A DIGITAL EDUCATION ROADMAP

FOR EQUITY & INCLUSION IN THE SADC REGION

A joint paper developed in collaboration between the Southern African Development Community (SADC), The Digital School, World Food Programme, and University of Johannesburg

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1. INTRODUCTION

Two major educational technology (EdTech) turning points have emerged since 2020. The first is the COVID-19 pandemic which opened the way for accelerated adoption of digital technologies in the face of unprecedented educational turmoil, declining learner performance, learning loss, high levels of learner drop out, and deepening intersecting vulnerabilities and inequalities. The second is the historic release of large language models (ChatGPT and Bard in November 2022 and February 2023 respectively), which led to widespread adoption in education systems worldwide.

Following the COVID-19 pandemic, the EdTech market has grown significantly, based on an enduring belief that under appropriate conditions, digital technologies hold the promise of expanding the scope, scale, and depth of education, particularly in marginalised, under-resourced contexts. Digital technologies, including emerging AI and generative AI variants, in given contexts, can enable access to education opportunities for millions of learners provided they have access to meaningful connectivity[1]. They can also enable social and personalised self-paced, learning and data-driven AI systems hold the promise of being able to provide real time feedback to customise learning and teaching interventions or track learners who are at risk of potential drop out from school, provided the data is underpinned by ethical values that do not threaten the privacy, safety and security of their users.

Along with the promise of improved education access and quality, digital technologies have the potential to promote equity and inclusion based on their affordances to reach children in rural communities, girls who have been denied an education, and learners with disabilities (based on the capabilities of assistive technologies). Edtech also has the potential to enable access to psychosocial support and well-being and provide data-driven efficiencies in school feeding systems, school management and administration. While mindful of the challenges, the Digital Education initiative in the Southern African Development Community (SADC) seeks to harness the potential of digital technologies to improve education, and the lives and livelihoods of learners, their families and communities across Southern Africa.

[1] The definition of connectivity extends beyond physical access to information and communication technologies (ICT) including the Internet only. Meaningful connectivity extends beyond physical access to the Internet, and embraces elements that make Internet connectivity meaningful and valuable for individuals, companies, governments and communities. (ITU, 2023)

2. A HISTORIC AGREEMENT

During the September 2023 United Nations General Assembly in New York, The Digital School (TDS), and the World Food Programme (WFP) signed a historic agreement to combine digital education opportunities with school feeding programmes to allow children in the southern Africa region to learn, perform better and broaden their educational and livelihood opportunities. The agreement aims to deliver educational opportunities to vulnerable learners in several African countries, particularly in remote communities.

In November 2023, the WFP and TDS partnered with the Southern African Development Community (SADC)[2] in hosting a High-Level Meeting in Cape Town South Africa, involving several ministerial representatives, including Ministers of Education from SADC Member States. This High-Level Meeting concluded with a clear vision and call to action towards developing a transformative Digital Education Roadmap for Equity and Inclusion in SADC.

Figure 1. Map of SADC Member States 2021.
Source: SADC Secretariat

This document outlines an elevated Digital Education Roadmap for Equity and Inclusion in SADC.

[2] The (SADC) is a Regional Economic Community (REC) comprising 16 Member States (MS) namely Angola, Botswana, Comoros, Democratic Republic of Congo, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Tanzania, Zambia, and Zimbabwe. Figure 1 provides a map of the 16 MS.

3. DIGITAL EDUCATION ROADMAP AGREEMENT

This Roadmap contains 10 integrated elements centred on achieving digital education for equity and inclusion in SADC, flanked by strategic global and regional frameworks, as illustrated in Figure 2.

