



Africa Digest

Trends and Issues in Macro Environment

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1. Housing Infrastructure in Africa

INTRODUCTION

Africa is in dire need of infrastructure, but faces an annual spending deficit between US\$130 and US\$170 billion. Housing is a significant portion of this funding gap. A strongly growing and rapidly urbanizing population exacerbates this housing shortage: Africa's population is set to grow from 1.2 billion at present to 2.4 billion by 2050. Sub-Saharan Africa (SSA) is regarded as the world's fastest urbanizing region. Urban Africa currently contains 472 million people and, according to the World Bank, this number will double over the next 25 years. By 2050, 60% of the African population will live in cities, accelerating the demand for affordable and liveable housing. The largest cities grow as fast as 4% annually. This creates an urgent need for employment opportunities, affordable housing, efficient infrastructure and services (such as electricity, water, sewerage utilities, etc). This article reports on the recent progress in housing development in several countries in the region.

GHANA

As in many African countries, Ghana faces a huge housing deficit. The Ghanaian government announced a deal in March 2019 with the UN's Office for Project Services (UNOPS) for construction of about 100 000 affordable houses across Ghana, each fitted out with energy efficient solar rooftops. The project has an estimated gross development value of approximately US\$5.3 billion. UNOPS will provide US\$11 million in seed funding, and with its partners, seeks US\$436 million in additional investment to provide these new homes. The project will boost the local economy, improve the living standards of Ghanaians, and provide 3,000 job opportunities for local workers.¹

The Minister of Works and Housing also confirmed recent reports that the government commenced construction of 250,000 affordable housing units across Ghana, as part of its strategy to address the two-million housing unit deficit facing the country. The ongoing project was an element of an eight-year affordable housing project by the Ministry to deliver 250,000 housing units a year to address the housing deficit. The Ghanaian government was considering modern construction technologies such as prefabrication to significantly reduce construction time.

The government also launched various interventions to upgrade all Ghana's slum areas into modern communities, starting with Nima-Mamobi in Accra. This project will be a public-private partnership, at zero financial cost to the government and to beneficiaries. The developer intends to recoup its investment in affordable housing through profits from the sale of executive homes in the area.²

ETHIOPIA

Housing development in Ethiopia is on the rise. Ethiopia's Federal Housing Corporation (FHC) announced plans in July 2018 to build 16,173 homes in Addis Ababa at an estimated cost of around US\$1.2 billion. The project will build villas and various high-rise apartments ranging from nine to 21 storeys. The first phase of the project will cover about 26 hectares, land presently owned by the FHC, as well as land provided by the city council.

The construction of the villas should take less than 18 months (to be completed at the end of 2019), while the construction of the apartments is anticipated to require from two to three years. Buyers have access to a mix of government grants and bank loans to finance their purchase.

Demand for housing in Addis Ababa alone is massive - more than 755,535 people have registered for low-cost housing schemes, 126,529 of whom are government employees.³ The 16,173 homes of the project reported above are important, even if only a drop in a large bucket!

KENYA

The Kenyan housing challenge is sufficiently severe to motivate President Uhuru Kenyatta to incorporate housing as a core pillar of his Big 4 Strategy. As a key element of this strategy, he

formulated the ambitious goal to build 500,000 new affordable houses by 2022. The government's plan is to use mortgages or a tenant purchase scheme to enable Kenyans to buy these houses.⁴

The Kenyan government announced in June 2018 it would impose a 1.5% housing levy on salaried employees. This levy would amount to a substantial estimated US\$492.7 million annually, and was set to start by 9 May 2019. It had also been increased from 0.5% to the current envisaged 1.5%. The levy will be capped at KSh2500 (approximately US\$25). However, strong resistance against this levy resulted in several court cases, filed by the umbrella workers' union and a consumer lobby group. The houses will be built by private companies and then sold to qualified applicants determined by a lottery. Those who do not get a house will be allowed to transfer their money to a pension scheme or withdraw it.⁵

As is the case in Rwanda, one of the challenges facing the housing sector in Kenya is the high cost of land for housing development, which contributes towards the growing housing deficit. Kenya announced towards end-June 2019 it plans to implement a number of land reforms to increase the supply of affordable housing.

According to a Kenyan government spokesperson, it will provide supporting infrastructure and review any impending policy and legislation to ease implementation of the country's housing agenda. The goal of 500,000 housing units by 2022 requires the private sector to use modern building technologies and provide innovative ways to finance construction.⁶

RWANDA

As in other countries in the region, the high rate of urbanisation and population growth drives demand for housing in Rwanda. Rwanda's urbanisation level will increase from 18.4% in 2017 to 35% by 2024. However, a number of factors limit the nation's affordable housing ambitions. These include the high cost of land and imported construction material, and high interest rates. Some commentators identify a mismatch between the prices of houses in affordable housing schemes and the ability of Rwanda's citizens to pay for these houses. Currency devaluation also drives up the cost of construction materials (being imported from abroad), which negatively affects the housing sector.

Researchers and academics in Rwanda were tasked to identify innovative ways to develop affordable housing and microfinance schemes and produce locally sourced low-cost construction materials. There may also be a need to regulate prices set by housing developers to ensure affordability.

In addition, as the cost of land was a major cost driver, Kigali has been buying land each year to enable the development of infrastructure, including affordable housing projects. Kigali, as many cities in Africa, fails to provide sufficient affordable houses, having met less than 10% of demand to date.⁷

Quite recently, Rwanda announced it would launch a project to construct about 2,800 affordable housing units. The project is a joint venture between Shelter Afrique, a pan-African housing finance institution, and the Development Bank of Rwanda (BRD).

