Factsheet on:
EdTech in Education Emergency

Global Impact of Pandemic on Education

1.5billion
learners were affected by COVID-19 pandemic in 2020[1]

COVID-19 pandemic demonstrated the value of Internet connectivity which has been an essential lifeline for the continuity of business, healthcare, education, government, and other critical activities[2]

260 million
children, adolescents and youth were out of school. (UNESCO 2021) in 2020 [4]

Low-tech" interventions such as paper-based activities and radio programs helped educational institutions in low-income countries educate those who need it the most amid the pandemic[3].

244 million
children and youth between the ages of 6 and 18 worldwide were out of school. (UNESCO 2022) [5]

The pandemic forced high-income countries like USA and UK to move from conventional form of learning to digital learning.

Several countries around the world used television and/or radio-based programmes to implement distance education. Africa seems to be the most active in the efforts to leverage either TV or radio (70%).

[1] Education: from school closure to recovery | UNESCO
[2] The Internet Society Pledges to Expand Internet Access in Africa
[3] Schools in low-income countries are embracing 'low-tech' solutions amid the pandemic - BusinessWorld Online (bworldonline.com)
[4] UNESCO. 2021. Global Education Monitoring Report 2021/2: Non-state actors in education: Who chooses? Who loses? Paris, UNESCO, https://unesdoc.unesco.org/ark:/48223/pf0000379875
[5] Out-of-school numbers are growing in sub-Saharan Africa | Global Education Monitoring Report (unesco.org)
[6] Learning through radio and television in the time of COVID-19 | UNESCO

Impact Of Covid-19 Pandemic On Edtech in Sub-saharan Africa

01 Oceania was the region where schools remained open the longest, an average of 85% of regular instruction days,

followed by sub-Saharan Africa (57%) and Europe and Northern America (53%). Latin America and the Caribbean was the region where schools remained open the least (25%); the next lowest share was that of Northern Africa and Western Asia (31%)[7]. (UNESCO, 2021).

03 Sub-Saharan Africa remains the region with the most children and youth out of school, with a

total of 98 million children. It is also the only region where this number is increasing: out-of-school rates are falling more slowly than the rate at which the school-age population is growing[8].   (Sep 2022). Nearly three quarters of girls in sub-Saharan Africa were out of school, along with two-thirds of boys (All in School, n.d.).

02 Education television and radio programmes were most popular in Burkina Faso, where

40% of households reported their children following them. The same share of households in Ethiopia and Nigeria followed radio alone. No child reported following radio programmes in Mali; instead, 35% of children continued their learning through teacher assignments, even though in all six countries an average of just one contact with the teacher was reported. (UNESCO, 2021).

28% of people in Africa have access to and use the internet and digital technologies (Duarte & IMF, 2021).

At least 9 countries in sub-Saharan Africa leveraged internet connectivity to deliver education during the pandemic; 5 countries used mobile phones; 11 countries used radio; 10 countries used television; 9 countries used paper-based materials that students took home to work on their own; 2 countries relied on tutoring. (World Bank 2022)[9]

Many countries employed a multi-modal approach, combining two or more education delivery methods, while others used a single technique to deliver learning during the pandemic (Muñoz-Naja et al., 2021).

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[7] UNESCO. 2021. Global Education Monitoring Report 2021/2: Non-state actors in education: Who chooses? Who loses? Paris, UNESCO, https://unesdoc.unesco.org/ark:/48223/pf0000379875

[8] 244M children won't start the new school year (UNESCO) | UNESCO

[9] Muñoz-Naja, A., Gilberto, A., Cobo, C., Azevedo, J. P., & Akmal, M. (2021). Remote learning during COVID-19: Lessons from today, principles for tomorrow. Retrieved March 30, 2022, from

Edtech In Rwanda

Rwanda has the highest uptake of both internet and digital device (specifically mobile phones) access, at 90% and 75% of the total population respectively (Duarte & IMF, 2021).

Rwanda has a mobile penetration of

71%,

despite this, online learners could not afford the cost of accessing educational contents (Mugiraneza, 2021)

There are roughly equal numbers of boys and girls in pre-primary, primary and secondary schools. However, boys outperform girls on national examinations. While girls are more likely to drop out of school, boys are more likely to repeat grades[10].

Edtech in Botswana

Internet Penetration in Botswana stood at 47% and 3.49 million mobile connections during the COVID-19 pandemic[11].

In Botswana, radio and television are the main tools used to deliver lesions to students[12].