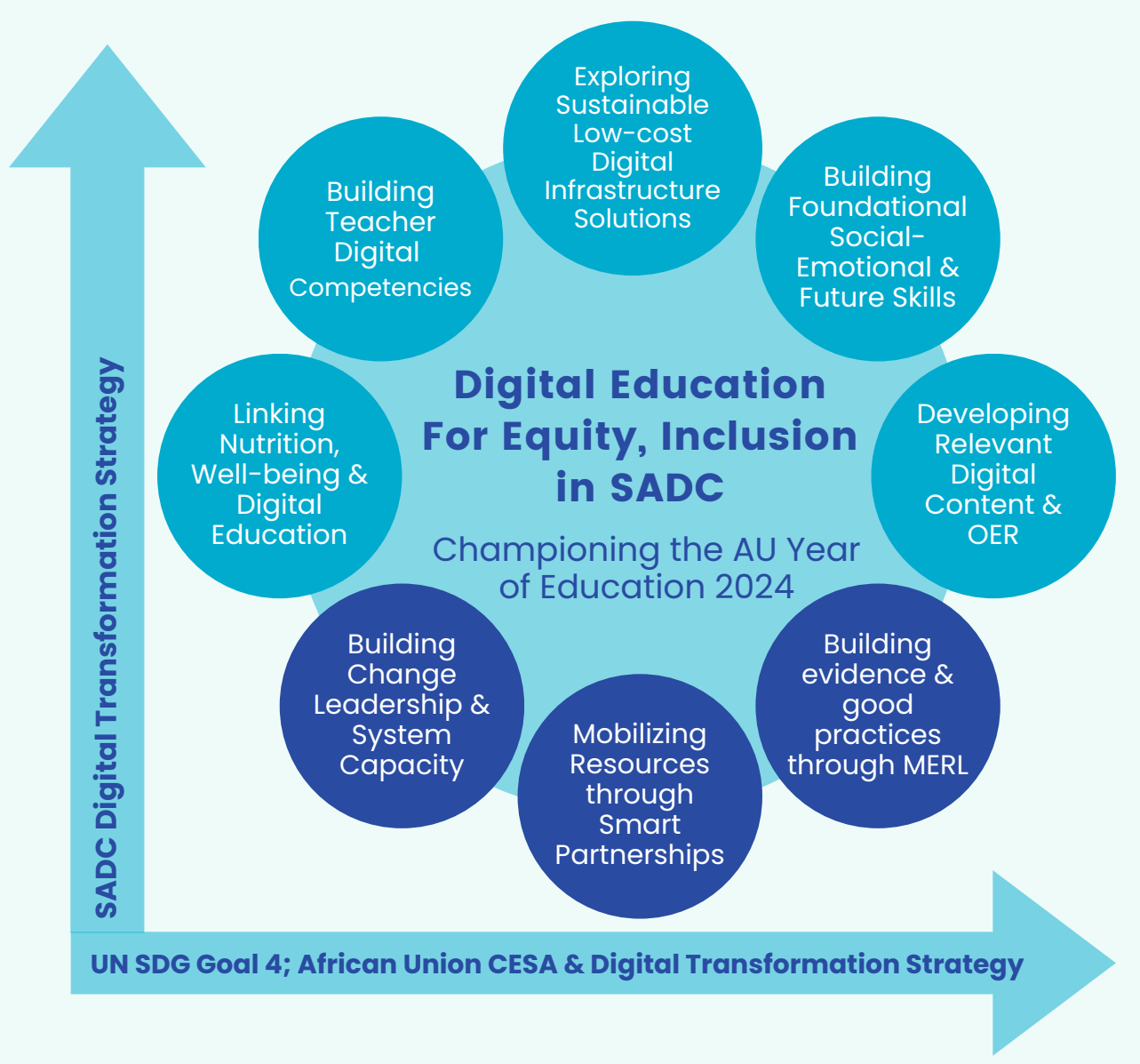

Figure 2. 10 critical elements for digital education delivery in SADC

Each of the 10 critical elements are elaborated below.

3.1 REIMAGINING EQUITABLE AND INCLUSIVE FUTURES THROUGH DIGITAL EDUCATION IN SADC

At the heart of this roadmap lies its vision for reimagined inclusive equitable futures in SADC through contextually-relevant digital education strategies that catalyse system-wide transformation. It aims to deliver high-quality digital education opportunities to vulnerable learners in several African countries by building on the many strategies and programmes currently under way.

It is guided by global, regional and national policies and frameworks that steer digital transformation in SADC including the UN Sustainable Development Goals (SDGs), particularly Goal 4: Quality Education[3]; the UN Transforming Education Vision Statement[4]; the African Union (AU) Continental Education Strategy for Africa (CESA)[5]; the AU Digital Transformation Strategy[6]; the SADC Digital Transformation Strategy; and national digital education strategies in each of the SADC Member States that have evolved over many years.

It champions the cause of the African Union Year of Education 2024 and its rallying slogan: Educate an African fit for the 21st Century: Building resilient education systems for increased access to inclusive, lifelong, quality, and relevant learning in Africa.

The following vignette illustrates the potential of simple digital education strategies to deliver significant impact.

Graphogame enables literacy learning for children & adults in rural Zambia[7]

Despite increased enrolments at primary schools in Zambia, more than half of the children in Grades 1 to 4 did not meet the minimum standards for literacy. To tackle this problem, schools in Katete, a rural town in Eastern Zambia, explored the use of a mobile phone-based literacy game (Graphogame) for children and adults in family settings. A study involving 73 of these Grade 2 learners and 37 parents found that children and their parents who were exposed to Graphogame performed better than the control group on all literacy measures. The findings suggest that under appropriate conditions, technologies can play an enabling, supportive role in literacy development of children and adults in rural Zambian family contexts.