The planned units were developed by Rugarama Park Estate and Remote Group – an engineering firm – and are in accordance with the City of Kigali masterplan and the affordable housing program under the National Housing Policy. The entire housing project is estimated to cost US\$131 million and accommodate 14,000 people. In addition, it will create hundreds of temporary and permanent jobs.

A 2012 study indicated annual demand for 31,279 housing units against the supply of about 1000 units.⁸ This mismatch between supply and demand remains a challenge in 2019.

TANZANIA

Another country in East Africa experiencing severe housing shortages, is Tanzania. In September 2018, the government undertook to build 200,000 affordable homes each year (enough to meet estimated annual demand) at a cost of US\$12 billion. The total current housing shortage is about 3 million houses, at a combined total cost of US\$180 billion.

Tanzania developed a number of major building projects at a cost of US\$40 billion. The Government also introduced mortgages for the public, while all commercial banks have issued mortgages for the past few years with the ultimate aim to deliver on the 200,000 affordable homes per year target. The number of mortgage lenders in Tanzania increased from 3 in 2009 to 21 in 2015. Unfortunately, as in many other African countries, Tanzania imports much of its construction material to satisfy the high demand for local construction.

In Tanzania in 2015, only 10,000 of its 650,000 government workers were provided with residential accommodation through mortgages or other house purchase schemes. To address this situation, the Tanzania Public Servants Housing Scheme (PSHS) will build 50,000 housing units for government workers in 5 phases (announced in 2015). This construction activity makes Tanzania an attractive market in Africa for building and construction materials.

Banks in Tanzania will provide government workers with mortgages that can be repaid over periods of up to 25 years and at interest rates between 11% and 13% per annum.⁹

Within the parameters of its broader goal of 200,000 homes per annum, the government of Tanzania announced in March 2019 it would construct 30,000 affordable houses across the country. These houses will be constructed by the state-owned National Housing Corporation (NHC). To complement construction of the houses, infrastructure in the areas – such as roads, schools and health centres - will be improved.¹⁰

POINTS OF INTEREST

- Factors that position Africa as a destination for investment, such as its large and growing population and economic successes, also generate demand for housing and place pressure on the supply of housing for its population. They therefore act as a double-edged sword.
- Government actions to address housing challenges include the provision of financing at affordable interest rates and the acquisition of land, one of the major cost drivers. In spite of these actions, the backlog of demand for housing remains at very high levels. Provision of housing acts both to create social stability and to raise the living standards of the population.
- Private sector participation by providing investment and participating in the transfer of technology is an important part of any strategy to address housing shortages. This creates investment opportunities for local and foreign investors. Developing a revenue model that ensures investors will get their returns is one of the challenges facing the industry in Africa.
- Housing projects create immediate benefits, such as employment opportunities and economic growth, plus investment opportunities for construction firms and other actors. African countries, even those that are active in developing affordable housing, are a long way from meeting the housing needs of their population, as stated in the second point above. The housing sector does accelerate economic growth, which in turn leverages activity in other sectors of the economy.
- Another challenge is importing sufficient construction material to meet demand, as this increases costs to build housing. However, this also creates an investment opportunity to provide locally manufactured supplies in some markets, depending on cost and other local factors.
- Technological innovations, such as energy efficient solar rooftops and prefabricated components, promise to reduce project costs and speed delivery to new residents.

2. Mini-Grids in Africa

INTRODUCTION

A mini-grid is an electric power generation, storage and distribution system that provides electricity to customers in a remote settlement, or supplements the national grid by meeting peak power demand for larger numbers of customers in a town or a city. Mini-grids and other power generation systems can supply power to households, manufacturers and other businesses, public institutions and large agricultural processing facilities. An increasing proportion of mini-grids rely on renewable energy, which is growing in leaps and bounds within Africa. As approximately 640 million Africans do not have access to electricity, the trend toward sustainable electrification creates opportunities for foreign investors and local SMEs.

AFRICA

The African Development Bank (AfDB) recently approved a loan of US\$500 million for Africa's electrification through renewable energy. The funds will be distributed among major project promoters (US\$400 million) and off-grid suppliers (US\$100 million). The allocation will help off-grid power suppliers expand their services, especially to rural areas where people are often not connected to the national electricity grid. The most common solution is the solar home kit, a small network that supplies a home. These mini-grids are becoming increasingly popular in the rural parts of Africa. The off-grid market has become popular for companies as well, as they increasingly rely on grid autonomy, particularly in countries such as Nigeria and South Africa.¹¹

Azuri Technologies is one local company that identified the business potential of mini-grids. PayGo is a solar home system owned by Azuri, which provides electricity on a commercial basis to rural off-grid communities. Instead of users paying a high upfront fee for the equipment, they pay small amounts on a regular basis via mobile phone technology (or scratch card). Active since 2017, PayGo has made significant progress in expanding its business in both East Africa and Nigeria.¹²

As local people are recruited and trained by distributors as telephone operatives for customer support, technicians for installation, and local sales agents, the PayGo system stimulates the local economies.

