



Africa Futures

During 2018 we spent time looking at Africa through the STEEP perspectives and found some interesting thoughts and ideas for the future of the continent. Here are the first 3 blogs in the series – further blogs were published in 2019.

Will the 21st Century Be African?



By the end of this century the world will be transformed. Technological changes will have reshaped the way we live, work and communicate. We will (we hope) have access to abundant and cheap clean, renewable energy. But humanity will look different as well. It will be a lot more African. Current UN demographic projections suggest that Africa's population will double from just under 1 Billion at the start of the present century, to over 2.4 Billion at its mid-point, and possibly 4.1 Billion at its end, which would make Africa the most populous of all the continents. If current trends continue, by 2050 there will be more people in Nigeria than in the USA. What started as an Asian Century may end as an African one. It has been easy for western analysts to overlook Africa – or at least to see it as a continent to which things are done, rather than one which could be a world leader in itself, or could contain countries which will become world leaders. We wanted to examine this in more detail from a futures and strategy perspective. It seems to us that there is a “tipping point” coming, and that any global scenario planning needs to take Africa much more seriously, and consider its potential and its possible impact on the course of global social and economic progress.

This blog series therefore examines Africa's future. We hope it provides a useful guide, and perhaps sparks thoughts about opportunities and risks which may help all those concerned with the continent's future.



A STEEP Ascent

We intend to approach the question using the STEEP methodology. Initially, we can see the following trends, each of which we will look at more closely in turn in future articles:

Social – the very fact of such a fast-growing population will catapult Africa to the top of the agenda as a potential economic powerhouse, as a market and a producer of goods and services, and a source of young minds and bodies in an ageing global population. At its best Africa could become the most dynamic and creative of the continents. In a worst-case scenario, the teeming population will be impoverished, discontented and prey to disease, malnourishment and exploitation.

Technological – there are emerging signals already of Africans using technology as a springboard for economic progress, access to finance and primary and preventive medical care. In a positive scenario, Africa is ready to grasp the opportunities of new technologies, unencumbered by an infrastructure reliant on old ones. In a worst case, the traditional route out of poverty will no longer be available as automation destroys the market for unskilled and semi-skilled workers to progress up the social and economic ladder.

Environmental – rapid and massive population growth will mean many more mouths to feed, increasing demand for water, productive agriculture etc, and potentially placing new pressures on Africa's unique natural environments. Climate change will have a significant impact. In a positive scenario, Africa will emerge as a leader in innovation, using new technologies to promote flexibility and sustainability. In a worst case, there will be an environmental calamity, leading to conflict, mass-migrations and impoverishment.

Economic – a young and growing population, allied with Africa's great wealth of natural resources, offers the opportunity for Africa to become a global powerhouse, better able to harness its own resources for its own benefit, and able to mobilise, educate and reward its billions of young working-age people. Cities like Kinshasa and Lagos will compete with Shanghai and Tokyo as the great megacities of the late 21st century. At worst, the population growth will become too much, too rapidly. There will not be enough opportunities to go round, and the great cities of Africa will become giant slums.

Political – a growing and confident Africa will become less dependent on the rest of the world. It will trade with other countries on an equal basis, and its young, increasingly educated and tech-savvy population will be envied. A rising middle-class will demand, and get, better governance. Demands from civic society will continue exert downward pressure on the endemic corruption which plagues modern African government. Working together, African nations will collaborate closely to take advantage of the opportunities and deal with the challenges ahead. They will articulate an Afrocentric world view to challenge those of the West and East. In a worst case, corrupt governments and large numbers of disaffected young people will spell trouble – with rising crime, and no shortage of recruits for armed forces and insurgencies. Other countries will exploit these weaknesses to their own benefit.

Watch This Space

In this series of articles, we will look in turn at the prospects for Africa through each of the five STEEP lenses. After that, we will bring them together to identify a set of



scenarios for Africa as it reaches the middle of this century. In doing so, we will give food for thought for people in government, in finance and trade, who will need to take increasing account of the rise and the sheer growth in human terms, of the African continent.

Written by David Lye, SAMI Fellow and Director and Jonathan Blanchard Smith, SAMI Fellow and Director, [published 21 September 2018](#)



Will the 21st Century Be African? Part 2 – Social Changes

In the first blog of this series, I set out a quick overview of the factors that might make Africa the most important continent by the end of this century. In this blog I look at the social and demographic change that will underpin the transformation of Africa as a key player in global politics and trade.



By the end of the 21st Century, Africa's population is projected to be over 4.1 billion (as I write it is 1.2 billion). It will be the most populous continent on earth. By 2050, the African population will be 2.4 billion, and, more strikingly, ***one third*** of the world's youth population will be African, according to a report prepared for the EU Institute for Security Studies (ISS). This **growth will be greatest in West, Central and East Africa.**

Today 60% of Africa's population is rural. This century's massive population growth will see the rise of African megacities. According to projections by Canada's Global Cities Institute, by the end of the century, 13 of the world's 20 biggest megacities will be African. The **three biggest cities in the world will be** – in reverse order – Dar es Salaam (70 million), Kinshasa (83 million) and biggest of all, Lagos (88 million).