The Graphogame story in rural Zambia captures possibilities for enriched learning experiences with technologies in African rural communities, under the right conditions. The aspiration of this digital education roadmap is to build on the myriad, local, national, and regional initiatives such as Graphogame, to expand education access, quality and equity through low cost, sustainable digital education strategies.

[3] THE 17 GOALS | Sustainable Development (un.org)
[4] Vision Statement of Secretary-General on Transforming Education | United Nations
[5] continental-strategy-education-africa-english.pdf (au.int)
[6] 38507-doc-dts-english.pdf (au.int)
[7] Nshimbi et al (2021) Using a phone-based learning tool as an instructional resource for initial literacy learning in rural African families (scielo.org.za)

This Digital Education Roadmap champions the cause of the African Union Year of Education 2024 as it explores creative sustainable ways to combat multiple intersecting crises including Africa's 90% learning poverty rate, and its need for 17 million additional teachers by 2030.

3.2. LEARNING FROM SUCCESS AND FAILURE: THE TOP 10 DIGITAL EDUCATION (DE) LESSONS

This roadmap draws on evidence-based lessons from past multi-country digital education initiatives in SADC, Africa, and the world. The top 10 lessons from digital education successes and failures are:

01 **Context**: digital education initiatives need to be grounded in local social and cultural contexts to ensure relevance for the learners, teachers and education communities;

02 **Social enterprise:** digital education is a social enterprise and not a technology-centred endeavour - technologies are only a means to an end;

03 **Integrated capacity development:** integrating leadership and system capacity development help to sustain successful implementation;

04 **Teacher development:** continuous teacher development, training and support are central to the success of digital education initiatives;

05 **Family and community stakeholders:** parents, guardians, and communities also matter and enhance the collective social and cultural capital in support of digital education delivery;

06 **Contextually relevant content:** digital content situated in local cultural and linguistic contexts can enable optimal learning;

07 **Partnership ecosystem:** all levels of partnership, from local informal 'spaza' shops to global development agencies, are integral to the successful implementation of digital education initiatives;

08 **Communicate, communicate, communicate:** clear, regular, consistent communication and advocacy sustain the multiple relationships involved in successful digital education implementation over time;

09 **Contingency plan:** for hidden and unanticipated costs and adopt total cost of ownership models when developing digital education implementation plans;

10 **MERL:** integrate Monitoring, Evaluation, Research and Learning (MERL) and build the evidence base to support continuous improvement.

These lessons serve as critical success factors that influence the design of the Digital Education roadmap and find expression in the following roadmap design elements.

3.3 LINKING NUTRITION, WELLBEING AND DIGITAL EDUCATION

A distinctive feature of the SADC Digital Education initiative is that it focuses attention on nutrition and well-being of children as foundational to learning, learner agency and empowerment. School meal programmes enable a social safety net for children and their families; incentivise families to enrol and retain their children in school; relieve the food budgets of parents and guardians; and enable up to 10 percent of savings of vulnerable households.

School meals can also empower girls' and human capital and community social and cultural capital – the sum of a population's health, skills, knowledge, experience, habits and values. School meals also catalyse local agrifood economies through local procurement and can support food systems that are gender responsive, climate sensitive, and sustainable, and can open the way to reduce national greenhouse gas emissions. In many countries, school meals are the largest source of government procurement of food.

With WFP as strategic partner, the Digital Education roadmap will leverage the WFP School Feeding Strategy 2020-2030, focusing on providing quality meals and integrated nutrition and health services to school-going children and its extensive experience with implementing school feeding programs in Southern Africa that have positively impacted educational development, health, and nutrition, addressing issues like stunted growth. In Lesotho, Namibia, and Madagascar, the WFP-supported school feeding project logistics and supply chain infrastructure are leveraged to support digital education initiatives in schools.

Exploring the role of technologies to promote care and support for teaching and learning (CSTL) [8]

Care and support for teaching and learning (CSTL) is a SADC initiative, which aims to realise the educational rights of all children, including those who are most vulnerable, through schools becoming inclusive centres of learning, care and support. CSTL has included programmes to prevent and mitigate factors that have a negative impact on the enrolment, retention, performance and progression of vulnerable learners in schools by addressing barriers to learning and teaching.

