educational process, especially at the secondary and the primary level of education (EdTeach Hub 2020). This is not significantly different at most public tertiary institutions where institutions are not obliged to provide internet access on the campus. Before the

COVID19 outbreak, internet supply had been privately procured by students and academic staff to advance their research, while institutions with access were plagued with poor connectivity. Even where these institutions have virtual learning platforms, they are used variedly. Unlike government-owned institutions, privately owned educational establishments could transpose their teaching online with ease. Their facilities are designed with the contemplation of integrating modern technologies into academic activities. These institutions are profit-driven, and they charge exorbitant tuition fees.[4]

Use of TV and Radio Sets
Given the existential digital poverty on the continent, most governments resorted to radio sets and television technologies for the continued provision of teaching. Africa appears to be the most active in leveraging either TV or radio in filling the learning vacuum created by the lockdown (UNESCO 2020). The relatively ease of accessibility of TV or radio technology make them the preferred choice for many governments. For example, the Cote Devoire's Ministry of National Education collaborated with UNICEF to launch *Mon école à la Maison* (My School at Home) to provide educational lessons through television and radio broadcast for preschool, elementary, and middle school and high school students.[5] Similarly under the Ethiopian COVID-19 Education Sector Emergency Response Plan, the government provided radio lessons for primary school students and TV programmes for secondary school students in different regions (Yorke et al 2020). The Association for the Development of Education in Africa (ADEA) curated strategic responses in Congo DRC, Rwanda, Ghana, Morocco, Mali and South Africa (ADEA 2020). Apparently, these technologies were deemed more suitable for pupils at pre-school age and primary school education. Countries that used both technologies were able to accommodate students with hearing and visual impairments. However, reliance on radio sets and printed materials alienated students who used sign language for communication.[6]

The impact and outcomes of this strategy are mixed. The durability of learning through the use of tv and radio during the pandemic is questionable. First, access to electricity either in urban or rural areas raises some concerns. Despite being a public good (Tully 2006), two-third of households do not have access to electricity in Africa (Brew-Hammond and Kemausuor 2009). While North Africa reached almost universal access to electricity by 2018, the electrification rate in sub-Saharan Africa was 45% in that year (International Energy Agency 2019).[7] Some countries suffer constant intermittent power supply while others rely on rationing to meet

demands from growing populations (Soyemi *et al* 2021). In urban areas of Nigeria, for example, most homes rely on generators to ameliorate the government's failure to provide stable electricity (Adewuyi et al 2020). Aside from the exorbitant cost of fuel to power generators, students learning is disrupted anytime there is an outage and by noise.

Second, the adoption of tv and radio also raises complex pedagogical concerns. The sudden adoption of online learning has the potential to diminish the quality of teaching and student engagement (Hodges 2020). Admittedly, learning becomes passive as students lack opportunities to seek clarification. Radio learners had to rely more on their imaginations, making this technology's suitability doubtful, especially for some subjects. Additionally, the organisations of classes are somewhat complicated. Many Ministries of Education are confused about the subjects to cover, the level to prioritise, the duration of classes, synchronisation of curriculum and inclusion of slow learners. Furthermore, there are no educational contents in audio-visual formats to cater for those with hearing impairment. Many countries had difficulties in producing content in quantity and quality in a short time; there were no pre-existing partnerships for the design and broadcasting of the educational content, and the lack of the know-how and expertise in monitoring and evaluation of learning (UNESCO 2020). Admittedly, using these technologies seems more like a box-ticking exercise as the content of materials is quite superficial and alienates many learners.

However, it is worth noting that the contribution of educational broadcasts through tv and radio surpasses the needs of students alone. For instance, some countries use these technologies to bridge the intergenerational learning gap. They are also used to educate the populace on safety protocol to prevent the transmission of COVID19 and other psychosocial well-being (UNESCO 2020).[8]

Internet and Remote Learning

Arguably, for the first time, learning via the Internet became a significant part of teaching and learning in Africa. However, the deployment and its success vary across African countries and levels of education. From the discussion above, it appears government strategies prefer using online learning methods for students at secondary and higher institutions. As such, less affluent pupils at the early childhood education level are disadvantaged due to the inefficiency of tv and radio technologies. When Rwanda provided zero-rated internet access to online platforms and zero fees for SMS, no provision was made for early childhood education learners in Ghana,

Madagascar and DRC (ADEA). (Davids 2020) argues that the closure of schools has given learners in private schools and affluent middle-class public schools extra edge over their colleagues in disadvantaged communities. These privileged learners have access to devices and connectivity but also support from teachers and parents. Conversely, their counterparts lack access to the Internet, and parents may be digitally illiterate to provide the needed support. As a result, the attrition rate among learners from economically poor communities may surge post COVID19 era (Le Grange 2020).

Although half of its population have access to the Internet, e-learning is still at its formative stage in Algeria. The country's e-learning platform BeeForm launched in November 2017 to provide companies and public institutions with digital tools for training on a mass level (Oxford Business Group, 2018). In mitigating the disruption to learning, the Algerian Ministry of Education made available educational material on YouTube for students within the K12 sector (Redouane 2020). It also partnered with the country's National Office for Distance Learning and Training in providing access to a list of websites and electronic platforms deemed suitable for K12 students to assess on the Internet. At this level, the pedagogical practices are pretty rudimentary. Merely providing access to materials will not translate into learning without systematic teaching. Systematic teaching requires the input of a tutor who selects and arranges information in a manner that guarantee continuity and progression in learning. University students, on the other hand, were able to explore the existing e-learning platforms. Delivery of lectures moved online through platforms like Zoom, Google Hangouts, and Microsoft Teams. However, learners and their teachers had to contend with slow internet connection and a lack of ICT infrastructure for large scale emergency remote education. In some instances, classes were cancelled because several lecturers had technical difficulties, trouble with WiFi, or panicked over the prospect of teaching the full class over the new platform. A survey documented the experience of one of the teachers thus "Internet connection was so weak; I was obliged to wait for two days to upload a video of 4 minutes!"(Hadjeris 2021). The President of the *Fédération Nationale des Associations de parents D'élèves* explained that

> "With the coronavirus, we had to move quickly and implement distance learning. There are some courses online, but not everyone is lucky enough to have a computer or an internet connection. We have a lot of large families, and it is difficult for the children to find a quiet spot in the house. So, in our situation, distance learning with television is more democratic..." (Zermane and Aitouche 2020)

Though the Internet could remedy some of the gaps of television and radio, this is hampered by internet access and connectivity.