A nationalized curriculum helped to facilitate lesson delivery.

Low-tech interventions using SMS Text Messages and Phone calls also show promises as a way to continue access to learning[13]

Burundi

Burundi used classroom and home-based radio to educate students during the pandemic.

Teachers in Burundi were not oriented to use EdTech to continue learning

Burundi's internet penetration rate stood at 14.6 percent of the total population at the start of 2022[14].

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[10] Situation of children in Rwanda | UNICEF Rwanda

[11] Digital 2020: Botswana — DataReportal – Global Digital Insights

[12] Motshabi, K. (2020, October 13). Lessons from Botswana on continuing learner engagement during Covid-19. REACH at Harvard Graduate School of Education. Retrieved March 30, 2022, Retrieved from
https://www.reach.gse.harvard.edu/blogs/covid-19/series/lessons-from-botswana-on-continuing-learner-engagement-during-covid-19

[13] Lessons from Botswana on Continuing Learner Engagement During Covid-19 — REACH at Harvard Graduate School of Education

[14] Digital 2022: Burundi — DataReportal – Global Digital Insights

Edtech in Democratic Republic Congo

In Democratic Republic of Congo, paper-based learning kits were distributed to 27 million children affected by the pandemic (United Nations Organization Stabilization Mission in the DRC (MONUSCO) (2020)

14%

of learners in DRC admitted that they had not opened their textbooks or attempted any learning for seven months, i.e. since the schools closed.

90%

of learners were completely cut off from teaching and learning, with only 10% (the majority in the private international education system) able to continue distance learning[15].

81%

of teachers and school authorities reported a significant decline in the academic level of learners since they returned to school after the lockdown[16].

40%

of learners were able to continue some form of learning without digital aids during the lockdown[17].

80%

stated that they were unaware of the EdTech and paper-based initiatives that the government had tried to roll out[18].

Edtech in Madagascar

19.4% of the 28.06 million

population had internet access (5.45 million people) (Kemp, 2021).

40%

of Madagascar's population have access to radio while 25% have access to television (Internews, 2021).

7 million

learners were affected by school closure in Madagascar

13%

of school children reached through radio, television and paper-based instructional materials as a result of the school closure in Madagascar.

600,000

children were reached through radio and television while 300,000 were reached via paper-based mode of learning in Madagascar (UNICEF Madagascar Country Office, 2020).

Also in Madagascar, teachers were not able to quickly put together a system to help children with distance learning and this impacted education in Madagascar, resulting in the interruption of several school-related programmes

15 16 17 18 Železný-Green & Metcalfe (2022), "Harnessing EdTech in Africa: Scoping Study" Global Campaign for Education

Edtech in Malawi

70%

of the population lives in extreme poverty in Malawi and the country has one of the lowest levels of mobile and internet connectivity in the world (Kainja, 2021).

6 million

primary school learners' radio-based instruction through emergency programming that taught literacy in English and Chichewa, as well as maths and science (Saka, 2021).

Secondary education was delivered via online learning platform in Malawi

52%

of people in Malawi had access to a radio

In Malawi, COVID-19 pandemic led to increasing cases of teenage pregnancies. The figure increased from 5000 before the pandemic to 45,000 during the first and second waves of COVID-19 in 2020[19].

5million+

disabled children (roughly 2% to 3%) of primary school children were not catered for during the COVID-19 period in Malawi

400,000 +

learners at the secondary level registered on the EdTech portal in Malawi, no more than 35,000 learners had access to the content on the portals.
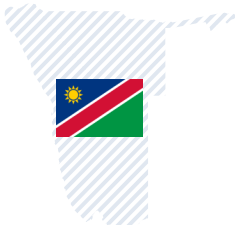
Edtech in Namibia

90%

of schools in Namibia are not connected to the internet

60%

of the schools also have at least 20 computers, located in a computer centre

Namibia was one of the few countries that used six or more delivery channels to mitigate the negative impact of school closures on its children, during the first wave of the pandemic (Rodriguez, Cobo, Muñoz-Najar & Sánchez, 2020).

5 million

paper-based instructional materials to 600,000 students (primary school learners and pre-primary learners) benefited from the partnership between UNICEF and the country's Ministry of Education, Arts and Culture (MoEAC).

6,700

learners with a visual disability were also given access to educational materials in Braille (Mueenuddin, 2021).


Edtech in Zambia

Internet penetration in Zambia stood at 29.4% in January 2021 and the number of mobile connections in Zambia in January 2021 was equivalent to 89.7% of the total population[20].