[8] CSTL Care and Support for Teaching and Learning Programme | South African Government (www.gov.za)

CSTL strategies enable nutritional support, health promotion, infrastructure, water and sanitation; safety and protection, social welfare services, psychosocial support, material support, curriculum support, co-curricular activities are all integral to the programmes that the CSTL have implemented in SADC. CSTL has used community radio very effectively and is currently exploring new possibilities with digital technologies

Combined with the SADC Care and Support for Teaching and Learning (CSTL) strategy, this roadmap also focuses attention on learner, teacher, and community well-being, centred on support systems in schools, homes and communities. The aim is to combine nutrition and well-being with digital education in ways that leverage the affordances of digital tools and applications. The latter opens creative possibilities for pedagogies of care and support through learning about nutrition and well-being.

Digital technologies also open possibilities for new pedagogies and curricula linked to education for sustainable development (ESD). The latter includes the development of digital platforms that enable learning and teaching about growing sustainable food gardens, reducing, reusing and recycling waste, providing information about self-care and care for families and communities. In many SADC countries, curriculum reform involves introducing new curricula that integrate education for sustainable development and care pedagogies in subjects such as life sciences, agricultural studies, environmental science, and coding and robotics. The latter serve to open the imagination of learners to create new possibilities for addressing complex social and environmental problems linked to climate vulnerability.

3.4 GROWING FOUNDATIONAL, SOCIAL-EMOTIONAL, AND FUTURE SKILLS

An estimated 8 out of 10 children do not reach minimum competency levels in reading and mathematics in the sub-Saharan Africa, despite years of strong and steady growth in school enrolment. This experience has led to a strong focus on strengthening foundational cognitive skills in literacy and numeracy and exploring the role that digital technologies can play to enable foundational literacy and numeracy skills development.

At the same time, education systems are also pressured to develop skills that are increasingly in demand in a fast-changing world, often referred to as 21st century skills, that include problem-solving, critical thinking, collaboration, as well as social and emotional and digital skills, among others. For example, by some estimates, by 2030, about 230 million jobs in Africa are estimated to require digital skills[9].

Notably, the SADC Digital Transformation Strategy commits to the development of digital skills for all SADC citizens and illuminates this commitment as a strategic intervention with an estimated budget of 10.1 million Euros between 2023 and 2025. Notably too, several SADC Member States have made commitments to curriculum reform premised on developing 21st century competencies (knowledge, skills, attitudes, and values) including digital skills and the enabling role of digital technologies to support 21st century skill development.

Namibia's Digital Learning Policy adopts Holistic Critical Digital Literacy model

The 2024 Digital Learning Policy for Namibia adopts Critical Digital Literacy refers to literacy practices based on the awareness, critical thinking, and critical engagement with digital media and AI systems at individual and social levels. It poses questions about representation and agency and focuses attention on equitable, transformative, responsible, safe, ethical use and creation.

This model of critical digital literacy incorporates data literacies, AI literacies, digital well-being and safety, digital citizenship, digital teaching and learning, The implementation plan includes the design and delivery of accredited critical digital literacy courses for teacher development

This roadmap promotes investment in the enabling role of digital technologies in developing foundational social emotion, digital and future skills in line with national and regional policies and strategies.

[9] V Kwakwa, What will it take for Africa to lead an education turnaround?, World Bank Blog, 23 January 2023.

Building teacher digital competencies and transformative agency

3.5 BUILDING TEACHER DIGITAL COMPETENCIES AND TRANSFORMATIVE AGENCY

Like in the rest of sub-Saharan Africa, the SADC region is facing a crisis of teachers and teaching that is equivalent to a silent emergency. Not only is there a shortage of qualified, motivated competent teachers in the SADC schooling systems, but most teachers lack the technological, pedagogical content knowledge, capabilities, and motivation to teach with technologies. To address this challenge, SADC has developed a range of teacher development strategies including an ICT Competency Framework for SADC teachers which aligns with national teacher development strategies and standards among each of the SADC Member States, and which are responsive to the complexities of teaching in often overcrowded and under-resourced classrooms. These strategies are also cognisant of lessons learned from many unsuccessful and ineffective teacher training initiatives over the past few decades, one of which is that once-off, short-term digital teacher training has been ineffective and do not place teachers on lifelong learning pathways.

A teacher coaching model in South Africa [10]

In South Africa, the design of a teacher development programme that integrates teacher coaching was explored to support improved literacy teaching in lower grades. The project explored both face-to-face coaching and virtual coaching. It found that coaching teachers was a complex endeavour and that a blended model of virtual and in-person coaching works well.

Drawing on the rich experience in SADC, this roadmap will adopt the Digital Educators Global Academy, an initiative of The Digital School, and will offer 1000 places to SADC teachers. Launched by HE the UAE Minister for Education, the Digital Educator Global Academy is an initiative arising from the TDS partnership with Arizona State University.

