

# Horizon East Africa: Exploring trends set to shape the future in East Africa



**HORIZON**  
EAST AFRICA

**Horizon East Africa** is a research project dedicated to exploring the trends that are likely to shape the future in East Africa. It aims to contribute to the conversation about what may lie on the horizon so that governments, donors, firms and citizens can take the action needed now to better mitigate looming risks and most effectively grasp the opportunities to come.

We synthesise global, regional and country-level data and research, and complement this with our own targeted intelligence-gathering from strong networks in East Africa.

This first Horizon East Africa report (compiled in 2019) looks at regional trends, while future reports will dive deeper into individual countries. The next planned report will look at Kenya.

Horizon reports aim to trigger debate and discussion. We welcome conversations with others about this report's content — including about the implications of its findings and areas that need further research.

We also welcome collaboration on future projects. Please connect with us @horizon\_ea or contact us at [info@horizon-ea.com](mailto:info@horizon-ea.com) to register your interest and to sign-up for future updates.

Horizon East Africa is supported by Msingi, Kenya Markets Trust and Gatsby Africa. For more information, please see page 117.

**HORIZON**  
EAST AFRICA

**MSINGI**  
BUILDING EAST AFRICA'S INDUSTRIES  
OF THE FUTURE

**KENYA  
MARKETS  
TRUST**  
Better Markets, Better Lives

 **GATSBY  
AFRICA**

# Contents

Foreword	03
Introduction	04
Chapter Summaries	05
The Trends	
1. Trade	07
2. Finance	17
3. Environment	29
4. Technology	43
5. Work	55
6. Social	71
7. Political	91
Bibliography	105
Photo Credits	115
Contributors	116
About the Project Sponsors	117

# Foreword

## Grasping East Africa's emerging opportunities

The world as we know it is turbulent and dynamic. It is characterised by change – both gradual and rapid. Much of this change will have profound – even seismic – consequences for the communities we serve.



The change will bring both challenges and opportunities. To meet these, those of us passionate about East Africa's economic development need to understand the trends that are shaping the region's future and prepare for that future. Without such preparation we risk solving the problems of today while walking blindly into the traps of tomorrow.

Realising East Africa's great potential will require all of us – across the public, private and third sectors – to work together and engage in open conversations about the different roles each of us can play. Together, we need to explore current and emerging political, economic, social, technological and environmental trends and how they are shaping the fast-changing landscape we are – and will be – operating within. The choices and decisions we make now will determine our fortunes for generations to come.

That is why Msingi has partnered with Gatsby Africa and Kenya Markets Trust to establish Horizon East Africa – a research project exploring trends set to shape the future of the region. A wealth of important research exists on many different issues for East Africa – Horizon's task is to try to bring strands together, offering highlights from hundreds of reports and steering people's attention to key data and findings they may have otherwise missed.

We hope Horizon's work will contribute to the ongoing conversation about East Africa's future and prove helpful to governments, firms, investors, development actors and citizens as they seek to better mitigate looming risks and ensure the region effectively grasps the many opportunities to come.

All three organisations supporting Horizon are already finding this first report useful and thinking through what these trends mean for us and our work – particularly our partnerships with governments. We very much hope this report will also be useful to others working to support the region's development and help East Africa fulfil its rich promise.

Linus Gitahi

Board Chair, Msingi



# Introduction

East Africa is facing a wide array of development challenges. In the coming years, countries in the region will need to:

- secure a position in a volatile international trading system;
- finance ambitious infrastructure programmes while carefully managing debts;
- adapt to the inevitable and extensive impacts of climate change;
- raise uptake of new communication and agricultural technologies;
- drive job creation and upskilling in an age of automation;
- respond to the demands of rapidly expanding populations that are increasingly young, urban and affluent;
- manage complex security threats and finely balanced political situations.

A set of new geopolitical realities – such as China’s growing influence, Africa’s increasing commitment to regional free trade, and digital technologies (which are reshaping agricultural, financial and renewable energy markets) – may open alternative pathways for meeting these challenges. Doing so could prove transformational. But to recast looming challenges as opportunities, governments, donors, firms and citizens will have to anticipate these pathways and invest accordingly.

This report aims to help by exploring the region’s fast-changing financial, environmental, technological, social and political landscape. It looks to capture the major trends set to inform – and potentially transform – the process of economic development in East Africa.