The Democratic Republic of Congo (DRC) Instituted a nationwide lockdown on 19 March, forcing the closure of schools and universities across the country (Bigaba 2020). DRC's internet coverage is estimated to be less than 20%, and only 8% of households have internet access (ACAPS 2020). Average mobile phone penetration rates are only 26% compared to 43% in the region as a whole, and only 9% of individuals across the country use the Internet (GSMA 2015). Unlike primary school pupils who were taught through community radio stations under the partnership between education Cannot Wait, and UNESCO's Capacity Development for Education Programme, there was no respite for students in tertiary education. Most universities do not have reliable internet connectivity, and this requires the intervention of private operators. The problem is exacerbated where students have to study from home. A faculty member at the University of Kinshasa surmises that "Internet connection remains a luxury for Congolese students. How do you organise distance learning when many students don't have the necessary equipment to have online classes?... They can have a computer, but don't have electricity or Internet. It's difficult at the moment to think of distance and online learning" (Nkashama 2020).

Turning to East Africa, as of 2020, with 43 million internet users, Kenya has the third-highest number of internet users in Africa, behind Nigeria and Egypt (Johnson 2020). Internet activities have increased considerably since the introduction of the mobile telephone network in the early 2000s. While many business firms were quick in their adoption, there was less enthusiasm for non-commercial purposes adoptions. With the advent of the mobile telephone, there was a dramatic upsurge in internet activities. Internet penetration rose from 0.3 per cent to 45 per cent in the period 2000–16. The growth rate of internet users increased from 99.9 per cent in 2001 to 149.3 per cent in 2006 but gradually declined to 3.7 per cent in 2016, reflecting increasing market saturation among households (Edo et al 2019).

In ensuring internet access and continued learning, the Kenya Civil Aviation Authority (KCAA) entered into a partnership with Alphabet Inc. and Telkom Kenya to float Google's Loon Balloons carrying 4G base stations over Kenyan airspace.[9] In another collaboration, Safaricom, a private mobile network operator, and Eneza Education, Longhorn Publishers and Viusasa teamed up to support primary and secondary school students with free access to educational e-content. Eneza Education waived the daily subscription fee to its 'Shupavu291'

platform for 60 days. As a result, learners could access up to 250MB of educational content, Viusasa E-learning and the Longhorn E-learning portal per day through the Safaricom network.

Substituting physical classes with online learning implicates contractual performance, especially variation in a contractual agreement. There is a perception of online learning being of lower quality than face-to-face learning (Inman, Kerwin, & Mayes, 1999). Therefore, they should not be equally priced. The Kenyan court was asked to determine whether fee paying institutions could charge full tuition where they could not continue to provide face-to-face learning, which was within the contemplation of their contracts with parents and their wards. In *SPG (Suing as parents and guardians of students minors currently schooling at Sabis International School – Runda) v Directors, Sabis International School - Runda & 3 others,*[10] the petitioner had asked the court order that they did not have to pay full fees for the third term or until the Minister of Education reopens schools, whichever is the later. The parents argued that COVID19 had altered the contract signed with the school to provide accommodation, boarding facilities, access to an auditorium, a library and a laboratory. While the school agreed that its position of the contract had been altered, it contended that this was a private matter over which the court had no jurisdiction. The court rejected the respondent's argument and granted the interim order staying implementation of payment of full fees and allowed the Petitioners to offset up to and 80% for term 3.[11]

The private-public partnership between the Kenya Government and telecommunication service providers could not prevent the digital alienation of rural resident learners in Kenya caused by poor connectivity and lack of access to electricity (Parsitau and Jepkemei 2020). Besides, interoperability and compatibility become another obstacle in these communities. Navigating internet access involves complex negotiations. Many learners do not have smartphones and other ICT facilities. The competition for smartphones means that some children will have limited or no access to learning. Where adults have smartphones, there are tensions around privacy and kids' unsupervised internet access. Moreover, where electricity and technology do exist, the cost of the Internet is prohibitive. As a result, rural learners are put in a precarious position during national examinations.

In summary, the adoption of the Internet and allied digital platforms for learning during COVID19 lockdown is a cataclysmic failure. The Human Rights Watch documents typologies of learning experiences during the lockdown (Human Rights Watch 2020). First, some pupils were outrightly alienated from learning. For example, a mother in North Kivu, Congo, lamented, "It does not make me happy that my children are no longer going to school. Years don't wait for them. They have already lost a lot. What will become of our uneducated children?" Second, some students were lucky to have access to some form of learning but did through many struggles. In South Africa, a 17-year-old student complained about her ability to study effectively with online tools (Human Rights Watch 2020). Some students had to resort to rationing of internet data by prioritising which subject to download online (Human Rights Watch 2020). Another student had to use his mother's phone to do research on Google and YouTube when his school provided no form of learning. These narratives resonate in West Africa, where some parents complained of limited or expensive internet access.[12] Third, some pupils had no form of classes. In Morocco, some teachers did not turn up for their classes due to the inability to procure internet data (Human Rights Watch). Finally, tutors are also victims just like their pupils. Apart from outright lack or unstable connectivity, some teachers are ill-equipped for the intrigues of online learning and integration of technologies into their teaching (ADEA 2020).

