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AFRICAN FUTURES

SOCIAL CAPITAL

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EDUCATION FOR THE AFRICAN CENTURY

`*The future is great, it looks very bright for the African continent, and if there was ever a time when Africa can definitely be said to be on the rise, this is the time. This is Africa's century…'* – South African President Cyril Ramaphosa, quoted by Pomeroy and Bruce-Lockhart, 2019.

With these words, the South African president echoed what has been said since the dawn of the new millennium by the likes of former South African president Thabo Mbeki (2003) and singer-philanthropist Bono of the popular band U2 (Cole, 2011), to name but a few. This view of Africa is not espoused by politicians and popular campaigners alone. When demographers and economists look at sub-Saharan Africa's population trajectory, they see the potential of a demographic dividend that can elevate the prospects of this continent to new levels of prosperity (Sayeh & Selassie, 2015). However, the benefits of a demographic dividend (see box: *Africa's potential demographic dividend*) are not automatic, and the realists are quick to point out a list of conditions which, if not addressed, can push this demographic opportunity into a demographic disaster.

One of the foremost conditions that can pivot the future of this continent is undoubtedly human capital development (HCD), with education at the heart of HCD. It is with a particular urgency in mind that this report delves into the futures of primary and secondary education in sub-Saharan countries through the lens of a futures triangle (Inayatullah, 2008).
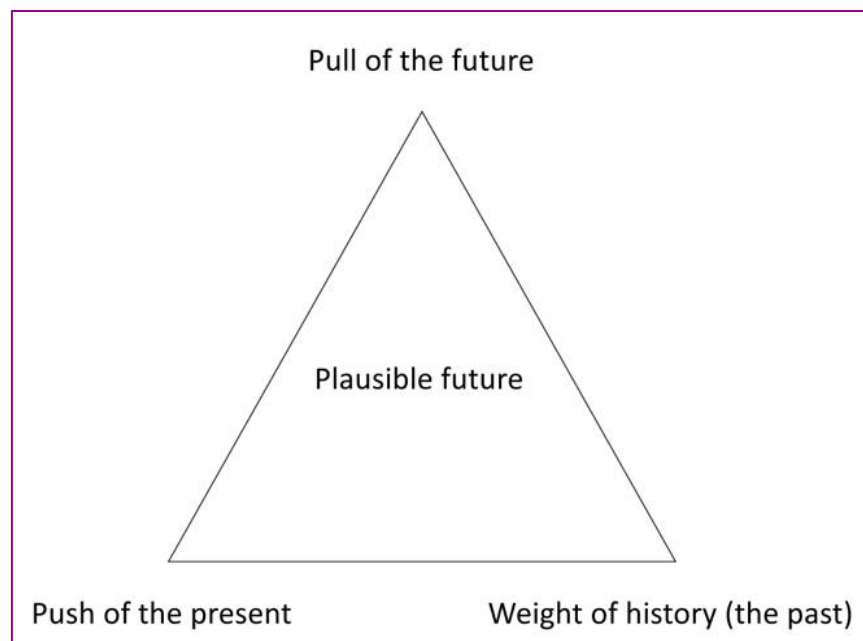

Figure 1:   The futures triangle
Source: Recreated from Inayatullah, 2008.

Firstly, the report touches on the weight of history, those aspects of the past that create barriers against the changes that we want and need to see. Secondly, by considering the status quo and by delving into the drivers and trends that are shaping the future of schooling in sub-Saharan Africa, the push of the present is explored. Then, by turning the focus towards possible images of the futures of education in sub-Saharan Africa, the report acknowledges the pull of the future. These three dimensions allow for a plausible future