The report reflects what international and local institutions and experts are saying about the region’s future trajectory by identifying patterns in the evidence and conclusions of more than 130 recently written publications and articles. This work has been backed by workshops in Nairobi and interviews with advisors at organisation including USAID, the Mastercard Foundation and the Overseas Development Institute.

In sum, this report presents a snapshot of what institutions and experts are saying about the prospects for economic development in East Africa. At Msingi, Kenya Markets Trust, and Gatsby Africa, we are looking forward to further exploring East Africa’s future as part of a joint research agenda, and intend to publish a series of reports that will examine the trajectory of both the region and individual countries.

When exploring trends, fast-changing landscapes and possible futures, no report could ever possibly be the final word – and we have not approached this report with such intentions. Rather we hope it will be a conversation-starter. We are eager to discuss the findings with others – to talk about the implications and areas that may require further research. We believe such conversations will deepen and enrich our understanding. We welcome your thoughts and look forward to talking further about East Africa’s future.

# Chapter Summaries

## 1. Trade — *Securing positions in a volatile world trade system*

In Chapter 1, the report explores how East African countries may struggle to enter global value chains in future, as the flow of international trade may be constricted by the 're-shoring' of production to smart factories in more developed countries and by the recent proliferation of protectionist measures. However, rising wages in China and the recently ratified African Continental Free Trade Agreement may deliver a boost to labour-intensive manufacturing and agriculture in East Africa.

## 2. Finance — *Financing the future as debt begins to bite*

Finding the finance needed to support major infrastructure projects and public services is proving difficult, as the cost of debt servicing erodes government budgets across sub-Saharan Africa. In Chapter 2, the report indicates how states in East Africa are responding to this fiscal pressure by both stepping up their engagement with Chinese firms and exploring how digital technologies can improve tax compliance and ease diaspora remittances.

## 3. Environment — *Protecting citizens and growth in the face of climate change*

Compounding development challenges, East Africa is already experiencing the impact of climate change. Temperatures are now much higher than historic averages and droughts are becoming more common. With these trends set to continue and perhaps even accelerate, the consequences for urban settlements on the coast and for rural communities – who depend on rain-fed crops and fish stocks – will likely be particularly severe. In Chapter 3, the report explores the socioeconomic implications of this environmental shift as well as the recent proliferation of renewable energy in the region.

## 4. Technology — *Taking advantage of the tech revolution*

A defining feature of East Africa's development story is likely to be the widespread adoption of mobile and digital technology, as governments commit to delivering the requisite infrastructure, the cost of access rapidly comes down and venture capital investment in local start-ups soars. In Chapter 4, the report shows how digital technologies are already disrupting financial sectors and agricultural value chains, offering the previously unbanked a means of building a credit history and giving farmers the information they need to make better decisions.

## 5. Work — *Creating the jobs and workforce of the future*

In Chapter 5, the report explores how East Africa's rocketing consumer and business demand may generate significant job opportunities in food processing, industrial inputs, resource-intensive manufacturing and labour-intensive manufacturing. The report also looks at why such manufacturing jobs have not materialised in recent years, with labour predominantly shifting from agriculture to services. It examines the possible implications of so-called 'industries without smokestacks' and digital platforms emerging as key economic players in East Africa.

## 6. Social — *Realising the promise of the demographic dividend*

East African societies are undergoing rapid change, with population numbers set to almost double over the next three decades and migration to cities gathering pace. While some commentators are optimistic about the economic impact of an enlarged working-age population and rapid urbanisation, others are expressing concern, noting how weak the infrastructure in cities is, how inequality is deepening with growth and how education systems are not keeping step with the skills demands of the modern economy. In Chapter 6, the report surfaces the debate about how the region's social and spatial dynamics will affect prospects for economic development.

## 7. Political — *Managing risks and opportunities in a fast-changing landscape*

In Chapter 7, the report explores whether a global trend of disruption to democracy is being reflected in East Africa. It examines whether the internet and social media are offering citizens a means of 'speaking truth to power' in the context of digital spaces that are increasingly littered with divisive 'fake news' and constricted by regulation. The report also shows how East African states are performing well in comparison to the rest of the continent on certain governance measures and explores the prospects for further political integration. In addition, the report looks at security issues and how states are being forced to adapt to a new landscape of threats, in which inter-state conflict and civil war are being replaced by non-state-based conflict and cross-border terrorism.