Indubitably, the African education sector is quite diverse, and its challenges vary. First, the worst-hit are the children of primary school education who are ostracised by the strategic responses of governments. Unlike their counterparts in the developed world, who are "digital natives", they do not have adequate formal education at home or access to Internet-enabled devices. For this group of learners, their problems are not just about access to quality and speed of the Internet but lack of devices for learning. Second, most responses are reactionary. Many schools and governments are not prepared for the closure and the subsequent migration of studies online. The adoption of online learning was political decision without the understanding that technology enabled education is a long-term project with a commensurate investment. While the inability to foresee the COVID19 pandemic might be pardonable, the lack of political foresight is not. Disappointedly, national policies have not been prepared to support digital access and digital literacy. Many governments neglect to initiate or implement policies or laws requiring ISPs to extend their services to public institutions like schools, libraries, and the remote areas of their country. As it will later be argued below, universal access and universal services failed. The partnerships with telecoms companies are not far-reaching. Third, internet

accessibility and affordability are two sides of the same coin; and their absence poses a threat to effective learning. Where available, the connectivity is weak to support synchronous and interactive teaching (Le-Grange 2004).

PART III International Law and Right of Internet Access
Lack of internet access, data devices and digital skill gaps aggravate digital inequality. According to (Steele 2019),

> [d]igital inequality is evident between communities living in urban areas and those living in rural settlements; between socioeconomic groups; between less economically developed countries and more economically developed countries; between the educated and uneducated population. Individuals with access to a broadband connection can be digitally split. How? Low-performance computers limited broadband speeds and limited access to subscription-based content widen the gap.

Even where there is access, the socio-economic ability prevents people in Africa from appropriating the Internet.

Many African countries' sudden turn to technology at the peak of the COVID19 crisis portrays an instrumentalist perspective of technology. According to this construct, "technologies are 'tools' standing ready to serve the purposes of users." (Feenberg, 1991). Given its neutrality, a technological device is evaluated on the basis of the particular employments that have been decided by its human designer or user (Gunkel 2020). However, this approach ignores the embodied and socially embedded nature of individual learners. An instrumentalist approach to the use of technology for educational purposes treats digital technology as a mere tool to be given to everybody to be equally accepted and effectively used (Du Toit and Verhoef 2018). This digital divide is 'constructed socio-economically rather than generationally, with users from privileged backgrounds tending to use the Internet more widely and effectively than their less privileged peers' (Du Toit and Verhoef 2018). This is in contradistinction to an embodied understanding of technology. Here, there is an emphasis on the interaction of students with technology. This perspective of technology recognises the student's personhood considering characteristics such as language, culture, perceptual faith and imagination. It allows the transition and systemic development and how learners evolve with their learning process.

The Internet has contributed to the removal of cultural, economic and geographical barrier to communication. Internet access is linked to other rights like freedom of expression, freedom

of assembly and access to education. The right to education is also crucial to actualising other economic, social and political rights (Coccoli 2017, Faturoti 2021). Thus, the Internet has acquired a centripetal power to which all other rights gravitate; this new power has made sparked a debate whether it should be elevated to the status of (human) right.[13]

Crucial to the recognition of internet access as a human right is the existence of a robust normative framework in the form of international human rights law advocating such rights. Due to its relative novelty, human rights to access the Internet have not found support under any international law. Creating a new human right is a tedious process requiring the consensus of academic scholars, civil societies, human rights stakeholders, and national governments.

The UN might be termed prophetic, two decades before the COVID19 pandemic, when in its Millennium Declaration resolved to ensure that the benefits of new technologies - information and communication technologies are available to all (United Nations 2000). Also, the World Summit on Information Society (WSIS) states that "ICTs should be regarded as tools and not as an end in themselves"(WSIS 2003). Their significance means that that "Everyone, everywhere should have the opportunity to participate and no one should be excluded from the benefits the Information Society offers" (WSIS 2003). Though WSIS fails to declare Internet access a human right, it advocates for universal ICT access. Ordinarily, universal, ubiquitous, equitable, and affordable access to ICT infrastructure and services is absent. This challenge can only be overcome by the national government in collaboration with other stakeholders such as the private sector, civil society, and other international bodies responsible for developing the Information Society (WSIS 2003).

La Rue, the Special Rapporteur on the Promotion and Protection of the right to freedom of opinion and expression for the United Nations (UN), concludes that States should prioritise universal access to the Internet through concrete and effective policy (La Rue and UN Human Rights Council 2011). His report submits that there are bases under international law to treat internet access as a human right:

> By explicitly providing that everyone has the right to express him or herself through any media, the Special Rapporteur underscores that article 19 of the Universal Declaration of Human Rights and the Covenant was drafted with foresight to include and to accommodate future technological developments through which individuals can exercise their right to freedom of expression. Hence, the framework of international

human rights law remains relevant today and equally applicable to new communication technologies such as the Internet. (La Rue and UN Human Rights Council 2011)

Be that as it may, Art 19 does not expressly proclaim internet access as a human right; instead, it recognises the sameness of human rights online and offline. Even where it does, UDHR is not a binding treaty. However, the provision of UDHR is *imperi materia* with Art 19 of the International Covenant on Civil and Political Rights (ICCPR). Although the Human Rights Committee is short in declaring that internet access is a human right, it underscores the need of State parties to take cognisance of the role of the Internet and other ICT in the access and dissemination of information. All steps must be taken to ensure these new media's independence and ensure access of individuals to them (OHCHR 2011).

In 2016, the UN's Human Rights Council weighed in on whether internet access should be categorised as a fundamental right. In a non-binding resolution, the Promotion Protection and Enjoyment of Human Rights on the Internet, the Council underscores and affirms "the importance of applying a human rights-based approach in providing and in expanding access to Internet".[14] Understanding that Internet access transcends mere network connection, the Council advocates a holistic approach to eradicating digital poverty. Furthermore, the Council calls for bridging gender and disability initiated digital divides. Realising the relationship between the Internet and the actualisation of other human rights, it emphasises "the importance of building confidence and trust in the Internet," which has always been a barrier to using the Internet for development, innovation, cooperation, and education (Petri 2017). Although there is no explicit reference to access in the rural and insular areas, the specific mention of persons who have traditionally faced barriers to enjoying the full benefits of modern society makes this explicit.