to emerge that aims to inspire and incite strategies for collective and decisive action.
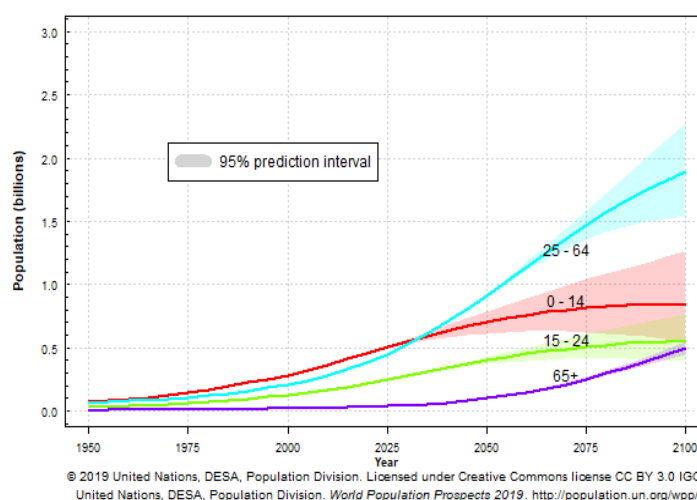
Africa's potential demographic dividend

A demographic dividend occurs when a country or region can capitalise on a low dependency ratio between the working-age population and the dependent population. This usually happens during a demographic transition that sees a decrease in fertility and therefore population growth rates, but before the benefits of lower mortality translates into an emergent ageing cohort.

According to the United Nations' *World Population Prospects 2019*, the current dependency ratio for sub-Saharan Africa is 185.4 to 100 (2019a). This means that there are 185.4 individuals in the dependent age ranges of 0-24 and 65+ for every 100 in the age range of 25-64. (By comparison, the dependency ratio for the whole of Asia was already 117.9 to 100 by the year 2000.) This ratio for sub-Saharan Africa is expected to drop to an estimated 119.2 to 100 by 2060 (total dependency ratio (<25 & 65+)/(25-64); medium fertility variant, 2020 – 2100).

These ratios are, of course, averages, and the exact timing of the window of opportunity for the individual countries within the region differs. SA has already reached the cusp of this window in the mid-2010s. At the same time, a country with elevated fertility, such as Tanzania, is only expected to reach a similarly low dependency ratio by 2080 (United Nations, 2019a).

Figure 1:   Sub-Saharan Africa: Population by broad age groups

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When this window of opportunity is gainfully utilised, the positive impact on the GDP and general prosperity of a country or region is seen to be exponential. In calculations published by the International Monetary Fund, it was estimated that if the full demographic dividend for sub-Saharan Africa transpires, the region's GDP per capita could be almost 56% higher than the projected baseline by the year 2100 (Drummond, Thakoor, & Yu, 2014).

THE WEIGHT OF HISTORY: HOW DID WE GET HERE?

'Among the Ibo the art of conversation is regarded very highly, and proverbs are the palm-oil with which words are eaten.' – Chinua Achebe, Things Fall Apart, 1958.

To believe that education arrived in Africa the moment the first missionaries stepped onto African soil is a commonly held fallacy that haunts the continent to this day (Moseweunyane, 2013). Long before its colonisation or the slave trade, Africa's knowledge systems allowed for the transfer of skills, values and beliefs necessary for its people to survive, flourish and transform. With mostly the elders assuming the role of teachers, indigenous knowledge was passed on from one generation to another following an oral tradition rich in fables, myths and proverbs. What is known in the modern lexicon as action learning was commonplace in African societies as youngsters also learned some of the crucial skills to survive by doing and by taking part in the day-to-day physical and spiritual lives of their communities. Lastly, rooted in the values encapsulated by the African philosophy of ubuntu, the objective of African education practices is understood to have had as a main aim the integration of young people into their societies and the fostering of continuous service to those societies.

As the forces of colonisation spread across the continent, these knowledge systems and ways of being came under severe threat. Moseweunyane described the fervour with which colonial powers entrenched themselves into all aspects of African society, particularly in the period between the infamous Berlin Conference (1884-1885) and the late 1950s when most African countries gained independence (2013). From religion and science to economics and education, European colonial culture and values became the benchmark against which all progress had to be measured. Imperial values attempted to transfigure a continent built on the mantra of 'I am because we are' (Paulson, n.d.), into a realm that celebrates individualism, often at the cost of others. By the time the colonialists returned African states to their peoples via political independence, capitalist ideals and the accumulation of personal wealth had become the dominant dogma.

Africa, admitted Moseweunyane, cannot return to a pre-colonial paradigm, and in a globalised world should not try to isolate itself from the benefits of technological and other advancements (2013). However, from a futures triangle perspective, education in Africa cannot deny its deeply troubled past. If left unacknowledged, these historical experiences will continue to weigh on African education and remain barriers through which future generations will struggle to pierce.