---

# 1

## Trade

### *Securing positions in a volatile world trade system*

#### **Economic, technological and political change is reshaping the world trade order with implications for countries pursuing traditional export-led growth**

Since the 2008 financial crisis, traditional globalisation has slowed.

The rapid advance of digital technology may soon incentivise the re-shoring of production to more developed countries.

The world trade order is also being reshaped by populist leaders and protectionist measures.

#### **China's move away from labour-intensive manufacturing could benefit African countries, but the window of opportunity may be small**

China's dominant share of the global trade in labour-intensive manufactured goods seems to be shrinking in response to rising domestic wages.

As China's economy undergoes transition, African manufacturing could receive a boost. If just 1% of China's apparel production relocated to Africa, the continent's apparel exports would increase by almost 50%.

#### **There is growing commitment to deepening intra-African trade**

If the recently ratified African Continental Free Trade Agreement is fully implemented, the value of trade on the continent may increase by 15%–25% over the next two decades.

The East African Community has become Africa's most integrated regional economic community and member states are embarking on ambitious regional infrastructure plans.

# Economic, technological and political change is reshaping the world trade order with implications for countries pursuing traditional export-led growth

## Since the 2008 financial crisis, traditional globalisation has slowed.

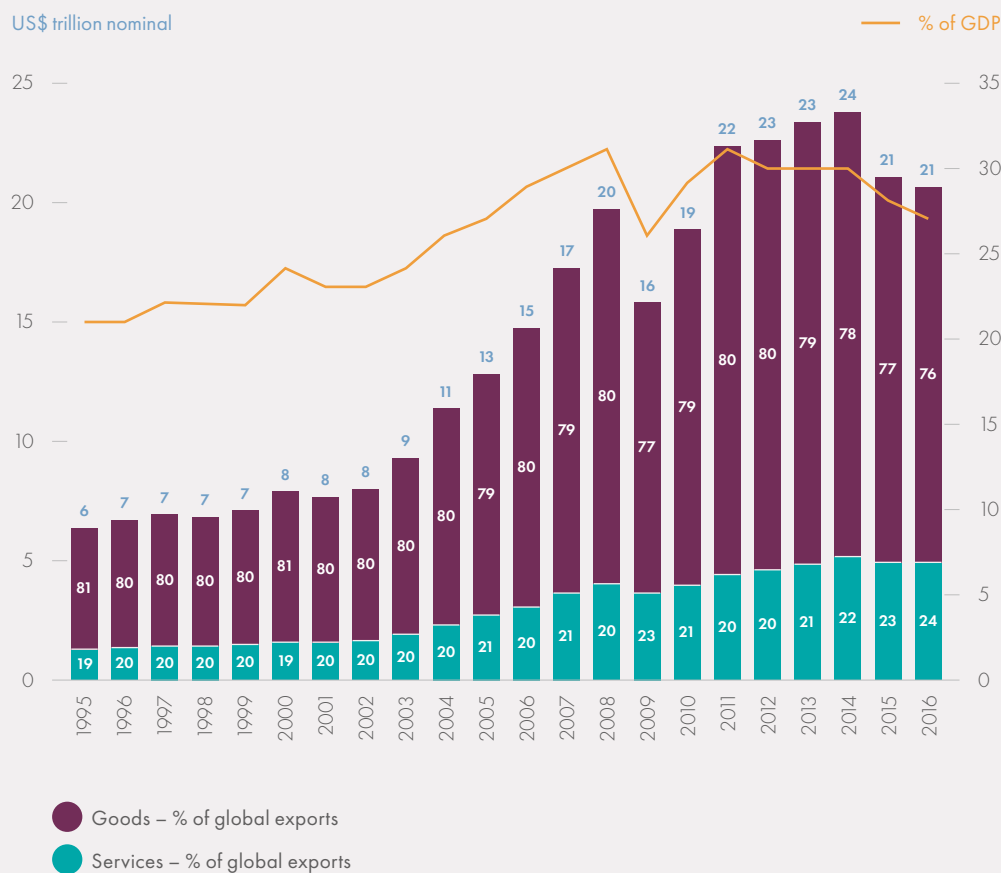
In the aftermath of the 2008 financial crisis, traditional globalisation has slowed — the share of exports as a percentage of global GDP has been falling, with the trade of goods declining considerably and the trade of services rising only marginally (see Figure 1).