At the regional level, the Council of Europe Conference of Ministers Responsible for Media and New Communication Services observed that with the strong reliance on Internet as a tool for everyday activities, there is an expectation that Internet services will be accessible and affordable, secure, reliable and ongoing.[15] Like the Human Rights Council, the Member States of the Council of Europe are to ensure that their national policy provides for universal internet access.[16] In 2016, the Committee of Ministers to member States on Internet freedom recommended that (i) internet access must be accessible and affordable without any discrimination; (ii) the public has access to the Internet in facilities supported by public

administration (Internet access points), educational institutions or private owners (universal community service) and (iii) the provision of the Internet must be extended to those with low income, in rural or geographically remote areas and those with special needs (Council of Europe 2016).[17] Disappointedly, the document is a mere recommendation without any force law, and members could not be compelled to adopt.

On the African Continent, while recognising the role of the Internet as a driving force in accelerating progress towards development in its various forms", the African Commission on Human and People's Rights (ACHPR) in 2016 issued a resolution on the Right to Freedom of Information and Expression on the Internet in Africa. The resolution calls on the African States to implement legislative and other measures to guarantee, respect and protect citizens' right to freedom of information and expression through access to Internet services (ACHPR 2016).[18] This resolution builds on the ACHPR objective advocating the right to freedom of information and expression as enshrined under Article 9 of the African Charter and other international human rights instruments. In a broader context, this is important if those rights protected offline are to enjoy protection online. Also, a Pan-African initiative, the African Declaration on Internet Rights and Freedoms was intended "to promote human rights standards and principles of openness in internet policy formulation and implementation on the continent." (African Declaration 2014).[19] Its Declaration states that "Access and affordability policies and regulations that foster universal and equal access to the Internet, including fair and transparent market regulation, universal service requirements and licensing agreements, must be adopted." (African Declaration 2014)[20] The declaration further notes that marginalised groups do not have equal access to the Internet, and special measures must be deployed to guarantee and preserve all rights exercisable online without discrimination. Disappointedly, the African Declaration is a soft law and merely advisory. No other African initiated instrument mandates the African government to provide internet access.

PART IV Online Learning Beyond COVID19: The African Perspective
There has been significant progress on internet access in Africa. The current internet penetration landscape had changed from what it was in 2000 when the whole continent had less Internet bandwidth than Luxembourg (ITU 2000). However, as of 2013, only 13% of all Africans used the Internet, compared to 36% globally, and more than half of urban African adults owned Internet-capable devices (McKinsey Global Institute 2013). By 2019, Internet

penetration averaged 39.6% in Africa compared to 62.7% in the rest of the world (World Bank 2019). Comparably, Africa is very far from achieving the potential of the digital economy to benefit its population. There remains immense variation among African countries, ranging from 89.8% in Kenya to 5.3% in Burundi. Although many African governments have realised that connectivity is essential for economic development, there is no clear-cut African initiated treaty on internet provisions. Instead, this gap has been filled by regional arrangements and agency-led initiatives.

As argued above, Art 19 does not explicitly proclaim internet access a human right. Instead, La Rue opines that it could provide a right-based approach to internet access. The (Human Rights Council 2016) calls "all States to consider formulating … and adopting national Internet-related public policies that have the objective of universal access and enjoyment of human rights at their core."[21] Among the policies contemplated are "universal service" and "universal access". However, these policies are not construed as a fundamental right. Instead, they are enforceable right; some countries make provisions for them in their secondary legislation. This paper will now evaluate the implementation of universal service and universal access polices in Africa.

Universal Service and Universal Access to the Internet

Broadly, the terms "universal service" and "universal access" are used in different contexts to indicate government aspirations and policy objectives in guaranteeing that citizens participate in the benefits of modern economic life (Maddens 2009). They are policy aspirations designed to achieve equality and fairness of opportunity along with economic growth. Early discussions have always situated these policies in the context of telecommunication services, precisely, telephony. The evolving technological landscape has broadened this to include the availability of broadband networks, their adoption and use.[22]

Although "universal service" and "universal access" have been used synonymously, the two are distinct (González and Milne 2008). Universal service presupposes service for every household or individual (Xavier 2008). It guarantees "…those whose financial resources or geographical location do not allow them to access the basic services that are already available to and used by the great majority of citizens and which are considered essential for participation in society."[23] Universal access, on the other hand, contemplates public availability of services through means like payphones, community centres, public library and other public places.

Central to both concepts is the three principles of availability, affordability and accessibility (Oestmann and Dymond 2008). In other words, the underlying objective of these policies is equal opportunities for uneconomic consumers and unprofitable areas that would have been excluded in the absence of such policy. For convenience, this paper will adopt the phraseology "Universal Access and Services" (UAS).

Various methods have been deployed in achieving UAS. Among them are: exclusivity periods for incumbent service providers, market reform, mandatory universal service obligations, regional or sub-regional licenses and universal service funds. It also requires national governments to set up Universal Access Funds/Universal Service Funds to expand access.

Considering that UAS is a matter of economics, politics and social values, the debate on the elevation of internet access as a human right would be meaningless without a policy objective in support. Scholars have argued that "by preparing the foundation of an inclusive internet policy, African countries will increase their chances of integrating their citizens into digitised society, which eventually will have positive effects for social and economic development." (Wentrup et al. 2016). Adopting an appropriate policy is crucial in ensuring that those digitally disadvantaged can access the Internet. Such an approach must elevate UAS obligation above a sheer corporate social responsibility activity which is subject to the goodwill and generosity of investors and service providers. Significantly, UAS must be enshrined in national legislation, regulations and government policy documents. This will confer credibility, authority and enforceability on the policy and, more importantly, assist when evaluating its implementation and success.