Paper-based study packs were distributed to 5,000 girls in order to continue their studies (GEC, 2021)

In Zambia, the use of WhatsApp, Google Meet and Zoom were used to check the well-being of girls in their network and to facilitate learning delivery, where possible (FHI360, 2021).

Many parents could not afford to pay for children to return to school when they re-opened.

Radio was the most successful in terms of reach.
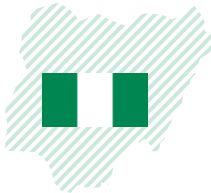
Edtech in Nigeria

According to the World Bank, Nigeria experienced a significant expansion in access to education during the last few decades. However, the country still has the highest number of out-of-school (OOS) children in the world. 11.1 million children aged between 6 and 15 were out of school in 2020, representing 1 in 12 of all OOS children globally and 22 percent of all children in this age group in Nigeria[21]. The OOS children increased to 20 million in 2022[22].

The infrastructure to support e-learning is poor in the country with only 57% of Nigerians having access to electricity during the Covid-19 pandemic[23].

44.7%

broadband penetration rate as of October 2022[24].

Nigeria maintains its 3rd spot among the 26 Sub-Saharan African countries in the inclusive Internet Index 2022 and features in the top 3 countries in Affordability, Relevance and Readiness, regionally. However, despite a strong performance regionally, the country ranks 64th globally, as Availability (81st) remains a particular weakness[25]. (III 2022)

Nigerian government at the national and state levels utilized the use of radio, television and online learning platforms to address the situation of children outside the classroom during the Covid-19 pandemic in 2020[26].

[20] DataReportal – Global Digital Insights
[21] World Bank. (June 2022). Nigeria Development Update: The Continuing Urgency of Business Unusual
[22] UNESCO. (September 2022). New estimation confirms out-of-school population is growing in sub-Saharan Africa, FACTSHEET 62 / POLICY PAPER 48. https://unesdoc.unesco.org/ark:/48223/pf0000382577
[23] UN puts Nigeria's electricity access rate at 57% — Nigeria — The Guardian Nigeria News – Nigeria and World News
[24] What a near 50% broadband penetration means for Nigeria - (businessday.ng)
[25] Economist Impact: The Inclusive Internet Index, supported by Meta
[26] COVID-19: Education transformed through remote learning | UNICEF Nigeria

Leading Edtech Actor During Covid19 Pandemic

In all the eight countries, the government took strong leadership in EdTech initiative.

Radio and television were the most successful EdTech tools deployed for continue learning during the covid-19 Pandemic

Only Rwanda did not depend on paper-based learning.

(Rodriguez, Cobo, Muñoz-Najar & Sánchez, 2020; Dreesen et al., 2020).

There were partnerships between the government and the private sector including the development partners (e.g UNICEF, UNESCO, USAID, GPE), international financial institutions (World Bank, IMF), telecom companies (MTN, TNMO, local NGOs, private television and radio stations.

Challenges Against the Effective Use Of Edtech

01 Inadequate investment	**06** Difficulty installing programmes on devices
02 Limited educational content in audio-visual formats	**07** Lost passwords for online learning website and app
03 Problems in producing content in quantity and quality in short time for TV and radio lessons	**08** Incompatible apps or updates
04 Lack of pre-existing partnerships for the design and broadcasting of the educational content	**09** Limited number of off-line contents
05 Poor communication and collaboration between education specialists and the professionals of the audio-visual sector for the production of educational programmes.	**10** Poor availability and affordability of the internet

Ranking out of 100 Countries: 1–49 = Better   50–100 = Worse

Countries	The Availability category examines the quality and breadth of available infrastructure required for access and levels of Internet usage.	The Affordability category examines the cost of access relative to income and the level of competition in the Internet marketplace.
Rwanda	83	93
Madagascar	92	95
Malawi	91	96
Namibia	85	89
Nigeria	81	41

Source: Inclusive Internet Index 2022[27]

Recommended Actions in Post Covid-19 Pandemic

01 Awareness creation for teachers and parents

02 Capacity building for teachers on modern digital technologies

03 Huge investment in internet connectivity at schools

04 Provision of alternative form of energy for e-learning

05 Collaboration and partnerships are essential for EdTech to be viable

06 Basic mobile channels and mass media will help scale solutions

07 Improve the community network efforts to help address the digital divide

08 A need for deliberate policies to incorporate EdTech in the national education curriculum

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