In contrast, the volume of data flows has surged, with cross-border bandwidth expanding by a factor of 45 between 2005 and 2014 and set to increase nine-fold between 2017 and 2022.<sup>1</sup>

As international transactions are increasingly underpinned by a digital component, there is a risk that countries with limited digital capabilities will be increasingly left behind.<sup>2</sup>

Figure 1

### Global export in services and goods, 1995–2016



Source: McKinsey Global Institute (2018: 109)

## The rapid advance of digital technology may soon incentivise the re-shoring of production to more developed countries.

Many East African countries have struggled to make inroads in global value chains over the past two decades, with the export share as a percentage of GDP declining in Kenya, Uganda and Ethiopia between 1995 and 2013. The task seems set to become even more difficult, as technological advances in developed economies incentivise the re-shoring of manufacturing.<sup>3</sup>

In the apparel industry, for example, fashion trends are increasingly set by independent influencers rather than marketing departments and the demand for sustainability is growing. Therefore, mass-market firms are turning to technology to radically reduce lead times and the risk of overproduction:

- Adidas has established two so-called “Speedfactories” in Germany and the US, which together 3-D print a million pairs of athletic footwear per year. Motivated by the lower unit labour cost of production onshore, this move has reduced the design-to-production cycle from 18 months to 1 week and eliminated 1,000 Vietnamese jobs.<sup>4</sup>
- Levi Strauss has announced that its patented laser technology will be rolled out in 2020 in the US. This will reduce the time it takes to finish a pair of jeans from 20–30 minutes to 90 seconds. Replacing most of its Asian workforce with machines, the company’s designers in San Francisco will send digital files to a depot in Nevada, where jeans will be swiftly customised before being delivered directly to the consumer.<sup>5</sup>

## The world trade order is also being reshaped by populist leaders and protectionist measures.

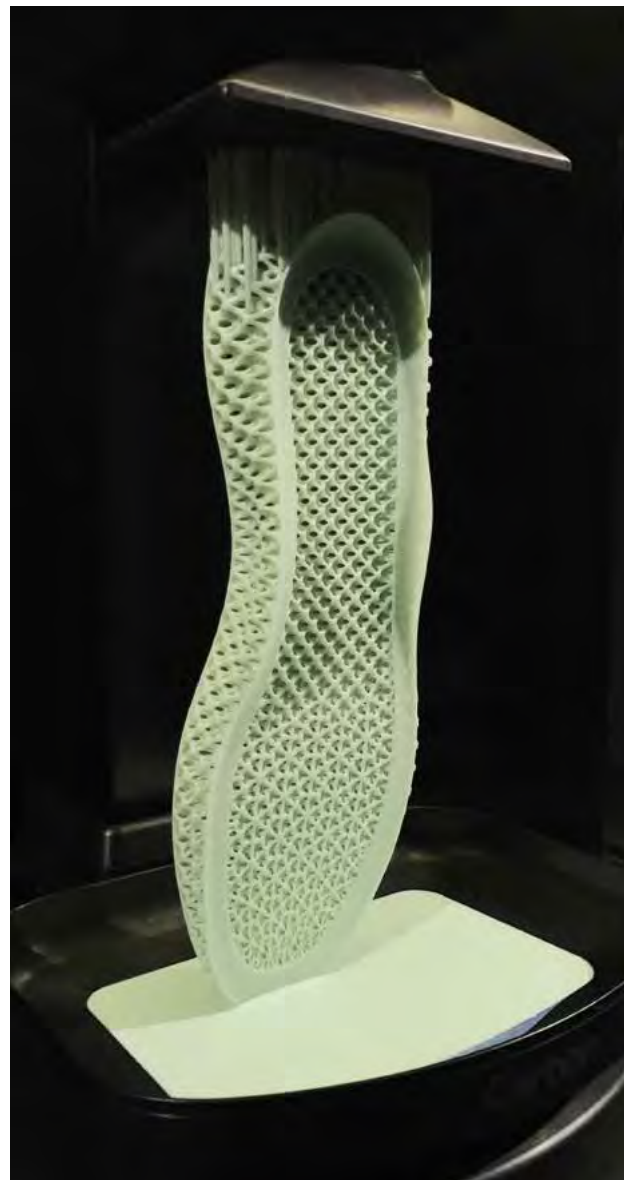
As the UK’s Brexit negotiations and the US’s withdrawal from the Trans-Pacific Partnership testify, the rise of nationalist politics has generated a high degree of uncertainty about the future of global trade. Indeed, international commerce looks set to become mired in an increasingly complex web of protectionist measures.<sup>6</sup>