Most African countries have included universal service policies in their overarching digital strategies. As of 2013, the International Telecommunication Union recorded that not less than thirty-one African countries have an existing UAS policy (ITU 2013). In West Africa, the Economic Community of West African States initiated a harmonisation process of UAS policies in the region. The ECOWAS Supplementary Act on Universal Access/Service was adopted in 2007.[24] The Act addresses six major issues: the creation of an appropriate regulatory and policy environment that fosters universal access/service; measures that can be taken to develop a national policy with realistic universal access/service objectives; role to be played by national regulators, policymakers and operators; telecommunications services to be included in universal service obligations; funding mechanisms; and cooperation in the area of

universal access/service.[25] Despite this, the scope and definitions of UAS vary as many Member States have not maximised the Act.

Nonetheless, Ghana, Nigeria, and Senegal are leading countries in the region with well-established universal access strategies. For example, the Digital Senegal 2016-2025 Strategy calls for making broadband a priority through public-private partnerships for infrastructure sharing and deploying networks in unserved areas.[26] In addition, the strategy calls for the application of broadband across different regions, such as connecting schools, putting government services online and wider use of electronic commerce. The overall objective of the Senegalese strategy could be deduced from the slogan "the digital for all and for all uses in 2025 in Senegal with a dynamic and innovative private sector in an efficient ecosystem".[27] In Ghana, building on the Electronic Communications Act of 2008, the Ghanaian Broadband Strategy 2012 sets out the direction for Ghana's high-speed Internet. It, therefore, redefines universal service obligation for communication service providers to include *functional internet connection*. Furthermore, the strategy underscores the need to break the urban syndrome for broadband adoption favouring universal adoption to boost broadband access in rural areas.[28] Commendably, this strategy clarifies the definitional uncertainty on the distinction between universal access and universal service under the Electronic Communications Act of 2008. Whereas the legislation has confined universal service to telephony, making it appear that universal access is only applicable to broadband provision.

The silo approach to UAS among East African Community (EAC) the Member States led to disparate policies (Nyaga et al. 2013). The EAC Model ICT Policy Framework aims to establish a harmonised system for regulating ICT services and networks in the region. While noting the problem of limited and poor rural connectivity, affordability and availability of ICTs in underserved areas, and lack of knowledge-sharing networks at the grassroots level, the framework mandates Members States to establish UAS Fund for the ICT sector to meet UAS objectives.[29] Disappointedly, this policy framework is very rudimentary and not far-reaching.[30] Many key terms are left undefined while the development of the Framework remain demitted for the Member States and National Regulatory Authorities (NRAs). Moreover, unlike the ECOWAS UAS framework primarily devoted to universal access, the EAC framework ambition to cover many issues resulted in a superficial treatment of internet access.

All EAC countries, except South Sudan, currently have some form of national broadband policy or strategy. Uganda is ahead of other big EAC Member States like Kenya and Tanzania. The 2005 Communications (Universal Service) Regulations provides a comprehensive universal policy service for Uganda. It adopts a broad definition of universal service obligation.[31] The regulation mandates the Uganda Communications Commission (UCC) to support the provision of universal service obligations by the operators. One main objective of UCC is to promote widespread access to quality services at affordable rates and ensure that rural and high-cost areas have access to communication and information services at prices reasonably comparable with those offered in urban areas.[32] The Information and Communications (Universal Access and Service) Regulations 2010 contains the Kenyan approach to internet access. Unlike the Ugandan Regulation, the Kenyan regulation bifurcates universal access and universal service from a private-public perspective. It, however, shares a similar objective in providing access by promoting the building of communications infrastructure and services rollout in rural, remote and under-served areas.

Arguably, s32 of the South African provides a constitutional basis for access to the Internet as a form of human right under the right of access to information. The South African court reasoned that "[a]ccess to information and the facilitation of learning and understanding *are essential for meaningful involvement* of ordinary citizens in public life. This…reflects the foundational principle of democratic government which ensures accountability, responsiveness and openness."[33] The s32 provision is amplified by two principal government ICT policies: (i) South Africa Connect: Creating Opportunities, Ensuring Inclusion (South Africa's Broadband Policy),[34] and (ii) the National Integrated ICT Policy White Paper (DPTS 2016)[35] The latter emphasises the interplay between access to the Internet and the constitutional right to equality. The White Paper contains the overarching policy framework in transforming South Africa into an inclusive and innovative digital society. Chapter 5 deals with UAS. It identifies two priority areas, namely: (i) Increasing coverage to rural, remote and underserviced areas, and (ii) Digital inclusion of all segments of society, with priority being given to support persons with disabilities, persons with limited or no income, and public institutions fulfilling specific public needs (such as schools, clinics and hospitals, and police stations).

In addition to the policy papers, the South African government have enacted other legislation that implicates access to online information: the Promotion of Access to Information Act 2000 and the Electronic Communications and Transactions Act 2002 (ECTA) and Electronic

Communication Act 2005 (ECA). The ECTA universal service mandate is very instructive. The Act requires that the national e-strategy provide connectivity to disadvantaged communities; encourage the private sector to initiate schemes to universal access; foster the adoption and use of new technologies for attaining universal access; stimulate public awareness, understanding and acceptance of benefits of internet connectivity and electronic transacting.[36]