To put those populations into perspective, the largest city today is Tokyo (37.5 million). 100 years ago it was London (4.7 million).

Africa will see a century-long surge in its human potential. The growing population will mean a massive growth in GDP and in Africa's international importance. It is reasonable to assume that global youth culture will have an increasingly African flavour, and an African team will finally lift the World Football Cup – which will itself mark Africa's "arrival" at the global top table.

But whether Africa's baby boom will prove to be an undiluted boon, a mixed blessing, or a curse will depend on a number of key variables. Some are – at least at this point in the century – outside the direct control of Africa and its governments.



- Technological developments will present the challenges and opportunities – the trajectory to modernity, education and skills for Africa’s young and burgeoning population.
- Climate change will define the challenges to be overcome in terms of food production and access to water to support the population.
- Global economic developments will mark out the terms of trade as Africa seeks to provide growth and opportunities for its people, and secure access to investment to underpin a path to self-sustaining development.
- The world’s current major economic powers will all seek to trade with Africa, but the state of relations between those powers will affect the terms of trade – whether there is an attempted reversion to the Cold War, where the power blocs backed African “strong men” in order to seek exclusive influence, or whether there is a more peaceable globalised economic system.

We will look at each of these in the rest of this series. But in order to make the rising population into as great an opportunity as possible, African nations themselves will need to address a number of issues including:

- Health and health care: immunisation and vaccination, utilising technology to empower people to manage their own health and easily and quickly to access health advice and diagnostics
- Nutrition: growing the food and providing access to clean water to support a well-nourished and healthy population
- Education: allowing the booming young population access to the knowledge and skills they will need to become players in the world that the 4th Industrial Revolution is bringing into being; and in particular, educating women to allow them to achieve their full economic potential, and control the sizes of their families in the future
- Governance: tackling corruption and providing the effective governance that the African megacities will need in order to prosper and be habitable, and effective education and health care.

The risks Africa faces are obvious, but none the less real and significant for that.

- The “baby boom” in Africa – assuming it is followed by a reduction in birth rates, as has happened elsewhere in the world as women become better educated – will lead to the problem of an aging population towards the end of the century
- Poverty & unemployment will be massive, if the African economies fail to develop in a way that allows them to utilise the huge increase in human capital at their disposal
- African megacities may experience slum conditions unprecedented, even in the world’s current developing megacities (or in Dickensian London) leading to squalor and the risk of pandemic diseases. It is likely that they will do so at some time, given the rate at which they will grow. A major test of African governance will be how City and national governments match up to the task of developing an infrastructure to support megacities, their populations and economies and alleviate the slum problems
- The drift into megacities from a predominantly rural population may destroy important social and familial structures, leading to an inability to provide the social care and multigenerational care necessary in a rapidly changing society
- Africa could be vulnerable to conflicts – whether tribal, cultural or religious, especially if there is widespread unemployment, meaning large numbers of young men with no means of making a living
- There may be a “brain drain” both within Africa and beyond, as the brightest and best of Africa’s young people seek to make a better life for themselves and their families. If the other risks listed above come into play, the brain drain effect will be even greater.



Watch This Space

In the next blog in this series I will look at technology, and the risks and challenges it presents for Africa as it grows.

Written by David Lye, SAMI Fellow and Director and Jonathan Blanchard Smith, SAMI Fellow and Director, [published 10 October 2018](#).



Will the 21st Century Be African? Part 3 – Uses of Technology



This is the third in a series of blogs on the factors that might make Africa the most important continent by the end of this century. In this blog we look at the ways in which technology could help Africa to match its population growth with economic and social progress.

By the end of the 21st Century, Africa's population is projected to be over 4.1 billion (today it is 1.2 billion). It will be the most populous continent on earth. By 2050, the African population will be 2.4 billion, and, more strikingly, **one third** of the world's youth population will be African, according to [a report prepared for the EU Institute for Security Studies \(ISS\)](#). This growth will be greatest in West, Central and East Africa. The Fourth Industrial Revolution is a *global* phenomenon involving the rapid evolution and (importantly) the interaction between new technologies including: big data, artificial intelligence (AI), computing, connectivity, robotics, genetics, biotech, nanotech, and sustainable energy generation and storage.

In this blog, rather than simply rehash what has been written many times before about the huge potential of these technologies, we identify how some of them might work in a specifically African context, help to address some specifically African problems, and help to bring about an African transformation in this century.