This has already impacted East Africa — for example, in 2018 the US suspended duty-free access to Rwandan textiles.<sup>7</sup>

---

ADIDAS NOW  
3-D PRINTS  
1 MILLION PAIRS  
OF SHOES  
PER YEAR

---



# China's move away from labour-intensive manufacturing could benefit African countries, but the window of opportunity may be small

## China's dominant share of the global trade in labour-intensive manufactured goods seems to be shrinking in response to rising domestic wages.

Since the turn of the century, there has been a dramatic increase in labour costs in China, with manufacturing wages rising by 281% between 2003 and 2010. Ethiopian manufacturing wages rose by just 1% over the same period.<sup>8</sup>

In 2014, labour-intensive manufacturing exports from all emerging economies totalled \$1,030 billion – China's share of this was 56%. This share is steadily falling as wages increase and had reduced to 53% in 2016. So far, Vietnam and India seem to be making the most of the opportunity presented by China's decreasing dominance (see Figure 2).

Evidence suggests a long-term process of technological upgrading is underpinning China's economic diversification. Chinese firms have been increasingly substituting foreign inputs with domestic inputs over the past two decades.<sup>9</sup>

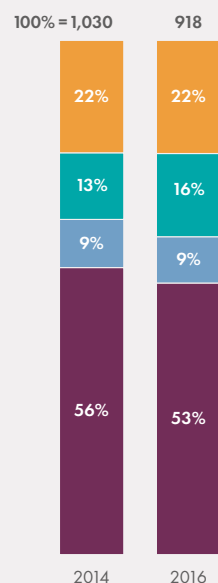
As a corollary of rising wages, the projected growth of Chinese consumer power presents a sizeable opportunity for African exports. China has already become Africa's largest trading partner, with bilateral trade increasing from \$13 billion in 2001 to \$188 billion in 2015 and exhibiting an annual average growth rate of 21%.<sup>10</sup>

This is part of a bigger trend around the changing structure of global trade, with the value of South-South and China-South trade more than doubling over the last two decades.<sup>11</sup>

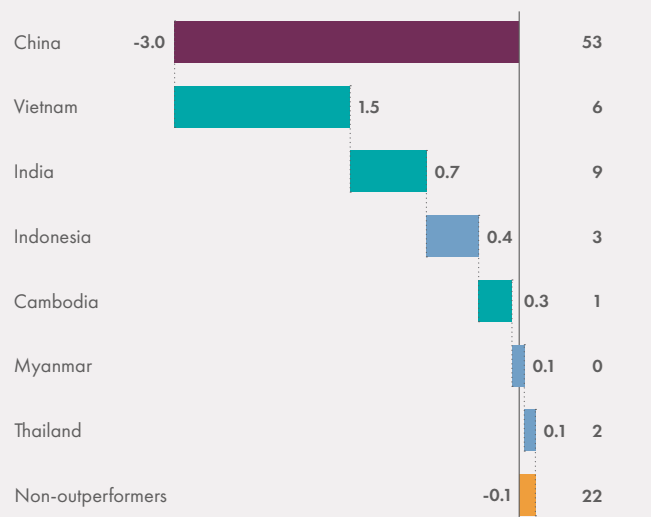
Figure 2

### Change in share of emerging-market labour intensive manufacturing exports, 2014–2016

Emerging market exports in labour-intensive manufacturing  
\$ billion



Change in share of emerging-market exports in labour-intensive manufacturing, 2014–16  
Percentage points



● China ● Long-term outperformers (except China) ● Recent outperformers ● Non-outperformers

Source: McKinsey Global Institute (2018: 91)





**As China's economy undergoes transition, African manufacturing could receive a boost. Even if African countries only attract a meagre proportion of China's labour-intensive manufacturing share, the impact could be transformational.**

Justin Lin, former World Bank Chief Economist, estimates that if 1% of China's apparel production shifted to Africa, it would boost the continent's exports of apparel by 47%. Moreover, a 5% shift of Chinese export-related investments into Africa could lead to \$5.4 billion in additional exports (a 233% increase).<sup>12</sup>