Thousands of units have been distributed in eleven countries across Sub-Saharan Africa, including Tanzania, Kenya, Ethiopia, Uganda, Sierra Leone, Malawi, Zimbabwe, South Africa, Rwanda, Togo, and Ghana. Azuri recently signed agreements with a leading mobile network operator in Tanzania, with plans to provide 100,000 units over the next two years.¹³

THE DEMOCRATIC REPUBLIC OF THE CONGO

In the DRC, less than 1% of rural and 35% of urban areas can access electricity from the national grid. In March 2019, the AfDB approved loans of US\$20 million to the DRC to support renewable-based, mini-grid solutions to the off-grid cities of Isiro, Bumba and Genema. This program will serve as the pilot to a private sector-led electrification approach to deploy renewable-based mini-grid solutions in the DRC. The program will supply power to cities with sizeable populations without access to modern energy.

The AfDB is also providing a US\$1 million Sustainable Energy Fund for Africa grant to provide advisory services to the DRC for the procurement of solar PV mini-grid systems. Upon completion, the envisioned mini-grids, ranging between 3MW to 10MW, will directly connect 21,200 households and 2,100 SMEs and public buildings, benefitting at least 150,000 people.¹⁴

GHANA

In Ghana, the Deputy Minister of Energy recently announced that the government plans to introduce mini-grids as part of its rural electrification strategy to provide universal access to electricity. At the end of 2018, 15% of Ghana's population had yet to access electricity. To reach remote communities with

under-ground cables would require US\$4 billion. Using mini-grids would provide electricity to these communities at a much lower cost compared to the national grid.

It also appears that demand for power from the national electricity grid in Ghana is declining, as more people are turning towards the use of solar energy as it is relatively less expensive.

Existing public utilities will be responsible for the ownership and operations and management of the planned mini-grid systems.¹⁵

NIGERIA

In Nigeria, frequent interruptions in the national electricity grid motivated many companies to shift towards solar off-grid providers. These solutions offer more autonomy to companies, by using technology that is accessible and easy to install.

Arnergy Solar, a company based in Lagos, is one such provider. It recently raised US\$9 million to supply solar mini-grids equipped with storage systems. Its development partners include Norfund, a Norwegian government PE firm, Electrification Financing Initiative (ElectriFI), an investment fund that supports the private sector to provide electricity in unserved areas, and All On, an investment company supported by Shell.

Arnergy Solar installs mini-grids for health centres, schools, hotels, food processing industries and shops. These mini-grids include 5kW solar panels and a battery storage system. The company now has an installed capacity of 2MWh, with 5MWh of storage.

ElectriFI has partnered with Renewable Energy Performance Platform (REPP), a platform dedicated to financing renewable energy, to open a US\$10 million line of credit to PAS Solar, a supplier of solar home kits.

In June 2019, Norfund joined forces with FinnFund to invest €5 million (approximately US\$5.64 million) in Starsight Power Utility, a Nigerian company that installs hybrid off-grid systems for plants and businesses.¹⁶

Still in Nigeria, a French company, Schneider Electric, and EM-ONE Energy Solutions, an engineering company specialising in renewable energies and based in Nigeria, recently signed an MoU to collaborate on the production and distribution of solar mini-grids in Nigeria. This would replace the need to import mini-grids produced in Europe, Asia or North America, and create local jobs.

EM-ONE Energy is well established in Nigeria. It supplies solar off-grid systems to factories and businesses. It has already won a contract to supply 30 mini-grids in Nigeria to supply hospitals in Kaduna State, and is also targeting the university and rural electrification market.

The MoU with EM-ONE Energy will enable Schneider Electric to explore the large Nigerian market, which is favourable for off-grid companies. The off-grid systems they will provide to the Nigerian market in large quantities have a capacity between 7 and 63kW. Schneider Electric can also install mini-grids that supply up to 500kW of electricity, enough to power a town of 10,000 people.¹⁷

Schneider Electric, based in France, is well known in Africa. In Kenya Schneider markets locally produced containerised mini-grids that can be easily transported and installed in remote locations.

ZAMBIA

Azuri Technologies launched its 24-inch solar satellite television and home lighting system in Zambia during the last week of June 2019. This investment provides the capacity to help more off-grid customers across Zambia benefit from affordable, clean and reliable energy as well as access to modern energy-efficient appliances.

The AzuriTV package includes a 24-inch solar TV with 49 popular Zuku satellite TV channels and over 50 radio channels, solar home lighting, rechargeable radio, torch and mobile phone charging. The complete package costs as little as K98 per week (approximately US\$7.60).¹⁸

ENGIE is another company active in Zambia in the mini-grid sub-sector. Early in April 2019, ENGIE inaugurated its first PowerCorner in Zambia. This mini-grid provides energy to households and local businesses and supports public services such as the Rural Health Centre and schools. PowerCorner will also stimulate economic development by enabling other electrical uses and by creating business opportunities for entrepreneurs in villages.

To support its decentralized energy initiative, ENGIE expanded Fenix, its solar home system business in Zambia. Launched in October 2017, ENGIE Fenix has reached 70,000 customers to date, supplying 350,000 people with clean lighting and power.

