

POLICY NOTE

RECOMMENDED INVESTMENTS IN ICT FOR RESILIENT EDUCATION SYSTEMS IN AFRICA

BASED ON THE STUDY ON THE USE OF
ICT IN EDUCATION AND REMOTE
LEARNING DURING CRISIS IN 34
AFRICAN COUNTRIES

2023

Background



The COVID-19 pandemic disrupted the education sector leading to school closures for more than two years in some countries. This resulted in learning loss that impacted education outcomes, especially in Africa.

Governments in Africa took immediate responsive actions to remedy the impact of school closures by introducing policy and program changes to education delivery, articulating multi-sectoral national response plans that included remote learning to ensure learning continuity. However, these measures fell short of effectively addressing the issues of quality, continuity, inclusivity, and equity in education.

The Islamic Development Bank (IsDB) and the African Development Bank (AfDB) Group supported ADEA to assess the status and capacities of 24 of their African member countries¹ on the use of Information and Communication Technologies (ICT) in education and remote learning during crisis. The Mastercard Foundation supported a subsequent similar study in 10 additional countries.²

Study Objectives and Expected Outcome

The study aimed to assess the status and capacities of the 34 African countries in utilizing ICT for education and remote learning during crises at all levels of education.

The study had the following objectives:

- ✓ Review the preparedness of the countries in supporting the use of ICT in education.
- ✓ Understand the existing barriers that hinder the optimal use of ICT in education.
- ✓ Identify gaps in policies, practices, and infrastructure that hinder the accelerated use of ICT in education.
- ✓ Determine the level and target of investments required to bridge the digital divide in the 34 countries.

The study results are expected to inform the reforms needed in digital infrastructure and curriculum to enhance the education sector's resilience in the 34 countries and improve equitable access to relevant and quality learning.

¹ Botswana, Cameroon, Chad, Comoros, Côte d'Ivoire, Djibouti, Ethiopia, Gambia, Guinea-Bissau, Kenya, Madagascar, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Somalia, South Sudan, Tanzania, and Uganda.

² Angola, Benin, Burkina Faso, Ghana, Guinea, Mali, South Africa, Tunisia, Zambia, and Zimbabwe.

Scope and Methodology

The development of the synthesis report involved a systematic review of the country profile reports and subsequent recommendations for investment. These recommendations were both generic to all countries and specific to some.

The study encompassed basic and secondary education, Technical and Vocational Education and Training (TVET), and higher education.

The study employed a two-step process: (1) a review of available country information to generate individual country profile reports, and (2) the development of the synthesis report. To create the country reports, a desk review and analysis of relevant literature from government and institutional websites were conducted for each country. This was followed by the administration of a study tool to a predefined sample to collect primary data. The study adopted a mixed-methods approach, incorporating qualitative and quantitative data, and integrating these to provide a more comprehensive understanding of the integration of ICT into the education sector in the target country.

The study examined the following elements:

- 1 Level of the digital divide.
- 2 Existence and breadth of ICT policies and strategies in education.
- 3 Availability and utilization of ICT infrastructure in learning facilities.
- 4 Digital competence of the education workforce.
- 5 Availability of electronic systems for learning and assessment.
- 6 Existence of generic and adapted e-learning materials.
- 7 Existence and participation of partners supporting the use of digital technology in education.
- 8 Existence of cross-country e-learning programs.
- 9 Challenges encountered in implementing e-learning, as well as examples of success stories and best practices.

The development of the synthesis report involved a systematic review of the country profile reports. Based on these reports, recommendations for investment were made. These recommendations encompassed both generic recommendations applicable to all countries and specific recommendations tailored to certain countries.³

³ These are mainly presented in the country profile reports.

Summary of Findings

1

ACCESS TO UNIVERSAL AND EQUITABLE EDUCATION

Despite some progress, universal and equitable access to education remains a distant ambition.

There are varying levels of infrastructure penetration, including ICT infrastructure, across some of the study countries. In general, there is a lack of ICT infrastructure and resources at the school level. During the pandemic, low-tech ICT solutions such as radios and televisions were utilized for learning. It is crucial to urgently address infrastructure gaps, particularly in terms of constant electricity access and the use of high-tech teaching and learning devices. This is to ensure that the use of ICT in education is inclusive and not a preserve of a privileged few. Additionally, while ICT has been a long vision of study countries, there are still personnel capacity gaps hampering the realization of this vision. Educators need to acquire the skills to effectively deliver learning using ICT.

2

AVAILABILITY AND UTILIZATION OF ICT INFRASTRUCTURE IN LEARNING FACILITIES

There have been various initiatives for ICT integration in education by both the government and other partners. However, due to outdated or non-existent infrastructure, ICT use in teaching and learning remains poor and internet connectivity remains a challenge across schools.

ICT is one of the main drivers of a knowledge-based economy and the basis for the 4th Industrial Revolution. It enhances access to quality and equitable education. Most countries have implemented programs with the objective of equipping schools with ICT infrastructure and connectivity. However, it is evident that the ICT infrastructure in schools across most study countries is outdated or, in some cases, nonexistent. As a result, ICT use in teaching and learning remains poor across schools while internet connectivity remains a challenge for schools.

3

EXISTENCE AND DEPTH OF ICT POLICIES AND STRATEGIES

Although all the study countries have established policies on education and most have policies on ICT, few have specific policies on the use of ICT in Education.