The Academy is committed to providing the world with opportunities for all teachers to engage with structured learning towards readiness in digital teaching and leading. It will impact the global education community through scalability and new models, thought leadership, establishing standards, and influencing international policy and access. It will provide a simple but comprehensive system of professional development, to develop teacher digital competencies, enabling them to access, navigate and optimally use digital techniques and methods to achieve learning impacts.

[10] Cilliers et al. 2021. Can Virtual Replace In-person Coaching? Experimental Evidence on Teacher Professional Development and Student Learning. RISE Working Paper Series. 20/050. https://doi.org10.35489/BSG-RISE-WP_2020/050

3.6 EXPLORING SUSTAINABLE LOW-COST DIGITAL INFRASTRUCTURE SOLUTIONS

Whilst Southern Africa has the highest internet penetration rate in Africa (70.6% in January 2023), including above the world average (64.4%)[11], there are significant disparities across Member States, from South Africa with 72.3% internet penetration to Madagascar with 19.7%. However, while mobile internet availability has increased in Africa, broadband infrastructure reach and the quality of available services still lag behind the rest of the world.

Africa also has the widest digital gender gaps in the world, with the greatest disparity between men (35%) and women (24%) using the internet[12]. Moreover, data costs per 1 gigabyte are highest in sub-Saharan Africa. For example, in Namibia 1 gigabyte of data cost US$22.37 in 2022 and in Malawi US$25.46 (which is equivalent to 87% of gross national income per capita)[13], compared with US$0.86 in Northern African countries.

SADC faces several critical infrastructural challenges in schools, which militate against digital education adoption. These include the lack of reliable electricity supply, network infrastructure, digital devices and in some cases, adequate buildings, and sanitation facilities. These challenges are exacerbated in rural communities where topographical/terrain challenges, long distances to school, and low and distributed populations are prevalent.

This roadmap draws inspiration from the linkages between internet access, improved education, and economic growth. A 2012 study found that a 10% rise in broadband access led to a 1.35% increase in GDP in developing countries[14]and there is growing evidence that internet access improves worker productivity[15]. The roadmap will address infrastructure challenges from the earliest point in the implementation process, through engagement with government and country partners, and assessing and addressing infrastructure, connectivity, and device availability, including feasibility assessments and agreed responsibilities. The approach will cover both the initial provision and the ongoing infrastructure maintenance. The partners will engage with commercial providers to explore innovative low-cost solutions such as those highlighted at the SADC High Level meeting such as shared infrastructure; low/zero cost solutions; subsidised solutions, funding incentives, tax rebates; renewable and solar powered energy solutions; offline access to digital learning resources; satellite cellular connectivity; and the efficient use of radio/microwave cellular infrastructure.

[11] Statistica (2023) Internet penetration rate by region in Africa 2023 | Statista
[12] ITU (2021) Facts and figures 2021 (itu.int)
[13] The Top 10 most expensive countries to buy 1GB mobile data | Mobile Magazine (mobile-magazine.com)
[14] Scott (2012) Does broadband Internet access actually spur economic growth? | Eldis
[15] Can internet access lead to improved economic outcomes? (worldbank.org)

Exploring Television White Spaces in South Africa [16]

Television White Spaces (TVWS) is a technology for delivering long-range affordable broadband wireleness internet connectivity to underserved, unserved and hard to reach rural and township communities. It is based on using the contiguous unused portions of spectrum found in the frequency bands primarily allocated for broadcast television provision.

The Centre for Scientific and Industrial Research (CSIR) and its partners developed a project where ICT-based Small, Medium and Micro Enterprises (SMMEs) served to become TVWS network operators in rural and township communities. The project aimed to not only help connect underserved communities, but help improve digital literacy and the uptake of digital services and applications in those communities. It also aimed to provide job opportunities for young people, women, and persons with disabilities.

During the first phase of the program, four youth and women owned SMMEs were supported to become TVWS network operators providing Internet services in their respective communities, which helped create an additional 43 jobs. Through these four SMMEs: 100 public Wi-Fi hotspots were created; 37 public facilities were connected, some of which were schools; 189 households were connected; and 4,640 concurrent internet users were supported.

This roadmap will explore such low-cost connectivity models that have worked in different contexts in SADC, and which also align with the SADC Digital Transformation Strategy Strategic Intervention which promotes universal affordable access and inclusive adoption supported by robust resilient and secure infrastructure, with an estimated budget between 27 and 150 million Euros between 2025 to 2023.