Apparently, the problem with Africa internet access is not the absence of UAS policy or legislation. Instead, the hurdle is the effective implementation and policy mismatch. For instance, commercial mobile phone penetration has been pursued to the detriment of broadband access. (Dorward 2013) argues that poorly designed legal and policy frameworks hinder universal the ability of USF to be transformative in terms of widening its scope to reflect technological and service changes. Besides, there has been a stark failure in the enforcement of Universal Service Obligation. First, there is poor or no utilisation of universal service funds (USF). USF is established to ameliorate the failure of the market to cater for the wider societal need (Msimang 2012). For example, the Egyptian policy document says that the purpose of its USF is to provide affordable basic telecommunications services for all citizens, particularly those in 'economically non-feasible regions of the country.[37] On the other hand, the Tanzanian USF aims to ensure the availability of 'communication services' in the disadvantaged area to promote socio-economic development.[38] Thus, USFs are designed to compensate service providers for extending their services to underserved and disadvantaged areas.[39] Despite the USFs role in furthering access, the disbursement has been very slow or inactive even where funds are continued to be generated. Disappointedly, the Ivorian government waited for eight years before disbursing its funds, while DR Congo is yet to begin the disbursement of its fund. Of the 23 USFs surveyed in sub-Saharan Africa, more than a third is yet to disburse or partial disbursement. In 2018, an estimated USD 408 million sat un-distributed in USFs across 37 African countries (Thakur and Potter 2018). These low fund activity levels are the product of regulatory bottleneck, lack of political will and lack of technical know.

Second, the underlying regulatory framework for UAS and its funding through USFs is faulty. Whereas enabling legal and regulatory framework for UAS must be robust, flexible and technologically neutral. However, the UAS policies of many African countries are stuck in the provision of universal service to fixed telephone lines as opposed to internet access. Expectedly, the definitions of UAS are narrowly couched and exclude dial-up internet, wireless

and broadband services. This provides an understanding of the failure and catastrophic experience that underline learning during COVID19. Only ten of twenty-three countries included in a report permits their USFs to be spent on the provision of wireless internet service only six countries make provisions for broadband services. Countries like Cameron, Gabon, Mali, Mauritania, and Niger fail to invest in infrastructure. The review process of changing the focus of USF is either too slow or not happening at all; hence, idle funds cannot be disbursed for emerging technology like broadband as this was not their original mandate (Dorward 2013).

Third, a related issue to the enforcement of the UAS obligation is its justiciability. If internet access is classified as a human right, further clarification is needed as to its nature. Although internet access intersects with civil and political rights, arguably, it will fall under social and economic rights. However, at the domestic level, there are doubts about the enforcement of social and economic rights (Yeshanew 2013). It is unclear whether courts can legitimately adjudicate economic and social issues. However, Yeshanew argues that the protection of socio-economic, cultural rights as substantive norms and their subjection to adjudicatory enforcement by the African Commission means that the rights are generally justiciable (Yeshanew 2011). Only South Africa provides a constitutional basis for access to the Internet but as a corollary right under the right of access to information. Socio-economic rights are clearly justiciable under South African law,[40] but they are not in many other African countries.[41] For instance, in a country like Nigeria, socio-economic rights listed under the Chapter II of the Nigerian Constitution are not regarded as enforceable.[42] In Uganda, the Constitutional court in *CEHURD & Others v Attorney General of Uganda* underscored the difficulty of enforcing a socio-economic right, in this case, the right to health.[43] In countries where these rights are enforceable, they remain limited by litigation costs, limited access to court and complicated legal structure(Gloppen and Kanyongolo 2007).

Policy and Regulation Initiative for Digital Africa (PRIDA)

Digital transformation requires the introduction of appropriate policy and regulation. Without this, policymakers are left applying 'analogue' approaches to entirely new problems. Scholars have underscored the importance of new analytical frameworks and decision tools if any continent desires to transition from an analogue into the future of the globalised digital economy (Zanatta & B Kira 2018). In 2017, a collaboration, the Policy and Regulation Initiative

for Digital Africa (PRIDA) was initiated among others to evaluate harmonise measurable ICT/Telecommunications policy, legal and regulatory framework.

PRIDA is a joint initiative of the African Union (AU), the European Union (EU) and the International Telecommunication Union (ITU). It is a three-year initiative (2018 - 2022) supported by the EU-funded Pan African Programme. Regulatory uncertainty and policy gaps discourage investment in the ICT sector resulting in unaffordable broadband prices. PRIDA aims to foster universally accessible and affordable broadband across the continent to unlock future benefits of internet-based services.[44] Its overall objective is to create a more harmonised and enabling regulatory framework for the use of Information and Communication Technology for social and economic development, with an emphasis on boosting the spectrum market across Africa.[45]

Considering that Internet access in Africa has been hindered by inefficient regulatory environments, lack of coherent regional infrastructure policies, and political interference. It is hoped that PRIDA digital platform will serve as a continental virtual space that provides one space for all national, regional and continental related ICT policies, legislations and Regulations. It will be the tool to support harmonisation of these policies and regulations and a mechanism to collect ICT & Internet data from undertaking statistics to monitor and evaluate the progress to truly reflect African countries realities with regard to broadband penetration and preparedness to digitalisation. It should be noted that an efficient regulatory environment and harmonised policies have the tendency to build a consolidated continental digital ecosystem, address the root causes of market failure in Africa, foster the development of an inclusive digital economy and contribute to consumer welfare. Besides, it will increase competition and widen entry into ICT markets across the continent for more efficiency and affordability of services.