However, it is commonplace to find "ICT in Education" as a component of either the education or ICT policy or both. Regardless of the situation in the study countries, the COVID-19 pandemic showed that a smooth transition to inclusive digital learning for all stakeholders was a key challenge for all study countries. This ability to adapt to emergencies to ensure a learning continuity became a litmus test for a resilient education system.

4

PARTNER SUPPORT FOR USE OF ICT IN EDUCATION

Some of the study countries received support from various local, national, regional, and international partner agencies, as well as donor countries, for the implementation of key ICT infrastructure, ICT in education ecosystem development (policy, connectivity, hardware, software, learning materials, training) and broader education policy initiatives.

Other partners stepped in during COVID-19 to help the countries develop emergency educational response plans. Post-pandemic, various actors and funding agencies still support countries to develop and improve the resilience of their education system using ICT.

5

LEVEL OF THE WORKFORCE'S DIGITAL COMPETENCE

Countries have invested extensively in infrastructure to support their vision for digital learning with varying degrees of success. However, the implementation of digital teaching and learning during the pandemic was highly impeded by a lack of ICT-ready capacity among educators and teachers.

Skills gap manifest in their inability to connect and access digital facilities, lack of readiness for the rapid transition to remote learning. Consequently, an appropriately trained and engaged teaching workforce can be an important driver of an effective competency-based education system. In some cases, there has indeed been a notable transformation in the education workforce, especially in capacity-building and competency development.

6

EVIDENCE OF LEARNING ASSESSMENT FOR LEARNERS IN PRIMARY AND SECONDARY SCHOOLS

It was not evident from the study that learners in primary and secondary schools participated in any kind of examinations to assess the learning uptake.

Most remote learning resources focused on continuity and less emphasis was placed on assessment and examinations. At the tertiary level, universities adopted several models including the use of proctored examination tools, assignments, and open book examinations. It was found that there is a need to redesign and adapt curriculum to 21st century digital teaching and learning and review modes of student evaluation by replacing knowledge-based tests with alternative modes of assessments that focus on achievement of learning outcomes. The study also identified the unavailability of e-learning materials and curriculum adapted learning resources for other media like radio and television.

Recommendations

To enhance the integration of ICT in the education systems across Africa, countries are urged to build appropriate supporting infrastructure, prioritize sound pedagogy, and train educators to use ICT effectively to support instruction, in addition to building the overall ICT capacity.

The study established the following priority areas as requiring investment:

1. Expand investment in critical infrastructure.

- a. Pursue electrification in the study countries, especially the rural area households and schools.
- b. Expand investment in internet infrastructure and increasing penetration of TV and Radio especially in schools located in rural and peri-urban centres.

2. Build ICT competence of teachers and school administrators.

- a. Revise the teach training curricula and strengthen the capacity of pre-service and in-service educators in the use of ICTs in teaching and learning.
- b. Develop a high quality professional Digital Leadership Development program for the heads of educational institutions to create an enabling environment visioning, coherent policy making and driving the educational transformation at school level.

3. Integrate ICT into teaching and learning.

- a. Develop mass digital literacy programs for citizens of the study countries.
- b. Put in place strategies to ensure the use of high-tech tools and devices both in schools and in households.
- c. Provide e-materials and curriculum adapted learning resources for other media like Radio and Television.
- d. Redesign and adapt curriculum to 21st century digital teaching and learning and evaluation modes for student evaluation, by replacing knowledge-based tests with alternative modes of assessments that focus on achievement of learning outcomes.

4. Address hunger, poverty, and income inequality.

Further pursue the Sustainable Development Goal No 2 on achieving zero hunger and the eradication of absolute poverty.

5. Build collaborations and partners for ICT in education.

Countries should collaborate with regional organizations to support and facilitate regional projects aimed at expanding cross-border access, use and integration of digital technologies in education and training.



Recommended
Areas for Priority
Investment

Conclusion

This study underscores the significance of appropriate investment in ICT to address various challenges, particularly in the areas of poverty eradication and education. It highlights that deploying ICT without the necessary infrastructure can lead to inefficient resource allocation. Furthermore, the study emphasizes the need for study countries to address underlying concerns to effectively harness the potential of ICT for equitable and enhanced educational services.

About the Study Partners

Islamic Development Bank:

The Islamic Development Bank (IsDB) is a multilateral development bank (MDB), working to improve the lives of those it serves by promoting social and economic development in Member countries and Muslim communities worldwide, by delivering impact at scale. Visit IsDB's website: www.isdb.org

African Development Bank Group:

The African Development Bank (AfDB) Group mobilises and allocates resources for investment in Regional Member Countries (RMCs), while providing policy advice and technical assistance to support development efforts through infrastructure development, regional economic integration, skills and technology. Visit AfDB's website: www.afdb.org

Mastercard Foundation:

The Mastercard Foundation is developing programs primarily focused on reducing gender and economic inequality, expanding access to quality education, increasing the opportunities for decent work, and supporting overall economic growth. Visit Mastercard Foundation's website: mastercardfdn.org

Association for the Development of Education in Africa:

The Association for the Development of Education in Africa (ADEA) is a critical voice and a forum for policy dialogue on education in Africa. ADEA seeks to empower African countries to reform their education systems to sustainably respond to key development needs. Visit ADEA's website: www.adeanet.org



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