[16] Gilbert P (2022). TV white spaces can help connect SA's underserved – CSIR - Connecting Africa

3.7 DEVELOPING RELEVANT DIGITAL CONTENT AND OERs

One of the enduring educational challenges in SADC is the shortage of teaching and learning materials in many schools and even when they are available, they do not reach classrooms at the right time to support learning. Where digital content is available, there are barriers to its use: it is often high-bandwidth content such as videos that cannot be accessed with poor digital infrastructure; it is expensive proprietary content; or it is unavailable in local languages. At the same time, there has been a growth in the creation and adoption of open education resources (OERs) as a basis for expanding access to digital education opportunities. Some studies have found that OERs can reduce costs and facilitate access to education [17] especially since in some African countries, 12 children share one reading textbook and 14 children have access to one math textbook [18].

The African Storybook Project [19]

The African Storybook Project, led by the Southern African Institute for Distance Education (SAIDE), is a multilingual literacy project that works with educators and authors to create and publish openly licensed storybooks for early reading in African languages. The project has produced more than 3000 titles and an offline mobile app that enable educators to work with young children to create and publish open digital picture storybooks, using an offline App and Progressive Web Application. Children, especially from marginalised groups, can see their lives and their languages reflected, thus increasing their sense of worth and agency. The project addresses the shortage of easily accessible local language storybooks written with children to encourage them to learn to read and love to read.

With the contribution of SADC Member States, this roadmap will explore strategies to source and adopt digitised curriculum content, open educational resources (OERs) that can be used to support curriculum learning in schools and beyond. It aligns with SADC Strategy for Open and Distance Learning where the promotion of OERs is highlighted as key strategies for accessing affordable quality education content.

[17] Chikuni P. R., Cox G., & Czerniewicz L. (2019). Exploring the Institutional OER Policy Landscape in South Africa: Dominant Discourses and Assumptions. International Journal of Education and Development using Information and Communication Technology, 15(4), 165-179. [Google Scholar]

[18] 83. UNESCO (2016). Every Child Should Have a Textbook (GEMR Policy Paper 23). Retrieved 2 June 2021, from https://en.unesco.org/gem-report/every-child-should-have-textbook.

[19] https://www.africanstorybook.org/

3.8 CULTIVATING CHANGE-LEADERSHIP CAPABILITY AND BUILDING SYSTEM CAPACITY

While almost every Member State in SADC has well-designed multi-tiered national policies that enable the adoption and integration of digital learning, each has repeatedly come up against critical constraints that have militated against effective implementation, alongside weak institutions, and weak decision-making protocols[20]. At the heart of implementation challenges in the region lie limited change leadership capability in national and regional systems.

Thus, an important attribute of the Digital Education Roadmap for SADC is the cultivation of dynamic change leadership imbued with 'negative capability' to manage uncertainty, crises and challenges as they arise within a well-designed implementation system. It will build on leadership capacity building programmes already under way in SADC Member States, focused on capabilities to lead complex ecosystems and manage efficient implementation supply chains and resource partners, which are crucial to the success of the SADC digital education initiative.

Onebillion Malawi [21]

The onebillion initiative is a global programme that provides educational hardware and software designed to deliver literacy and numeracy instruction to children in their own languages and at their level. In Malawi, onebillion established a partnership with the Ministry of Education (MOE) and VSO Malawi to provide over 150 000 children regular access to their onecourse software through the public school system. They also introduced their tables to 650 families to support their children's learning at home in response to the COVID0-19 school closures.

One of the many lesson that this project learned was the value in leveraging existing expertise and infrastructure when designing a large-scale initiative. Malawi had an established textbook distribution supply chain system and expertise with delivering exams at scale, which onebiilion used to establish their preliminary supply chain model.

In view of the strong partnership between WFP, SADC and TDS, the logistics capabilities and food distribution supply chain expertise of the WFP, and the digital education framework of TDS can be leveraged in support of successful digital education implementation in SADC.

[20] Shava & Ndebele (2024)

[21] Schmitt L (2021). Scaling personalised learning technology in Malawi. Lessons from our sandbox with onebillion. Edtech Hub Scaling Personalised Learning Technology in Malawi | EdTech Hub

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Mobilizing resources through smart partnerships

3.9 MOBILIZING RESOURCES THROUGH SMART PARTNERSHIPS

A salient feature of many digital education initiatives is that they run short on resources to sustain their implementation, often because costs have been under-estimated or because hidden, unanticipated costs have emerged during the implementation process. Often too, resource challenges are linked to the lack of partnerships with a variety of stakeholders and actors which can allow for resources to be pooled in support of aspects of digital education programmes. To address this challenge, digital education programmes in Africa have adopted total cost of ownership (TCO) approaches[22] which offers a financial estimate to assess direct and indirect costs of procurement, deployment, and maintenance of all aspects of digital education programmes. It proposes the inclusion of all current, known and potential unanticipated hidden costs for a particular digital education intervention. Often the bulk of such costs have been infrastructure maintenance and support.