The Digital Transformation Strategy for Africa

Working with the UN Economic Commission for Africa, Smart Africa, AUDA-NEPAD, Regional Economic Communities, African Development Bank, Africa Telecommunications Union, Africa Capacity Building Foundation, International Telecommunication Union and the World Bank, the African Union Commission prepared a comprehensive Digital

Transformation Strategy for Africa.[46] The strategy was endorsed by the Thirty-Sixth Ordinary Session of the African Union Executive Council held in February 2020. The DTS envisions an "integrated and inclusive digital society and economy in Africa that improves the quality of life of Africa's citizens, strengthen[s] the existing economic sector, enable[s] its diversification and development, and ensure[s] continental ownership with Africa as a producer and not only a consumer in the global economy". (African Union 2020)[47]

The DTS builds on existing initiatives and frameworks, such as the Policy and Regulatory Initiative for Digital Africa (PRIDA), the Programme for Infrastructure Development in Africa (PRIDA), the African Continental Free Trade Area (AfCFTA), the African Union Financial Institutions (AUFIs, the Single African Air Transport Market (SAATM); and the Free Movement of Persons (FMP) to support the development of a Digital Single Market (DSM) for Africa, as part of the integration priorities of the African Union. The DTS sets its overall objective as follows: "to harness digital technologies and innovation to transform African societies and economies to promote Africa's integration, generate inclusive economic growth, stimulate job creation, break the digital divide, and eradicate poverty for the continent's socio-economic development and ensure Africa's ownership of modern tools of digital management."[48]

One of the problems identified in this paper is the absence of appropriate policies that support internet access in some African countries, especially investment in rural and remote areas. The DTS contains the following specific objectives:

- Create a harmonised environment necessary to guarantee investment and financing by setting up a digital sovereignty fund in order to close the digital infrastructure gap and achieve an accessible, affordable and secure broadband, across demography, gender, and geography;
- Harmonise policies, legislations and regulations and establish and improve digital networks and services with a view to strengthening intra-Africa trade, intra-investment and capital flows and the socio-economic integration of the continent, while maintaining a relational balance with other continents in the context of networked economies (Digital economy, collaborative economy)
- Implement laws, policies and regulations required to stimulate and accelerate digital transformation for national, regional and continental development;[49]

Part VII (A) of DTS requires governments to create an enabling environment with policies and regulations that promote digital transformation. Policy, legal and regulatory framework must be flexible, up-to-date, incentive-based and market driven if they are to promote digital transformation. Policy stability and predictability motivate investors to innovate and take business risks. It recommends that policy design must take holistic approach be human-centred. Specifically, "Special attention should be given to women, people living in remote areas, people with disabilities, disadvantaged and marginalised communities through the establishment of a platform for dialogue and social cohesion and dialogue that involves these groups targets. The promotion of online cultural diversity must be supported to ensure that every person participates fully in society." While it is hoped that the implementation will address the policy failure of UAS, it does not address whether legal and regulatory framework should consider classifying the right to Internet as human right.

Of specific relevance to internet penetration and broadband availability is Part VII B which addresses provision of digital infrastructure. DTS recognises the role of affordable, accessible and reliable infrastructure in achieving inclusive digital access. However, because internet penetration is mobile phone driven, unmetered pricing is not common in Africa. The DTS seeks governments to promote measures that increase the affordability of broadband and technology devices & services. For example, governments or their relevant agencies must maximise Universal Service Funds in extending infrastructure to underserved areas and reduce access pricing; adopt appropriate policy and regulation in areas such as taxation to promote the affordability of Internet; prioritise connections to public buildings such as libraries and schools; and ensure access to affordable devices to people living with disability, elderly and the disadvantaged to access the Internet.

On the relationship between internet access and education, there is an admission that the continent has failed to introduce technology in education. This is due to reasons not limited to technical barriers, policy and regulatory constraints, and capacity to manage the integration of technology in education. In rectifying the disjunction between education and internet access, the DTS adopts a holistic approach by advocating that ICT should be introduced to all levels of education and both formal and informal. It identifies that:

> Connecting Africa's universities, skills-training institutions and secondary schools with broadband Internet is essential if the continent is to realise the potential of digital

technologies in education. Further, all young people need to acquire digital skills at the basic and intermediate levels if they are to use technology. Integration of digital skills training into the core curriculum of formal education courses for all learners, irrespective of their specialisation, is essential.[50]

Considering that education has become another form of export, connecting African schools with broadband is imperative if the continent's educational sector is to be competitive in post COVID19 era. In addition, African research institutions need to be connected to a stable internet grid for the purpose of collaboration, grants applications and ground-breaking research. Beyond this, investment in broadband drives economic growth, productivity and innovation.

Conclusion

The dynamics of internet access range from political, economic, to social. Its intersection with other rights and integration into quotidian activities provide ample justifications for its elevation to a human rights status. The consequence of the lack of such status was felt in both developed and developing countries alike during the COVID19 lockdown.

Though there are commendable developments in internet penetration in Africa, the continent still lags compared to other regions of the world. Mobile internet penetration gives false positives on Africa's internet landscape. Internet access remains expensive, and the connection is unreliable. The experience during the COVID19 shutdown in 2020 underlines that most countries in Africa have not effectively integrated the Internet into the learning process. And the victims of this failure are not just the pupils but includes their parents and educational establishments. Lack of political will, outdated policies and non-implementation of UAS objectives are among the many factors that still make Africa remains a digital desert. With the experience of COVID19 relatively behind, this article hopes that the emerging digital strategies in Africa could be utilised in enhancing access to the Internet and its integration into learning.

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Notes

[1]See https://www.un.org/sustainabledevelopment/infrastructure-industrialization/ Goal 9
[2] Ibid 33 of the 47 Least Developed Countries are on the African Continent.
[3] For example, on the 15 March 2020, the Ghanaian government banned all public gatherings including conferences, workshops, funerals, festivals, political rallies, church activities and other related events at a press briefing on the state of COVID-19 while the South African government announced a 2-day lockdown on the 23 March 2020.

[4] For examples of tuition being charged by private schools in South Africa, please see https://businesstech.co.za/news/trending/459994/the-most-expensive-schools-in-south-africa-in-2021/

[5] https://www.globalpartnership.org/where-we-work/cote-divoire

[6] For examples on responses of African countries to learning during COVID19, please see National learning platforms and tools https://en.unesco.org/covid19/educationresponse/nationalresponses

[7] International Energy Agency *Africa Energy Outlook 2019*

[8] https://en.unesco.org/news/learning-through-radio-and-television-time-covid-19

[9] Loon is a network of stratospheric balloons that provide internet connectivity to rural and remote communities. "The high-altitude balloons in the stratosphere create an aerial wireless network with up to 4G-LTE speeds. Users connect to the balloon network using a special Internet antenna attached to their building." A single balloon can provide internet connectivity across an 80km diameter area.