ENGIE also reached out to Tanzania where it has installed 13 mini-grids for village electrification. These mini-grids are all under construction, or in operation. ENGIE plans to develop and install 2,000 mini-grids in Africa by 2025.¹⁹

POINTS OF INTEREST

- While the AfDB's High 5 Priorities include lighting up Africa, the electrification challenge is a huge challenge for governments and the private sector.
- Governments do not have the capacity and means to address this challenge on their own, and seek to involve the private sector as significant stakeholders in providing the necessary services and infrastructure.
- Renewable energy is increasingly attractive as a preferred strategy to provide electricity. The reasons for adopting mini-grids (especially solar) include the ease of implementation, the short response time and the relatively low cost. Mini-grid costs are falling, while their capabilities and efficiencies are steadily increasing.
- Various investment opportunities are emerging for foreign and local investors. The obvious benefits to Africa include creating meaningful jobs, stimulating its economies (including the manufacturing and agricultural sectors), transfer of knowledge and technology, and improving the quality of life for Africans.
- The high upfront cost of mini-grid systems is a barrier to acquisition for many poor people, especially in rural areas. To collect from systems users, providers need either to develop payment systems or tap into an existing one. System operators such as M-Kopa amortize the capital and installation costs as a monthly operating fee, through their rent-to-own model.

3. The Oil and Gas Industry in East Africa

INTRODUCTION

In Africa, oil was originally discovered and exploited in North and West Africa. Although the presence of oil has typically not been associated with East Africa, this perception is changing.

In the East African Community, Tanzania outpaces its partners with 57 trillion cubic feet of proven natural gas reserves. Uganda trails by far with 500 billion cubic feet of gas, discovered but not yet drilled. Rwanda has 63 billion cubic metres of methane gas, while commercially viable reserves have been discovered in South Sudan. The exploration process in Burundi has reached an advanced stage with encouraging prospects for a major find.

While drilling for oil in Uganda could begin soon, Kenya could make its first shipment of crude oil before the end of this year. Uganda and Kenya have proven reserves of 6.5 billion and 754 million barrels of oil respectively and will join South Sudan as major oil producers in the East African region.²⁰

These oil and gas finds have made the East African region an attractive destination for major global oil and gas drilling and prospecting firms.

BURUNDI

In early May 2019, Burundi revealed at the ninth East African Petroleum Conference in Mombasa, Kenya, that it is in 'advanced stages' of oil exploration in the Rusizi river basin. Burundi shares this basin with Rwanda and Tanzania, and has just amended its petroleum regulations to align them to current realities and boost investor confidence.²¹

ETHIOPIA

Up till quite recently, foreign oil companies engaged in oil and gas exploration and development projects in Ethiopia were required to open foreign currency bank accounts there. They viewed this as a stumbling block to invest in oil and gas exploration and development. After the removal of this directive, international oil companies show renewed interest to acquire new concessions in Ethiopia.

Poly GCL Petroleum Investments, Africa Oil, New Age, Delonex Energy, Gazprom and South West Energy are international companies engaged in oil and gas exploration and development projects, all of which had suspended their Ethiopian operations following the directive. All have subsequently resumed work on their projects, and have shown an interest to take new oil exploration concessions.

These corporations are now working with the government on the commercialisation of discovered gas reserves. Poly GCL Petroleum Investments from China will be transporting the gas from its Calub and Hilala gas fields via a 760km gas pipeline to a gas treatment plant to be built at the Port of Djibouti. The gas will be changed into Liquid Natural Gas (LNG) at this treatment plant and exported to China. Poly GCL hopes to start pumping out gas by 2021.²²

KENYA

The government of Kenya recently signed Heads of Terms agreements with joint venture partners Africa Oil Corp, Tullow Oil plc and TOTAL S.A., for development of oil fields in the South Lokichar Basin. The project is expected to see its first oil three years after the final investment decision. Significant progress has been reported on the Early Oil Production Scheme (EOPS): production increased from 600 bpd to 2,000 bpd in May 2019. In addition, the reservoirs, wells and associated facilities have performed well. So far, more than 150,000 bbl of oil has been delivered safely to Mombasa. Tullow Oil expects the first export cargo to be sold and lifted in the third quarter of 2019. Africa Oil Corp has a 25% interest in Project Oil Kenya, with Tullow Oil plc (50% and operator) and Total S.A. (25%) holding the remaining interests.²³

Kenya is in the final stages of developing local content policies to increase local participation in the oil and gas sector. The country has been exploring ways to stimulate the development of capacities and

encourage local investments, ownership and participation. These policies will address upstream, midstream and downstream regulations. The process has involved consultations with the private sector, public sector (at national and county levels), civil society and the development partners.²⁴

RWANDA

Rwanda is currently extracting methane gas from Lake Kivu. It is now looking to partner with oil and gas companies for the next stage of exploring Lake Kivu for more hydrocarbons. The country has conducted the first round of shallow drilling for geochemistry tests in the lake. After the ongoing second round of shallow-drilling tests, the government will decide before the end of 2019 whether to invite private investors to finance 2D or 3D seismic studies.

Lake Kivu lies in the hydrocarbon-rich Albertine Graben exploration area, where neighbouring Uganda found 6.5 billion barrels of oil resources. Gas from Lake Kivu is being converted into 26MW of electricity for Rwanda.²⁵

SOMALIA

Royal Dutch Shell and Exxon Mobil are considering re-entering the Somalia market, ahead of an oil block bid round later this year. They had a joint venture there prior to the toppling of Mohamed Siad Barre in the early 1990s. While Somalia currently does not produce oil, production could transform the economy. Early stage seismic data has shown potential for significant oil reserves offshore. Somalia hopes to allocate 15 offshore blocks with a potential bid date scheduled for November 2019.²⁶

UGANDA

Uganda has found oil – Tullow made the first large Ugandan discoveries over a decade ago. Uganda is now hoping to see its first crude oil exports by 2022. Total, China's Cnooc and UK independent Tullow are partners in Uganda's oil export project. The discoveries, estimated at 6.5 billion barrels of crude oil in place, are in the Albertine Graben region. Production will be transported from a hub at Homa, near Lake Albert, to Tanga on the Tanzanian coast through a 1445km pipeline, with a capacity of approximately 216,000bl/d. While the first exports were originally scheduled for 2020, various delays led to pushing out this date to 2022.