THE PUSH OF THE PRESENT: WHERE ARE WE NOW?

'Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.' – Sustainable Development Goal 4, United Nations, 2019b.

One mechanism that can be used to explore the status quo of schooling in sub-Saharan Africa is to review the progress made towards the United Nations' Sustainable Development Goal 4 (SDG4). Some might argue that by pursuing a global agenda for education, the values and beliefs outside of a Western paradigm are yet again denied. However, commentators agree that these goals are sufficiently universal and in keeping with Africa's priorities as expressed in Africa's 2063 Agenda (Ighobor, 2015).

The sub-targets for SDG4 that are of particular relevance to this report are target 4.1, which speaks to free primary and secondary schooling for all; target 4.5, which aims to eliminate all discrimination in education; and target 4.1.1, which pursues the achievement of proficiency in reading and mathematics (United Nations, 2019b).

When assessing the progress that sub-Saharan Africa has made towards target 4.1, it is noteworthy to mention that as recently as the mid-1990s 46% of sub-Saharan Africa's children of primary school-going age were not in school (Roser & Ortiz-Ospina, 2020). By 2014 this percentage has more than halved to about 20% (or one in every five children), which is a turnaround to celebrate. Similar strides have been made in secondary school enrolment, with Africa showing the greatest increase in the number of children enrolled in secondary school since the 1990s: 49m students by 2012 (Africa-America Institute, 2015).

However, according to statistics released by UNESCO, sub-Saharan Africa is still the region with the highest out-of-school rate across primary and secondary school-going ages (see Table 1). A staggering 97.5m children between the ages of six and 17 are currently not seeing the inside of a classroom (2019).

Table 1: Out-of-school rates and numbers, 2018

	Out-of-school rates (%)			Out-of-school numbers (million)		
	Both sexes	Male	Female	Both sexes	Male	Female
Primary school age (about 6 to 11 years old)	18.8	16.3	21.4	32.2	14.1	18.1
Lower secondary school age (about 12 to 14 years old)	36.7	35.3	38.1	28.3	13.7	14.5
Upper secondary school age (about 15 to 17 years old)	57.5	54.5	60.5	37.0	17.7	19.3

Source: UNESCO, 2019.

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These statistics speak to the lack of progress towards SDG target 4.5, given that the out-of-school rates for girls remain persistently higher than that of boys across all age ranges. Not only has sub-Saharan Africa not managed to make sufficient progress towards equitable education from a gender perspective, but also the disparities between the poorest and the wealthiest children remain confounding. According to a recent UNICEF report, *Addressing the learning crisis*, low- and lower-middle-income countries, most of which are in sub-Saharan Africa, spend between 26% and 38% of their public education resources on the 20% richest children in their countries (2020). By contrast, the poorest 20% of children lay claim to between 10% and 14.5% of the same resources. This disparity is intensified by the fact that the poorest households are mostly rural and are underserved on multiple levels, not just education.

It is, however, the lack of progress towards target 4.1.1., the achievement of proficiency in reading and mathematics, that should be keeping educators, policymakers and responsible citizens awake at night. UNESCO, in a September 2017 report, estimated that 88% of the children in sub-Saharan Africa will not meet the minimum proficiency levels for reading by the time they are supposed to leave primary and lower-secondary education (2017). The corresponding percentage for mathematics is 84%.

Despite all the progress that has been made, sub-Saharan Africa is not on target to meet these SDG targets by 2030 (Montoya, 2019). In fact, there is a risk that, given Africa's population projections, progress will stall or even regress over the next 30 years. These sobering statistics do not exist in a vacuum and the futures triangle's push of the present necessitates an interrogation of the drivers and trends that are shaping the future of education (Inayatullah, 2008).

DRIVERS AND TRENDS

1. Child in the hood (Social)

'There can be no keener revelation of a society's soul than the way in which it treats its children'. – Nelson Mandela, 1995.