[10] [2020] eKLR available http://kenyalaw.org/caselaw/cases/view/199128/

[11] Ibid [46]

[12] Ibid

[13] Human Rights Council Thirty-second session Agenda item 3 Promotion and protection of all human rights, civil, political, economic, social and cultural rights, including the right to development [D]ecides to continue its consideration of the promotion, protection and enjoyment of human rights, including the right to freedom of expression, on the Internet and other information and communication technology, as well as of how the Internet can be an important tool for fostering citizen and civil society participation, for the realization of development in every community and for exercising human rights, in accordance with its programme of work

[14] http://ap.ohchr.org/documents/E/HRC/d_res_dec/A_HRC_32_L20.docx

[15] First Council of Europe Conference of Ministers Responsible for Media and New Communication Services (Reykjavik, Iceland, May 29, 2009), MCM (2009) 011, Political Declaration, para.5.

[16] See Council of Europe and Internet Freedom: From Principles to Global Treaty Law

[17] Recommendation CM/Rec(2016)5 of the Committee of Ministers to member States on Internet freedom (Adopted by the Committee of Ministers on 13 April 2016 at the 1253rd meeting of the Ministers' Deputies)available at https://search.coe.int/cm/Pages/result_details.aspx?ObjectId=09000016806415fa

[18] 362 Resolution on the Right to Freedom of Information and Expression on the Internet in Africa - ACHPR/Res.362(LIX)2016

[19] See the African Declaration on Internet Rights and Freedoms 2014 https://africaninternetrights.org/en/about

[20] See the African Declaration on Internet Rights and Freedoms 2014 https://africaninternetrights.org/sites/default/files/African-Declaration-English-FINAL.pdf

[21] See Human Right Council 32 Session on the the Promotion, protection and enjoyment of human rights on the Internet http://ap.ohchr.org/documents/E/HRC/d_res_dec/A_HRC_32_L20.docx

[22] For example, the US Communications Act 1996 was introduced to pave way for the recognition of the Internet as new ICT

[23] See the Communication from the Commission to the Council, the European Parliament, the European Economic and Social committee and the Committee of the Regions On the Review of the Scope of Universal Service in accordance with Article 15 of Directive 2002/22/EC [SEC(2005)660] /* COM/2005/0203 final */

[24] See ECOWAS Supplementary Act A/SA.601/07

[25] See Ibid Art 3

[26] ITU 2018 *Measuring the Information Society Report Volume 2. ICT Country Profiles* available at https://www.itu.int/en/ITU-D/Statistics/Documents/publications/misr2018/MISR-2018-Vol-2-E.pdf

[27] See IST Africa "Introduction: Republic of Senegal" https://www.ist-africa.org/home/default.asp?page=doc-by-id&docid=5558

[28] Ibid

[29] See East African Communication Organisation ICT POLICY & REGULATORY FRAMEWORK HARMONIZATION http://www.eaco.int/admin/docs/reports/Draft_Model_ICT_Policy_KGJ_March_2015.pdf

[30] EACO EAC MODEL ICT REGULATORY FRAMEWORK 2017 http://www.eaco.int/admin/docs/publications/EAC%20MODEL%20ICT%20REGULATORY%20FRAMEWORK.pdf

[31] The 2005 Communications (Universal Service) Regulations s5

[32] S3(e)

[33] See the case of *South African Broadcasting Corporation v Director of Public Prosecution* (CCT58/06) [2006] ZACC 15 para 28 emphasis supplied

[34] Department of Communications. (2013). South Africa Connect: Creating Opportunities, Ensuring Inclusion (South Africa's Broadband Policy). www.gov.za/documents/electronic- communications-act-south-africaconnect-creating-opportunity-ensuring-inclusion

[35] Hereinafter the White Paper

[36] ECTA s6

[37] Universal Service Fund Policy (Final) (2017), Egypt.

[38] UCSAF 2014. The Ghana Investment Fund for Electronic Communications (GIFEC) aims to provide financial resources for the establishment of universal service and ensure access to ICT and basic telephony, by rural communities in Ghana. This includes facilitating and providing internet, multimedia, broadband service to unserved and underserved rural communities. See Patrick Ohemeng Gyaase, Augustine Takyi "A Case for Public Financing of Broadband Internet Infrastructure In Ghana" (2014) 3(2) International Journal of Scientific & Technology Research 60-68

[39] To correct the imbalance therefore the government, through the Ghana Investment Fund for Electronic Communications (GIFEC), has also initiated projects that will facilitate citizens' access to connectivity and thereby government activities. They include the school connectivity program, which aims to install internet access and computers and other IT accessories in all senior secondary schools and colleges of teacher education, as well as technical and vocational schools.

[40] *Republic of South Africa v. Grootboom 2000 (11) BCLR 1169 (CC) (S. Afr.).*

[41] On justiciability in Malawi, see *Ministry of Finance ex-parte SGS Malawi Limited Miscellaneous Civil Cause Number 40 of 2003*.

[42] Nigerian Constitution 1999 as amended s6(6)c; See also Archbishop Anthony Okogie v. AG Lagos State (1981) 2 NCLR 337 at 350

[43] Constitutional Petition No. 16 of 2011

[44] https://africa-eu-partnership.org/en/projects/policy-and-regulation-initiative-digital-africa-prida

[45] PRIDA "Policy Harmonisation" available at https://oneprida.africa/policy-harmonisation/

[46] African Union "The Digital Transformation Strategy for Africa (2020-2030)" https://au.int/en/documents/20200518/digital-transformation-strategy-africa-2020-2030

[47] Ibid

[48] Ibid

[49] Ibid

[50] Ibid

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