However, if African countries are to attract a share of China's labour-intensive manufacturing, they must act soon, with Figure 2 revealing that Asian neighbours may be best poised to capitalise on the opening. Commentators suggest there are three reasons why Chinese labour-intensive manufacturing jobs may not migrate to Africa after all:

1. Unit labour costs (i.e. the average cost of labour per unit of output) tend to be more competitive in Asian countries than African countries.
2. The cost of doing business in African countries remains relatively high, due to poor-quality infrastructure, political uncertainty and excessive bureaucracy.
3. Chinese firms appear increasingly interested in automating their factories, with a "vast majority" of those operating in the garment sector preferring to invest in domestic technology upgrades rather than consider relocation.<sup>13</sup> In the case of Foxconn – the firm responsible for producing Apple's iPhone and Samsung's Galaxy – 60,000 factory workers were replaced by industrial robots in 2016.<sup>14</sup>

As a counter to this, the Ethiopian story illustrates a potential pathway to moderate success: drawing on exceptionally low unit labour costs, the country's recent infrastructural and investment incentives have led to the creation of 28,000 jobs so far, with the number of industrial parks set to jump from 4 to 30 by 2020.<sup>15</sup>

# There is growing commitment to deepening intra-African trade

**If the recently ratified African Continental Free Trade Agreement is fully implemented, the value of trade on the continent may increase by 15%–25% over the next two decades.**

Intra-regional trade is underexploited in Africa, due to an absence of regional value chains and the high cost of overcoming weak infrastructure links.<sup>16</sup>

In a bold attempt to address this situation, African countries made a commitment in March 2018 to establish the African Continental Free Trade Agreement (AfCFTA).

The core of the agreement is a commitment to remove tariffs on 90% of goods, but its scope is wide-ranging, encompassing the progressive liberalisation of trade in services; the reduction of non-tariff barriers; intellectual property; competition; and even e-commerce.

Implementation of the agreement would create the largest free trade area in the world, amalgamating over a billion consumers and a GDP of \$3 trillion. The removal of tariffs on goods alone could boost the value of intra-African trade between 15% (i.e. \$50 billion) and 25% (i.e. \$70 billion) by 2040, depending on the extent of liberalisation.<sup>17</sup>

As of April 2019, the agreement has reached 22 ratifications by member states (including Kenya, Rwanda and Uganda) — the minimum number required for it to enter into force. Adding fresh momentum, Nigeria, Africa's second largest economy, ratified the agreement in July 2019.

In East Africa, the full implementation of the AfCFTA could increase the value of the region's exports by 31%, with manufacturing products and processed foods the main beneficiaries. While the reduction of tariffs would result in the region losing the equivalent of 1% of government revenue, the reduced cost of importing goods and services is projected to result in a welfare gain of \$1.4 billion for East Africa.<sup>18</sup>

The AfCFTA is expected to have an outsized impact on manufacturing industries, owing to their rapidly increased

share of intra-African trade since the turn of the century (see Figure 3). While manufacturing firms typically struggle to break into markets outside the continent, they have fared much better on the continent: in 2014, 41.9% of intra-African trade was derived from the exchange of manufactured goods.<sup>19</sup>

Forecasts suggest the African manufacturing sector may double in size and employ an additional 14 million workers over the course of a decade under a fully realised AfCFTA, with industrial firms benefitting from the greater potential for economies of scale and doubling their output by 2025.<sup>20</sup>

Modelling by the United Nations Economic Commission for Africa suggests AfCFTA will stimulate a 20% to 30% increase in intra-African agricultural exchange by 2040. This uplift is urgently needed: in 2015, African countries spent \$63 billion on food imports, mostly from outside the continent.<sup>21</sup>