Uganda has made progress on securing land access and developing the transport infrastructure needed for the project to proceed. One major challenge is on-time completion of the heated pipeline (at a cost of US\$3.5 billion) to Tanzania. The pipeline was expected to be operational by 2022. However, at end-June 2019 Uganda and Tanzania had yet to sign the host government agreement (HGA) needed for the pipeline to progress, as they disagree on revenue sharing, local content and other issues. There has been no news on the status of this HGA.

A GE-led consortium will build a refinery at a cost of more than US\$3 billion to process 60,000bl/d. The facility is expected to be operational by 2023.²⁷ The GE-consortium originates in the desire of the Ugandan government to expand its commercial ties with the USA and seek the participation of USA private sector companies in development of the oil and gas sector and the wider Ugandan economy.

Recent preliminary surveys in a new area in Uganda show traces of oil. While exploration continues, the showing indicates a potential for economically viable petroleum reserves. The discovery of a second oil region could transform Uganda into a significant player in Africa's oil industry.²⁸

POINTS OF INTEREST

- A few years ago, commentators referred to a tilt in investments from West to East Africa. This followed the severe drop in oil prices that depressed economic growth in oil-producing African countries such as Nigeria and Angola. Continuing discovery of oil and gas in East Africa will enhance this effect.

- The major benefit of these discoveries for East African states is to reduce their vulnerability to globally-determined oil prices, plus import substitution and generation of export revenues. An added benefit is meaningful employment opportunities. Many countries see their best and brightest youths leave for other parts of the world, due to a lack of meaningful local jobs.
- A challenge that oil-producing countries such as Kenya, Tanzania, Ethiopia, Uganda and Rwanda face is to avoid the resource curse. Also, they should avoid a scenario where they export raw materials and import the refined value-added product. This appears to be the current case with the large oil producers Nigeria and Angola.
- Over-dependence on oil exports for government revenues is a trap they will have to avoid. Some African countries rely on oil exports for up to 90% of total government revenues. The sound strategy to follow would be to use the oil revenues generated to enhance the diversification of their respective economies.
- Uganda took a step in the right direction, to develop its own refinery. However, it must learn from Nigeria's challenges in this regard. The latter has four government-owned refineries, all operating well below capacity. The sooner Uganda gets a private sector company to operate the refinery, the better off it will be. Nigeria allowed Dangote to build a private sector refinery that hopefully, once completed, will allow it to add value and serve Nigeria's needs.

4. Regional Integration in Africa

INTRODUCTION

Africa has a number of regional economic communities, such as the Common Market for East and Southern Africa (COMESA), East African Community (EAC), Southern African Development Community (SADC), Economic Community for West African States (ECOWAS), and the Central African Economic and Monetary Community (CEMAC), to name but a few. Intra-African trade is very low at approximately between 15% and 17%, depending on who you ask.

Africa's very poor internal transport infrastructure aggravates this problem. Also, tariff and non-tariff barriers constrain the free movement of goods, services and people within Africa. Many view regional integration of the continent as a motivating factor that will encourage member states to work together to address these issues.

In 2015, 26 countries belonging to COMESA, EAC and SADC signed the Tripartite Free Trade Area (TFTA), stretching from Libya and Egypt in the north to South Africa in the south. It was viewed as a forerunner of its larger sibling to follow, the African Continental Free Trade Area (AfCFTA). ECOWAS and CEMAC countries were excluded, as were the three North African states of Morocco, Tunisia and Algeria. In Kigali, Rwanda a large number of African governments signed the AfCFTA in March 2018. This has created a lot of excitement and has been ratified by the requisite number of governments, which was not the case with the TFTA.

The existing regional economic communities are operating at different levels of efficiency, with some unfortunately showing signs of diminishing efficiencies. For Africa to step up and claim its place on the global platforms of the world, the member states must act to reverse this decline.

THE AFRICAN CONTINENTAL FREE TRADE AREA

Nigeria's president Muhammadu Buhari has recently confirmed that Nigeria will sign the Africa Continental Free Trade Area (AfCFTA) at the African Union summit in Niger.

Nigeria, the largest economy on the continent, was one of the last countries that had not committed to signing the deal and its decision to join the AfCFTA will significantly bolster its clout. With Nigeria having now committed to joining the AfCFTA, it is only Eritrea and Benin that have not signed to join the community. Nigeria's initial concern was that joining the AfCFTA would allow its neighbours to export low-priced goods into Nigeria and undermine Nigeria's attempts at stimulating its agriculture and manufacturing sectors.²⁹

According to Moody's, as Nigeria is the largest African economy, its membership of the AfCFTA will play a key part in the trade bloc reaching its maximum potential. They highlight that there are still a number of important structural challenges. These include the weak power generation and logistics infrastructure in most countries in Africa. These two areas play an important role in supporting trade and manufacturing in Africa.³⁰