Multi-stakeholder partnership in Namibia

In Namibia, the Ministry of Education created structured multi-stakeholder forums for regular engagement and buy-in from wide-ranging stakeholders from the various regions and districts including the teacher trade unions, private companies, and donor agencies. Collectively these stake-holders were actively engaged in the design and delivery of the national digital learning policy and implement-ation plan.

To address the challenges of costs, the Digital Education roadmap will focus attention on mobilizing smart partnerships at global, regional, and national levels in collaboration with WFP, SADC and the SADC Member States. It also includes engagement with government agencies, development and donor agencies, private commercial companies, EdTech start-ups, civil society, and community organisations on innovative ways to collaborate and share resources towards an equitable inclusive digital education agenda.

In doing so it will also draw lessons discussed at the SADC High Level Meeting on partnerships that have not worked well. The latter includes communication breakdowns and thus the need to ensure regular consistent communication within and across the partnership ecosystem.

[22] Microsoft Word - TCO-oneone-manual.doc (researchictafrica.net)

3.10 BUILDING EVIDENCE AND EMBEDDING GOOD PRACTICES THROUGH MERL, AND INNOVATION

Despite numerous digital education initiatives in the SADC region over the past three decades, there remains a dearth of research evidence on their successes, failures, strategies, and outcomes. The SADC High Level Meeting discussed the importance evidence informed decision-making by design by integrating monitoring, evaluation research and learning (MERL) and growing the evidence base of SADC experiences with digital education.

To address this challenge, the Digital Education roadmap is intentional about integrating rigorous monitoring and evaluation in the design of digital education initiative in the region. In so doing it will draw on various models of Monitoring Evaluation Research and Learning (MERL). As part of the initiation and planning phase, a comprehensive MERL plan will be developed, that will be applied to all work streams of the digital education initiative in SADC. Monitoring and evaluation activities will be focused on measuring progress with initiative outputs, outcomes and impact on the learning process and outcomes for all stakeholders especially learners and teachers.

Integrating MERL: The ICT4RED Case Study[23]

The ICT for Rural Education and Development (ICT4RED) project in the Eastern Cape South Africa offers a worthwhile case study of the integration of MERL in the design and delivery of an integrated digital education programme in deep rural contexts throughout the project lifecycle. The project included MERL in their budget, hired dedicated independent researchers that utilised participatory research methods and published a wide range of academic and grey literature that have been widely cited.

Alongside the integration of monitoring, evaluation, and learning, the Digital Education roadmap will also include the 'R' in MERL, which relates to opportunities to research and test new and innovative approaches to digital education design and delivery in diverse contexts in SADC. The research and innovation track will make provision to source, pilot and evaluate low cost, affordable and sustainable technology solutions such as for example offline learning innovations, in regions with poor connectivity, develop self-contained thin client learning spaces that use sustainable technology and infrastructure to provide safe and accessible learning opportunities.

[23] https://ict4red.blogspot.com/p/resouces.html

The MERL track of the digital education initiative in SADC will monitor and assess the outcomes of various programmes and projects across the region and will produce learning briefs and knowledge products which can be disseminated through globally recognised and regional research channels. The knowledge products will serve as a basis for ongoing system learning and thought leadership on digital education experiences in resource challenged environments in SADC.

4. ROADMAP MILESTONES

This Roadmap commences its pilot phase with the design of an initial implementation plan, theory of change and logical framework; identifying and scoping pilot schools across SADC; establishing a smart partnership plan and a MERL framework; developing a relevant framework for quality learning and teaching; identifying, preparing and enrolling 1000 teacher into its Digital Educators Global Academy (DEGA) and producing a MERL Baseline Report that will inform the next phase of the Digital Education initiative. The roadmap for the pilot phase with indicative milestones are depicted in Figure 3.