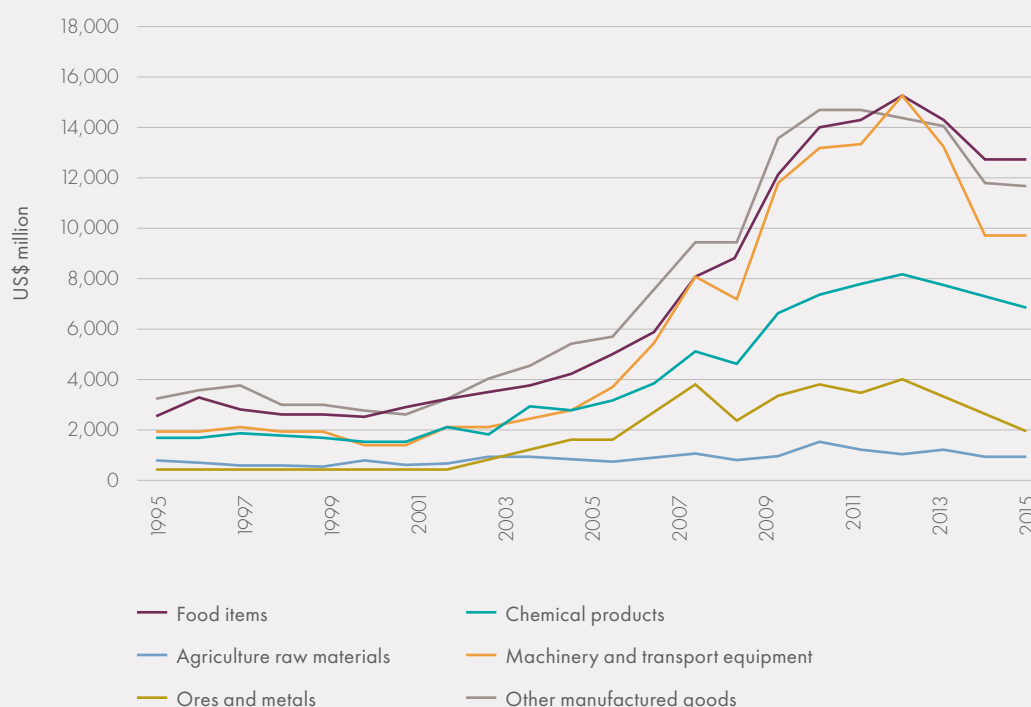
---

**WITHIN A  
DECADE, TRADE  
LIBERALISATION  
COULD LEAD TO  
THE CONTINENT'S  
MANUFACTURING  
SECTOR DOUBLING  
IN SIZE**

---

Figure 3

### Intra-African exports by product categories, 1995–2015



Source: African Export Import Bank (2018: 94)

## The East African Community has become Africa's most integrated regional economic community and member states are embarking on ambitious regional infrastructure plans.

According to the Africa Regional Integration Index, the East African Community (EAC) has made the most progress on integration of Africa's eight regional economic communities. This is the result of a number of significant steps taken by the trade bloc in recent years:

- *Customs union* — Ratified in 2005, the EAC's customs union has resulted in the reduction of most internal tariffs to zero and an agreement on a common external tariff. Over time, this high-level commitment to easing the flow of regional trade has manifested itself on the ground, as the EAC has sought to expand the number of 'one stop' border posts and ensure cargo yards are sufficiently secure, maintained and staffed.<sup>22</sup> Improvements in customs clearance have been

dramatic: whereas imported goods from Mombasa's port used to take 21 days on average to process, it now takes 7 days in Bujumbura, 6 days in Kigali and just 4 days in Kampala.<sup>23</sup>

- *Common market protocol* — Entering into force in 2010, the common market protocol guarantees the free movement of goods, people, services and capital within the trade bloc.
- *Monetary union protocol* — In 2015 the EAC agreed a roadmap to realising a single regional currency by 2024. To achieve this, the trade bloc has signed a memorandum of understanding regarding currency convertibility; sought to harmonise fiscal, monetary and exchange rate policies; and established the East African Monetary Institute to align financial sectors. As Figure 4 reveals, the EAC has made some progress on various macroeconomic convergence criteria. While Tanzania remains the only country to have satisfied the fiscal deficit criterion and Kenya and Uganda are the only nations to reach the external reserves criterion, most countries meet the inflation target and have a debt to GDP ratio of 50% or less.<sup>24</sup>

However, while the value of EAC exports has increased significantly in recent years (growing from \$11.5 billion in 2010 to \$16.7 billion in 2015), intra-EAC trade as a share of the bloc's combined total exports – though significantly higher than the continental average – has in fact stagnated, falling from 20.5% in 2010 to c. 20% in 2015.<sup>25</sup> Indeed, as the economies within the bloc grow, climbing from a combined GDP of \$80 billion in 2010 to \$146 billion by 2016, they appear to be trading slightly less with each other in relative terms, which is concerning given the bloc's objective of reaching an intra-EAC export share of 25% by 2025.<sup>26</sup>