By eliminating tariffs between member states, the AfCFTA will create a huge market of 1.2 billion people with a combined GDP of more than US\$2.2 trillion.³¹ The AfCFTA formally came into force at the end of May 2019 after the required minimum of 22 countries had ratified the plan. It is envisaged that the eliminations of tariffs will boost intra-African trade by 60% within three years.³²

The African Union (AU) subsequently announced it would launch the operational phase of the AfCFTA at the Extraordinary Summit of Heads of State and Government on July 7 in Niamey, Niger. The launch of the operational phase means that traders across Africa will now be able to use the preferential trading arrangements offered by the AfCFTA.³³

Some commentators within the African pharmaceutical sector have suggested that, with the AfCFTA now in force, African countries should increase their domestic production of pharmaceutical products and put an end to the over-dependence on imported medicines. Africa has the requisite competence to build and grow its pharmaceutical industry. Given the economies of scale of the AfCFTA market, AfCFTA represented a massive opportunity to develop home-grown pharmaceutical production.³⁴

The East African stated that most of the elements that had been in place before the AfCFTA could operate smoothly, are missing.³⁵ Their editorial mentions the following:

- The physical infrastructure that should connect markets is weak or non-existent,
- Barriers to investment and protectionist policies stand in the way of private capital initiatives to deliver quick wins for infrastructure development,
- Financial policies and trade laws are in disharmony,
- Manufacturing is at different stages of development across the continent, and in most cases, is low-volume and not supported by modern technology.

The AfCFTA's tariff cuts do have important potential benefits, which should help the new continental community function efficiently. According to UNCTAD's Secretary-General, Mukhisa Kituyi, tariff cuts could intensify existing trade relations within Africa (he refers to it as the intensive margin), and pave the way for the establishment of trade relationships among new trade partners for new products (the extensive margin). He is also of the opinion that businesses that are already supplying locally made products to the regional markets are in a better position to exploit the opportunities provided by the AfCFTA, as it is easier to expand existing trade relations than it is to create new ones. In the longer term, however, a broader range of organisations will be able to exploit and tap into these opportunities, creating new relationships and bringing in new products.³⁶

EAST AFRICAN COMMUNITY (EAC)

The EAC includes six member states: Burundi, Kenya, Rwanda, South Sudan, Tanzania and Uganda. Four members - Uganda, Rwanda, Kenya and Tanzania - are currently embroiled in multiple trade disputes. Experts caution that until these conflicts are resolved, regional integration may continue to stall.

Kenya and Tanzania, the two largest EAC economies, have worked to resolve their long-standing trade disputes. The two countries were involved in a series of tit-for-tat actions over the past few years, in the process harming their trade relations and undermining the effective functioning of the EAC. Intra-EAC trade remains low at 20%, in comparison to the Southern African Development Community (58%) and the EU (68%).

They recently held bilateral meetings in April to address the large number of contentious trade issues, including rules of origin for some products and challenges over the quality of products traded. The next meeting is scheduled for early July. The trade officials have held four bilateral meetings since 2017, and have managed to resolve 19 out of 37 non-tariff barriers (NTBs), while recommendations were formulated on how to resolve the remaining 18 NTBs.

The actions by the two countries are counter to the EAC Common Market Protocol requiring member states to open their borders to facilitate the free movement of goods, labour, services and capital. Despite frequent violations of the protocol by member states, there have been no consequences.³⁷

In a recent brouhaha, Kenya and Tanzania, Charles Njagua, a Kenyan member of parliament, made xenophobic statements targeting foreigners doing business in Nairobi, including Tanzanians. His remarks aroused strong feelings in Tanzania, whose Parliament threatened diplomatic action against Kenya. Kenyan President Uhuru Kenyatta proposed to visit President John Magufuli to smooth over relations. Kenya took action against the MP, who was arrested and charged in court.³⁸

Two other members of the EAC that have been involved in an acrimonious relationship (involving security) the past few months, is Rwanda and Uganda. The two countries subsequently closed their borders to the free movement of goods, services and people. In response to this, a coalition of East African citizen groups recently announced they were suing Uganda and Rwanda in a regional court for financial losses resulting from this border dispute. The basis of their complaint is that trade has been severely disrupted since late February when Rwanda closed the border with Uganda. Apart from a brief period in June, the border remains shut. Local economies that depend on the cross-border trade for survival have suffered in both nations.³⁹

The EAC has also experienced conflict over sugar. At the end of June 2019, Uganda blocked a request to export excess sugar cane to Kenya based on the point that the surplus (500,000 tons) was only

temporary. The relevant minister stated that Ugandan sugar factories had been producing below capacity since 2010 due to a shortage of cane and that opening up the market to neighbouring countries like Kenya would aggravate this problem. Exporting cane would also be counter to a directive by President Museveni to stop the export of raw materials.