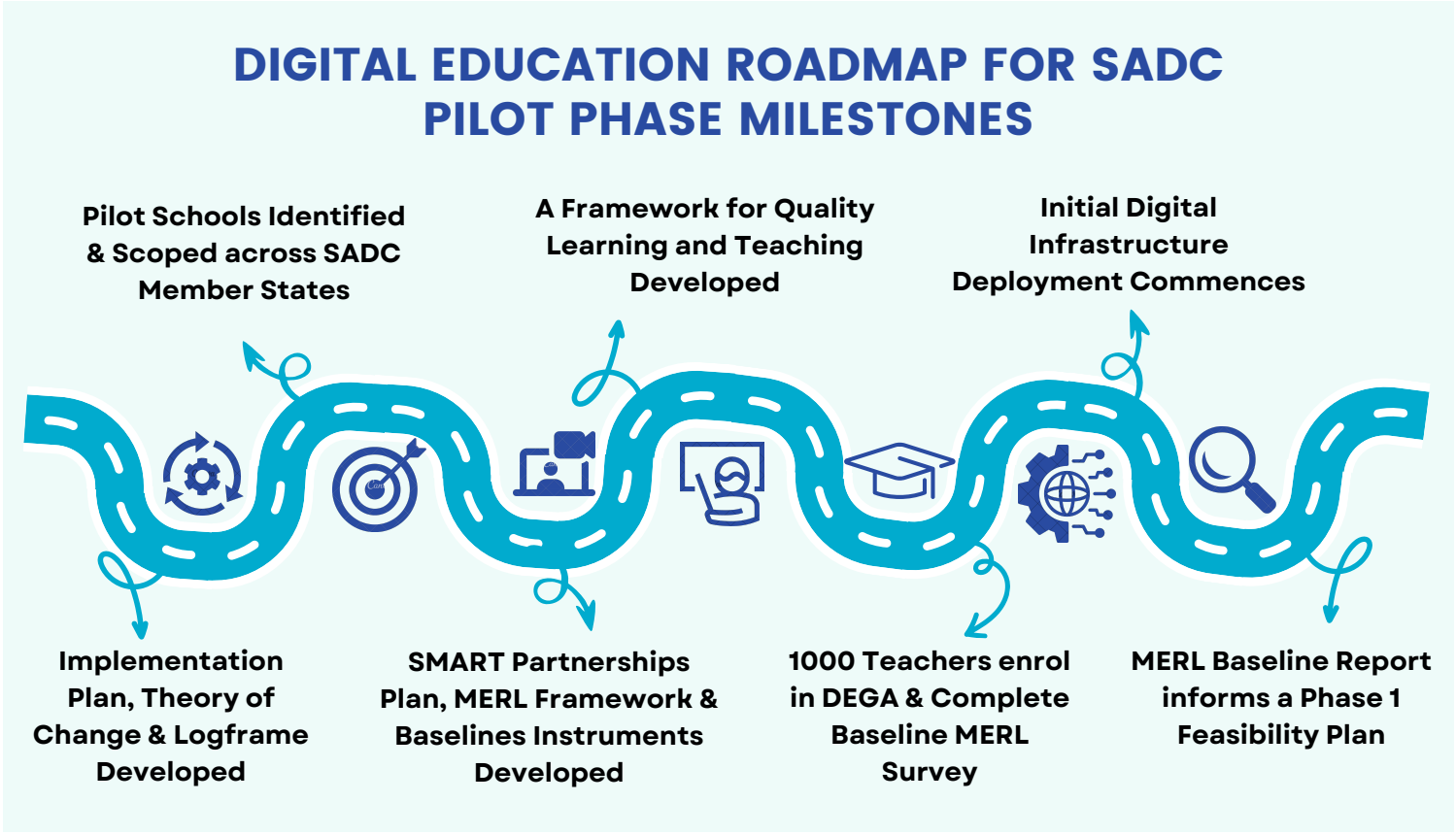

Figure 3. Roadmap pilot phase milestones

5. CONCLUSION

The success of the Digital Education initiative, its roadmap and Pilot Phase plans will depend on a host of factors, foremost of which is a strong foundational partnership at the centre. Such a partnership exists in the form of the SADC, TDS and WFP who have already journeyed together for a few months in SADC.

SADC

The SADC Digital Transformation Strategy adopts digital education as one of six critical levers to drive digital transformation in the region. Through digital education SADC will promote with its partners with WFP and TDS, the right to quality broadband internet access for all SADC citizens and benefits associated with robust, safe, trustworthy digital access.

WFP

Combining digital education with school feeding and well-being programmes open up possibilities to build bridges towards more efficient, effective, equitable and climate-responsive agri-food ecosystems in schools in ways that improve education and local economic empowerment.

TDS

The Digital School, in collaboration with SADC and WFP, strives to make education both accessible and affordable through digital innovation, tailored to meet local community needs and align with national requirements. Our partnership focuses on improving access to quality education, reinforcing it with essential school feeding and nutrition programs, and fostering innovative partnerships for sustainable impact

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Mohammed Bin Rashid Al Maktoum Global Initiatives

The المدرسة الرقمية Digital School

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