From a social perspective, a leading social force at play when looking at education is health and well-being. Africa is notorious for the proliferation of social issues that affect the health and well-being of children of school-going age, especially within poor and underserved communities. There is ample literature that describes the educational challenges faced by children exposed to regional conflict and domestic and gender-based violence (Africa Times, 2019). The growing proliferation of mental illnesses, such as depression and anxiety among adolescents, is another youth-related health trend that cannot be ignored, despite cultural resistance to its existence in numerous sub-Saharan countries (Kutcher *et al*, 2019). Teenage pregnancies and childhood marriages remain a concern, and this is seen as a

driving force behind continued gender disparity in access to education in the region (Yakubu & Salisa, 2018). Although education is not the silver bullet, the irony does not escape that it is one of the most potent ways of curbing some of these challenges, especially teenage pregnancies and domestic violence.
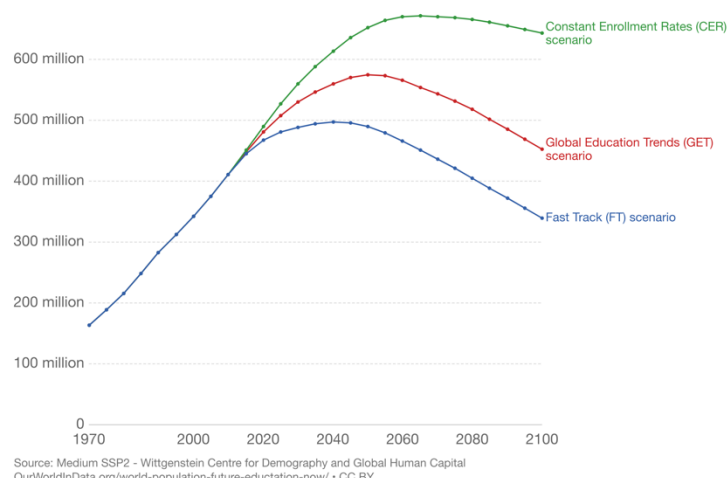
2.   One billion and counting – the threat and promise of demography (Social)

'*We are at the most critical juncture for Africa's children.'* – Leila Pakkala, UN Children Fund Regional Director for Eastern and Southern Africa (UNICEF, 2017a).

Several dimensions can, from a demographic point of view, pivot the futures of education in sub-Saharan Africa. The World Economic Forum (WEF) is starting to ask questions about what impact the world's ageing population will have on the funding available for education (WEF, 2020). The two biggest demographic challenges for policymakers, planners, educators and funders are: How many children will need to be educated over the next 30 years? Where will they be?

People all across the world are ageing, and population growth rates are plummeting from Tokyo to Helsinki. In sub-Saharan Africa, however, the population trajectory continues its steady march towards doubling to 2.1bn people by 2050, 2.5 bn if you add North Africa (Populationpyramid.net, 2019). Of those 2.1bn, 43% are most likely going to be children aged 19 years and younger. For a region that is still struggling to fulfil its SDG 2030 commitments, sub-Saharan Africa should find the prospect of being responsible for the education of one-third of the world's children, by 2050, daunting.

Figure 2:   Projections of the global population younger than 15, by education scenario

Source: Medium SSP2 - Wittgenstein Centre for Demography and Global Human Capital
OurWorldInData.org/world-population-future-eductation-now/ • CC BY

However, projections like these are made on a set of assumptions, all of which are susceptible to change. Ironically, one of these assumptions which can have the biggest impact on population growth is educational prowess. The WC-IIASA published a set of scenarios specifically constructed with a range of education targets and assumptions, and the results are illuminating (Roser, 2020). As can be seen from Figure 3, there could be a significant

difference between the number of children in sub-Saharan Africa younger than 15 by 2050, depending on the scenario (and assumptions) deployed. In the pessimistic scenario (which assumes that the rate of enrolment for education stagnates) they estimate that the region will be home to 653m children. In the optimistic scenario (which assumes a swift education expansion) the estimate is 490m children. The difference between the worst and best case scenarios is 163m children (Populationpyramid.net, 2019).