Currently, many common Ugandan products cannot be sold in Rwanda. These include sugar, cooking oil, household items and cement. Sugar is a sensitive product in the EAC, on which a common external tariff of 100% has been imposed. Kenya and Tanzania have been using tariff and non-tariff barriers to stop Ugandan sugar from entering their countries. They have in the past accused Uganda of importing sugar from Brazil and India and then attempting to sell it to Kenya and Tanzania.⁴⁰

In the latest development, it was reported that the East African Community Secretariat has to use funds from the gratuity fund to pay staff salaries for June. The low budget support by the six member states has been a source of concern, and has led to stalling several programmes. Apparently the EAC is about US\$100 million in arrears for the 2018/19 fiscal year, due to outstanding debts of member states. The main defaulters are South Sudan and Burundi. On the other hand, Kenya and Tanzania, who are the largest contributors, have lately started to slow down their payments to indicate their dissatisfaction with the other members' performance.⁴¹

POINTS OF INTEREST

- The AfCFTA has great potential to ramp up intra-African trade. The decision by Nigeria, as Africa's largest economy, to join the community is important for the effectiveness of the AfCFTA: without Nigeria the AfCFTA would not be able to fire on all cylinders.
- Realistically, Nigeria could not avoid joining the AfCFTA as it would have side-lined itself from a large number of advantages. The motivation for its initial decision to not sign the AfCFTA is unclear. The creation of the CFTA was hardly a spur of the moment surprise decision by the AU. But, as far as the signing is concerned, all's well that ends well.
- Greater sources of concern for the progress of regional economic communities are the current challenges emerging in the EAC. While once heralded as Africa's best functioning regional economic community, this no longer seems to be the case. The volatile relationships, trade spats and security issues in the EAC do not bode well for the effective functioning of the larger CFTA, with so many more members, each with potential challenges to address.
- There appears to be an inability or unwillingness among the EAC member states to subordinate national interest to the collective regional interest. In this, however, Africa is not unique. One needs only to glance toward the Brexit debacle to view another bad (or good?) example of this phenomenon.
- Africa's governments must realise that as single states they pack little clout and that their "salvation" lies in unity. As my Political Science professor so succinctly stated, "they either stick together, or they hang separately."
- To tap the benefits of a tariff-free single large market of 1.2 billion people, it is not inconceivable that many large global corporates could set up facilities in Africa. This would have many obvious benefits for Africa. A well-functioning AfCFTA would help attract them.

5. Technology in Africa

INTRODUCTION

Technology in Africa is an important driver of change and a significant enabler of development across a broad range of dimensions: political, economic, social, and in a vast range of industries from the primary sector, through the secondary sector, into the tertiary sector. Technology helps governments address severe challenges in their countries, such as energy and connectivity, while helping startups at the other end of the spectrum to grow and develop their innovative business models.

AFRICA

To address their electricity deficits, a number of African countries have turned towards powerships, which are floating power plants. These can be deployed in a few months and supply electricity to countries for several decades (25 to 30 years). A significant advantage of this technology is the speed at which it can be deployed. A significant disadvantage is the high cost of this strategy. It cost Sierra Leone US\$31 million to get only two years of additional electricity from a maritime vessel.

One company tapping this opportunity is Turkish-owned Karpowership, one of the world's largest powership companies. Karpowership has seven vessels with almost 1,000MW of installed capacity in six African countries: Gambia, Guinea Bissau, Ghana, Mozambique, Sudan and Sierra Leone. The firm currently has about 20 ships under construction.

The growing African population is an increasingly attractive opportunity for Karpowership, which is switching some of its powerships from heavy fuel oil to natural gas to increase their efficiency, affordability and environmental friendliness.⁴²

GHANA

The Ghanaian government recently announced plans to introduce nuclear power into the country's energy mix to ensure affordable energy for industrial development. It has also embarked upon a programme to promote public acceptability of nuclear technology and to explain the benefit to Ghana from adopting nuclear power.

The country will be cooperating with nuclear power nations like Iran, Iraq, Russia and South Korea to develop the programme. According to Ghana's government, China, France, Russia and the USA have already expressed interest in the country's Nuclear Energy Programme and to collaborate with Ghana to implement its programme.

Ghana has been operating a research reactor (which is a miniature nuclear power plant) for 25 years, and trained nuclear scientists from other African countries (including Nigeria), as well as students from Pakistan and Iran.⁴³

NIGERIA

Uber Technology plans to launch its Uber Boats business in Lagos to beat traffic congestion. Lagos, with an estimated population of 22 million, is famous for its traffic congestion. Public transport services are scarce and unreliable. Although its vast waterways provide good transport options, they are not used optimally, if at all.

Uber is currently negotiating with regulators in Lagos, and will partner with local players, its core entry strategy. Having launched a similar service in Cairo, Egypt, Uber has experience with boat transport services. Beyond Africa, it has launched boat services in cities such as Mumbai in India. Uber may partner with Lagos Bus Company, and provide services through its platform.⁴⁴

RWANDA

In 2016, Rwanda embraced drone technology as a key enabler in the health sector, the first country globally to commercially use drones to deliver medical supplies. The introduction of drone technology has a surprisingly large impact on the efficiency and manner in which healthcare is delivered.

The performance of drone technology has improved dramatically, leading to new service models. The time required to transport blood from a blood bank to a medical facility, once up to four hours in the same city, is now between five and a maximum of forty-five minutes. Hospitals had a tendency to over-request blood to avoid frequent trips and treatment delays, resulting in expiry of up to 6% of the total issued units. Blood wastage has been reduced from 6% to approximately 0.3% at present.

Zipline is a US-based robotics startup that introduced drone technology to Rwanda. It is currently working with the Rwanda Biomedical Centre and the Ministry of Health to ensure a seamless integration within the health supply chain. Over the next two years, Zipline will serve more than 500 health facilities in Rwanda, delivering hundreds of urgently needed products, such as blood, essential medicines, and vaccines.