Smart megacities

In the previous [blog](#) we described how the population surge would mean that Africa was projected to have 13 of the world's biggest 20 megacities by the end of the century, including the three biggest: Lagos, Kinshasa and Dar-es-Salaam. It is likely that those cities will grow in a chaotic, sprawling and largely unplanned way, as was the case with many of the megacities of the 20th century. Technology will be critical in determining how well these cities can function, and their effectiveness in fostering African economic growth and competitiveness. Key challenges will be:

- Reliable energy supplies – probably based on renewable, locally generated and stored power
- Reliable connectivity – a 5G infrastructure will be critical to Africa's success



- Reliable transportation and distribution networks – using clean vehicles, a sharing infrastructure and extensive use of drones to mitigate the inevitable road congestion
- Access to education and health care – using mobile technology and AI to make these services more accessible and more economical
- Improving public health and hygiene – using advances in biotech to help with the task of purifying water and genotech to combat insects and other pests that spread disease
- A thriving business environment – based on property law, with verifiable and enforceable rights
- Resilience – the capacity to guard against, and mitigate natural and other shocks

Below are some specific examples, but before looking at these, it is important to recognise that Africa's success or failure: whether Africa emerges as a global leader over the century, or remains subject to the greater economic power of others, will depend crucially on the extent to which it is able to harness the technologies of the 4th Industrial Revolution both to tackle existing economic, social and environmental challenges, and to build strength, resilience and self-sufficiency for the future.

Energy

But turning to the positives, in Rwanda only a just over a third of households has access to mains electricity. Although Rwanda has useful natural resources – it derives 56% of its electricity from hydro – it would have major physical and geographical problems in building a traditional national grid, given the mountainous and often sparsely populated nature of the country. Instead, **Rwanda aims to deliver off-grid electricity** to a further 22% of households using thermal, methane, peat and solar energy. And as the price of generation and storage falls, it will progress further. Energy without a grid will be more resilient, easier to repair and maintain, and better suited to Rwanda's geography. It will also be cleaner and more sustainable.

Health

Just as Rwanda has the potential to “jump the shark” by building an electricity infrastructure that does not depend on a national grid, so the opportunity exists to take health care and education to people without the need for an expensive physical health infrastructure. 80% of sight loss is avoidable. Andrew Bastawrous, CEO and co-founder of Peek Vision, has established in Kenya, where he lives, **a system that allows state of the art eye screening to be available to a poor and widely dispersed rural population via smartphones**, carried by health care workers on bicycles and recharged by the use of solar rucksacks. Test results can be sent to central collection and analysis points and results communicated back to people and their families. This could apply equally well in Africa's teeming megacities of the future. In addition, the ability to pinpoint those who need help, and link to local leaders is a vital tool with potentially wider adaptation for both health and education.

Genetics & Biotech

Turning to the application of genetics, throughout Africa, sleeping sickness, which is spread by the tsetse fly, has in the last century killed hundreds of thousands of people, and 70 million people are at risk of the illness. The genome of the tsetse fly was successfully mapped by a coalition of Western Universities in 2014, and now scientists are using **that genetic information to reduce or eliminate the spread of the disease**. The aim is to eliminate sleeping sickness as a problem in parts of Africa as



early as 2020, and transfer knowledge and establish research programmes in Africa itself to allow Africa to lead the fight. In the same way, companies are now bringing to market new biological treatments to purify water more effectively and more cheaply than ever before.

Blockchain

In a later blog we will look at the economic drivers of change in Africa. In the context of this one, it is important to recognise the potential value of blockchain technology in helping to establish effective and enforceable property rights, and facilitating online access to finance and commercial activities – such as retail and peer-to-peer lending. The big Corporations are already starting to investigate the opportunities. **The Blockchain Africa Conference** is now an annual event. But African actors as well as international corporations are entering the lists. As Africa moves into the future in technology, **blockchain represents a decentralized and largely incorruptible ‘truth engine’**, and has the potential both to facilitate easier payments, promote SME business, and mitigate a number of identity management and transactional problems that have bedevilled Africa.

Risks

These examples all provide grounds for optimism that Africa can overcome the challenges and seize the opportunities of the continent’s rapid growth in this century. But, inevitably, there are risks inherent in technology that could move things onto an altogether less happy trajectory:

- Technology may exclude and/or exploit those who need it the most – the poor, women and girls, people migrating to the megacities in search of a future
- Technology opens up greater opportunities for crime, in particular cyber fraud and theft – hence the importance of blockchain as a defence against this
- It may also become more an instrument of war and insurgency – intensifying internecine conflict, and exploited by powerful elites to bolster their dominance
- Genetic and biotech experiments may go wrong – for example attempts to use genetics to “modify” the malarial anopheles mosquito might backfire, and lead to more dangerous and resilient strains of the insect
- Megacities could become choked by unplanned developments and traffic, and choked by toxic air and water, as well as sinks of crime and human exploitation. The putative cities of 70- and 80-million are an unprecedented experiment in human society

And of course, the effects of global warming, and other environmental catastrophes, such as regional water and food shortages, could throw Africa’s development off course, and towards the negatives listed above. In our next blog we will look at the environmental drivers of change, and the massive challenges Africa will wrestle with, as it grows.

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