The second demographic challenge, 'Where will they be?' is driven by two factors, urbanisation and migration. Of these two, urbanisation is probably the best understood. It is projected that the number of people living in urban areas in

Figure: 3 Share of urban population living in slums, 2014

Source: UN HABITAT   OurWorldInData.org/urbanization • CC BY
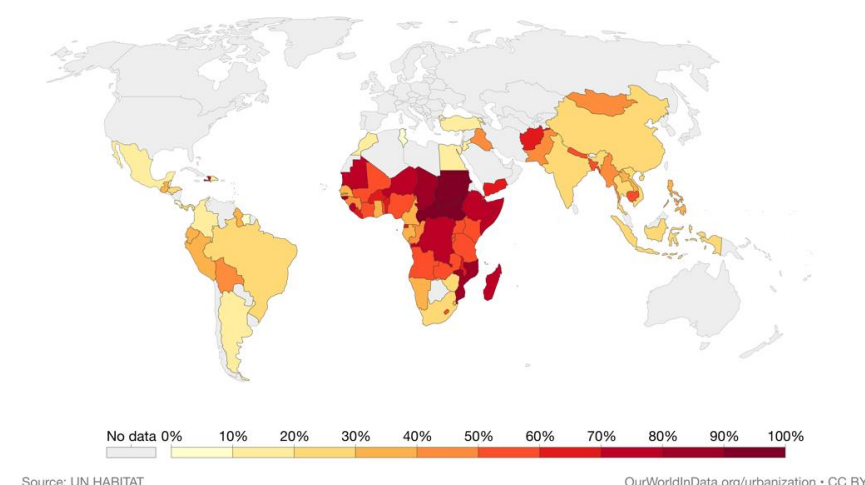
sub-Saharan Africa will exceed those living in rural areas by about 2036 (Ritchie & Roser, 2020). By 2050, the region's urban population will exceed 1.2bn. In search of opportunity, employment and a better life, many of those who have made their way to the big cities, however, find themselves relegated to urban slums (see Figure 4). City planners and local authorities are often unprepared, and infrastructure, basic services and especially education needs are not met (Hajjar, 2020).

Migration is also a reality across the region, from those fleeing conflict as refugees to those whose habitats are threatened by climate change, especially drought. Experts lament that it is one of the most difficult dimensions of demography to forecast, and the lack of data supports their view (Nicolai, Wales, & Aiazzi, 2017). Migration adds additional challenges to the goals of education. A recently published account that reflects the harrowing realities of being an undocumented and unaccompanied refugee child in SA is but one example of how these challenges manifest themselves (Krige & Panchia, 2020). The language of instruction is often also seen as a barrier to equitable education for migrant and refugee children. By contrast, it is by increasing access to education for these children that they feel more included in their newly adopted society and through which those who have suffered trauma get the support they need (World Education Blog, 2019a; World Education Blog, 2019b).

The dual uncertainty of not knowing how many children need to be educated over the coming decades and having sparse information about

where they will be, have downstream implications. Difficulties in managing a supply of quality teachers and the provision of suitable infrastructures are but two of those. UNICEF projects that if Africa wants to achieve the preferred teacher-child ratios of the current best-performing countries by 2030, an additional 5.8m primary school teachers will be needed (2017b).

3.   On a knife's edge (Economics and the environment)

'Our house is still on fire. Your inaction is fuelling the flames by the hour. And we are telling you to act as if you loved your children above all else.' – Greta Thunberg, WEF Davos, 2020.

Economic and environmental dimensions and their impact on education are inextricably linked to one another. 'Extreme weather' and 'climate action failure' top the list of the recent WEF's *Global Risks Report* (2020) in terms of likelihood and impact, respectively. All five of the WEF-identified most likely risks are from the environmental domain. These risks are hardly surprising, given the recent warnings of a climate emergency by more than 11 000 scientists (Ripple *et al*, 2020). Ascribing the crisis to human activity, specifically excessive consumption, these scientists make it clear that this crisis needs education and its resultant dampening of population growth, if the world wants a chance of avoiding climate tipping points or a catastrophe.

Furthermore, Africa is particularly vulnerable to these climate threats. Specifically, West Africa is regarded as a hotspot for climate change impacts, Southern Africa is expected to become drier, and rising temperatures in Central Africa are already affecting land use (Shepard, 2018/2019). By 2050 the land cultivated by 35m African farmers will no longer be able to support mixed crop-livestock systems (Climate Change, Agriculture and Food Security, 2014), which will threaten food security. Given that when children are hungry, they are more likely to miss school or struggle to concentrate when at school (Sandefur & Wadhawa, 2017), these trends raise alarm bells for the future of education in Africa.