While integrating public health supply chains, Zipline aims to eliminate needs for health facilities to send drivers to their regional or national medical stores by providing emergency stop-gap supplies in between scheduled deliveries, while ensuring access to critical products for urgent patient needs.⁴⁵

SOUTH SUDAN

When one comes across South Sudan in the media, it is mostly associated with violence and political instability. It is therefore refreshing to read economic and technological articles on this oil-producing country.

Liquid Telecom recently announced plans to connect the country's population of 13 million and thousands of businesses, government departments and NGOs to the "One Africa" broadband network. The latter is approaching 70,000km across 13 African countries and to the rest of the world, including the East African Community's six partner states. Phase one of the rollout is due to be completed before the end of 2019.

The company believes that the ICT infrastructure will help to address the most pressing challenges within South Sudan, "including the urgent need for peace and state building, job creation and improved livelihoods. Connecting South Sudan to the 'One Africa' broadband network will also champion pan-Africa trade and help build Africa's digital future."

It is conceivable that connecting South Sudan to the global internet will help improve social mobility, enable economic diversification and drive inclusive private sector-led growth and productive employment.⁴⁶

UGANDA

Uganda's ICT sector is booming, thanks to a fast-growing online community and few restrictions on foreign investment. Global giants Facebook and Google show interest in the country. Approximately 16 million of Uganda's population of 40 million currently use the Internet. The country's two dominant telecoms service providers are subsidiaries of SA's MTN Group and India's Bharti Airtel.

Recently, the Ugandan government announced new measures to gain stronger control over the ICT sector. In June 2019, it was announced that the government intended to establish a national Internet exchange point. This would replace existing facilities operated by private players. This nationalisation plan has been criticised by industry players, who are of the opinion that it would result in poorer-quality services, lead to higher data costs and discourage investment in Uganda's ICT sector, one of East Africa's most thriving.

In 2018, the Ugandan government introduced a tax on access to social media platforms. Critics felt this move would increase already high data costs, hurt Uganda's digital economy, and curb social media use and online criticism of the government. The government's response was that it would raise revenue

to finance public infrastructure. Now, only users who have paid this tax can access social media platforms such as Facebook, Twitter, WhatsApp, Google Hangouts, YouTube and Skype.

Also in 2018, the government introduced a national broadband policy that, according to some critics, would effectively force new investors in telecoms services to rent capacity from an existing government-owned fibre optic cable operator.⁴⁷

HEALTHTECH

The majority of South Africans (as with other Africans) do not have access to quality healthcare and must make do with informal and undersupplied clinics. At the same time, South Africa has a lack of qualified healthcare professionals to serve its population. However, innovators are addressing these challenges by tapping into rapid advances in mobile technology and machine learning. Healthtech is defined as use of devices and systems to prevent, detect or analyse health and healthcare problems.

In 2018, South Africa devoted 12.29% of its total expenditure to healthcare. With the steady rise in life expectancy and rapid population growth, this percentage is expected to increase. In addition, technology development is stimulating the development of Healthtech. Cloud-based solutions and API's have historically been costly, but are now becoming affordable and efficient. Furthermore, machine learning is proving transformative. Already, local Healthtech startups use machine learning to solve local health problems.

One such a company is HearX Group, a South African company that developed a collection of clinical smartphone-based hearing health solutions. hearKiosk is one of these solutions and involves a hearing loss self-test that accurately identifies hearing loss.

Otrac, a Nigerian company, enables healthcare providers to take recognised courses on their mobile devices from any location.

Not everyone has access to internet connectivity or mobile phones. GiftedMom, a Healthtech startup in Cameroon, removed this barrier by using text messaging to enable mothers and pregnant women to get medical advice from the safety of their own home.

In an economic environment plagued by volatility and negative sentiment, Healthtech in South Africa (and the rest of Africa) offers a significant opportunity to both investors and innovators.⁴⁸

POINTS OF INTEREST

- The energy sector in Africa direly needs investment, as many Africans are without electricity. Africa sees investment interest in the renewable energy sub-sector, with the lesser-known powerships becoming an increasingly visible solution. Should renewable energy continue on its path of increasing efficiency and decreasing costs, it is likely the attraction of the costly (and distinctly non-sustainable) powership platform will diminish.
- Ghana is not the first country in Africa to adopt the nuclear option. Some experts feel that renewable energy is not a viable option as a base load generator, and coal is a dirty option. They advocate consideration of the nuclear option. Whether going nuclear is the best option for Africa remains to be seen. The technology is capital-intensive, and dealing with nuclear waste remains a challenge. Currently, Russia's Minister of Foreign Affairs, Sergey Lavrov, actively targets African governments such as includes Ethiopia, Rwanda, and South Africa.
- Technology has also created many opportunities in Africa, and has enabled development of viable solutions for many pressing problems, such as traffic congestion to health services. The reality is that the impact of the cases reported above is tiny when compared to the challenges facing Africa. Much more needs to be done and Africa's innovators and startups are constrained by only their imagination (and financing options!). There are a vast range of opportunities for investors, both local and foreign.
- The ICT environment has seen attempts by a number of African governments to control what is accessed by whom. Attempts to regulate this sector has drawn a lot of criticism as it is

generally viewed as restrictions on the freedom of the consumer and the free market. This in turn has led to higher data costs and other inefficiencies. Governments should learn that they do not have the skills to run private sector organisations and that their job is to create a business-enabling policy environment. However, as government opponents frequently (mostly) use social media to criticise the incumbents and to rally support for their opinions, governments are frequently looking for ways to control these platforms.

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