While economists and statesmen debate these matters in the luxury of Davos, the reality is stark. Johan Rockström, Executive Director of the Stockholm Resilience Centre, puts it bluntly, 'There is no free natural capital left' (2017, par. 1) and the economic growth that has been built off the value of unaccounted for natural resources is no longer sustainable. Capitalism and its principles have been the dominant driving economic force globally for the last 450 years. Yet, the world is slowly starting to recognise how destructive unbridled capitalism is to both planet and people (Harris, 2020). Those questioning and criticising the neoliberal agenda, agree that this system exacerbates class division and fuels inequality (Bagakis, 2018). While there are no clear answers yet as to what next after capitalism, schools continue to follow Industrial Age pedagogies, training children for a world that no longer exists.

4. Mind the gap (Economic and social)

'Most important of all will be the ability to deal with change, learn new things, and preserve your mental balance in unfamiliar situations.' – Yuval Noah Harari, 2018.

The world of work, which the school children of tomorrow will have to navigate, looks very different from the one in which their parents grew up. From the rise of artificial intelligence and robotic process automation to machine learning, technology is changing the demands and expectations of the future workforce (Viljoen, 2019). The possibilities for these workers of the future to find themselves in job categories that have not yet been invented, can fill some with excitement. The rise of entrepreneurship and 'gig' work appeal to millennials and Generation Zs who seek more than just a steady job-for-life from traditional employers. Yet, these new boundaries and demands are daunting for those who can see the widening skills gap between what is taught and what is needed. The Fourth Industrial Revolution, in particular, demands the replacement of low-skilled workers with those with higher skills. In a region where there is an abundance of the former, governments must choose been resisting this change or adapting to it (Ndung'u & Signé, 2020).

Digital skills alone will not be enough to tackle the demands of this century. Collectively known as 'transversal skills', there is a list of the skills that the WEF, OECD and UNESCO all agree are necessary for humans to thrive and cope on a personal and professional level (Whittemore, 2018). Dealing with uncertainty and ambiguity and being able to bounce back from adversity are finally taking their place alongside collaborative problem-solving and lifelong learning (see Figure 5). The challenge for educators and curriculum developers is not only incorporating these competencies into classroom teaching but also finding and developing methodologies for assessing these skills.

Figure 4: Transversal skills

Source: Recreated from Whittemore (2018).

5. A blessing or a curse? (Technology)

'Technology will never rescue anyone from being a bad poet, but if you're good, it has the

potential to do a lot of exciting things.' – Steven Vincent, quoted by Francis Raven, 2005.

Technology is infiltrating every aspect of society and will inevitably impact not only what needs to be taught in schools but also how and where learning will take place. For many a techno-optimist, the solutions to sub-Saharan Africa's education challenges can be found in the binary halls of tech. Some say the supposed imminent roll-out of 5G across the subcontinent, virtual schools and online tutors, the construction of intelligent classrooms and online teaching material that self-assesses are the building blocks that will transform the reach and quality of Africa's education systems over the coming decades (Lwanda, 2019; Twinomugisha, 2019; Rogers, 2020). The plethora of exciting EdTech initiatives sprouting across the world, and particularly in Africa, certainly warrants some celebration, and there is the hope that these and similar projects can make inroads into education's challenges as detailed above (Trucano, 2017).

However, warns Wexler (2020), technology and devices, in particular, may not be the panacea that they sometimes are made out to be. If Africa wants to transform its education systems on the back of technology, it cannot afford to disregard the lessons learned in countries such as the United States and countries belonging to the Organisation for Economic Co-operation and Development (OECD). Wexler quoted a report by the National Education Policy Center at the University of Colorado condemning education technology for its dubious educational foundations, self-interest, recklessness with the privacy of students and a lack of supporting research (2020). A report issued by the OECD confesses there is little evidence of technology making inroads into the skills divide that exists between students from disadvantaged backgrounds and those from advantaged backgrounds (2015). Even more disconcerting is their evidence that shows a tipping point at which additional study time on devices or computers results in a worsening of learning outcomes. From both these reports, the most important lessons are around the role of the teacher. By relegating learners to online interactions and AI-fed schooling, they are denied some of the most critical dimensions of education: socialisation, guidance, encouragement and human connections (Arnett, 2016). The hope is that this key shortcoming is acknowledged by those who recognise that Africa has its roots in community-based education.

The impetus for governments and funders to invest in education technology is vast. Africa's education challenges have global implications (The African Courier, 2017) and on the surface, the potential of technology appears to address these at scale. As long as Africa can learn from the mistakes of others and build on its unique strengths, technology might just be the force for good that many make it out to be.

THE PULL OF THE FUTURE: WHAT EDUCATION IN AFRICA COULD BE LIKE

According to Inayatullah, at a macro level, there are several archetypical images of the future (2008). Four of these archetypes have been deployed below. These archetypes offer parameters for the pull of the future, each with different implications for what education in sub-Saharan Africa could be like over the next couple of decades.

1.   Evolution and progress: The new slave trade

In this archetype, progress comes from the continuation of the current dominant forces: market economies and the power of technology. In this scenario, education in Africa remains dominated by foreign ideologies and values. China and the West start to compete for control of Africa's burgeoning youth population. By their seemingly benevolent investment in educational technologies for the African masses, these foreign powers continue to dictate what, how and where African children will learn. Faced with ageing populations, the rate at which these developed economies reap the best students for their advancement starts to accelerate, and Africa is left with those who cannot escape and has to fend for itself.

2.   Collapse: Youth revolt

The most dystopian of the archetypes, collapse, is about a world in which all the limits have been reached, and doomsday fears have been realised. For the majority of Africa's youth who are faced with growing global inequality and living among the ravages of climate collapse, schooling is no longer the dominant mode of education. Tribalism, nationalism, and food and water insecurity have relegated scores of children to a survivalist paradigm. The bulk of their learning is experiential and centred around making it to their next meal. Reminiscent of the stone-throwing youths on the roadsides of South African townships, these children find their purpose and worth in constant protest and revolt. Those forces and systems that could lift them out of their misery, especially education, no longer exist.

3.   Gaia: A new dawn

The Gaia archetype leans toward a utopia, a world characterised by harmony and partnerships among humans, between humans and nature, and between humans and technology. In this scenario, Africa has renewed ubuntu as the dominant paradigm and value system that underpins its societies. Schools have been transformed by recognising the interconnect-edness between humans, the natural world and the built world. Education has rediscovered its real purpose and those soft skills that make us uniquely human and irreplaceable by robots, underpin all learning on the continent. Sustainability and care for the natural environment are not only taught in classrooms but learned through doing and in close interaction with nature. Technology is seen as a resource to advance these connections. By teaching

children to work with technology, the rate at which our damaged world is repaired is accelerated. While the rest of the world is still struggling with some of these challenges, it is to the example of Africa that they turn for inspiration and guidance.

4. Globalism: Spaceship Earth

The last of the archetypes, globalism, is the world that John Lennon sings about in his hit song *Imagine*. It is a world where barriers and boundaries have been eliminated, and differences celebrated. The benefits of capital and technology are available to advance the well-being of all. Quality education is free and accessible to all the children in Africa, irrespective of gender, ability, locale or historical, social class. Through educational empowerment, the global community can fend off the challenges and threats that gripped it by the early 2020s. African students and their indigenous knowledge are recognised and celebrated. Free to move across the globe, they choose instead to continue building the continent and to return the benefits of their education to the communities in which they reside.

FINAL THOUGHTS

'Every action has a consequence. Every inaction perhaps even more so.' – Paul Michelman, MIT Sloan Management Review, 31 July 2018.

The futures of sub-Saharan Africa and the futures of its education are two sides of the same coin. As much as education is hampered by a myriad of social, economic and environmental challenges, it has the power to transform and transcend these challenges in the region. Furthermore, an extensive body of knowledge exists that unpacks, repacks and reframes sub-Saharan Africa's education challenges. The best next step is to channel these learnings into real and concrete action. Without action, there will be no African century to speak of.

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