Without structural transformation taking place in the economies of East Africa, greater regional trade integration may prove challenging. In part, this is due to East African countries not producing enough of what their neighbours want to import, given they continue to predominantly export primary commodities. Across the region, manufactured goods exports account for less than 10% of total exports and this undiversified production base is linked to weak enabling environments, inadequate regional policy frameworks and poor infrastructure (e.g. all East African countries, bar Seychelles, score below 30 out of 100 on the African Infrastructure Development Index).<sup>27</sup>

**Figure 4**

### Macroeconomic Convergence Criteria for the East African Community (EAC), by country

Country	Overall fiscal balance (excluding grants) (% of GDP)	Annual average inflation (%)	External reserves (months of imports of goods and nonfactor services)	Growth of real GDP (%)	Current account balance (excluding grants) (% of GDP)	Domestic investment rate (%)
Criteria	3% or lower	8% for headline inflation and 5% for core inflation	4.5 months or more	7% or higher	Sustainable level	20% or higher
Burundi	-11.3	18	2.8	0	-12.4	7
Kenya	-8.9	8	5.3	5	-6.1	21.4
Rwanda	-6.4	7.1	3.9	6.2	-10.2	24.6
Tanzania	-3.1	6	4.3	7.1	n/a	n/a
Uganda	-4.8	5.8	4.8	4.4	-5.6	25.4

Source: AfDB (2019: 21)

---

## Chapter Notes

<sup>1</sup> Lahaye et. al. (2017): 11.

<sup>2</sup> Banga & te Velde (2018): 26.

<sup>3</sup> *ibid*: 19.

<sup>4</sup> Hallward-Driemeier et. al. (2018): 100.

<sup>5</sup> Banga & te Velde (2018): 55.

<sup>6</sup> Hallward-Driemeier et. al. (2018): 85-7. See also McKinsey Global Institute (2018): 90.

<sup>7</sup> John, T. (2018).

<sup>8</sup> Hallward-Driemeier et. al. (2018): 83.

<sup>9</sup> *ibid*: 83.

<sup>10</sup> McKinsey & Company (2017): 20.

<sup>11</sup> McKinsey Global Institute (2018): 92.

<sup>12</sup> The Head of the Transformation of Economic and Social Systems Programme at the German Development Institute, Tilman Altenburg, writing in Brookings (2019): 51-2. Justin Lin's citation is taken from Lin, J. (2011) From Flying Geese to Leading Dragons. New Opportunities and Strategies for Structural Transformation in Developing Countries. Policy Research Working Paper 5702. Washington D.C.: World Bank.

<sup>13</sup> The Head of the Transformation of Economic and Social Systems Programme at the German Development Institute, Tilman Altenburg, writing in Brookings (2019): 52. This survey finding is taken from Xu, J., Gelb, S., Li, J., & Zhao, Z. (2017) Adjusting to Rising Costs in Chinese Light Manufacturing. What Opportunities for Developing Countries? SET (Supporting Economic Transformation) Programme. London: Overseas Development Institute.

<sup>14</sup> Hallward-Driemeier et. al. (2018): 98.

<sup>15</sup> The Head of the Transformation of Economic and Social Systems Programme at the German Development Institute, Tilman Altenburg, writing in Brookings (2019): 52.

<sup>16</sup> Commissioner for Trade and Industry at the African Union Commission, H. E. Albert Muchanga, writing in Brookings (2019): 112. The observation is based on UNCTAD data.

<sup>17</sup> Executive Secretary at the United Nations Economic Commission for Africa (UNECA), Vera Songwe, writing in Brookings (2019): 98. This figure is taken from UNECA (2018) An Empirical Assessment of AfCFTA Modalities on Goods. Addis Ababa: UNECA.

<sup>18</sup> African Development Bank (2019): 18.

<sup>19</sup> Executive Secretary at the United Nations Economic Commission for Africa (UNECA), Vera Songwe, writing in Brookings (2018): 19.

<sup>20</sup> Signé (2018): 6.

<sup>21</sup> Executive Secretary at the United Nations Economic Commission for Africa (UNECA), Vera Songwe, writing in Brookings (2019): 99. This figure is taken from AGRA (2017) Doubling Productivity and Incomes of Smallholder Farmers in Africa. AGRA: Growing Africa's Agriculture. August 23 2017.

<sup>22</sup> African Development Bank (2019): 29. See also Ordu (2019).

<sup>23</sup> African Development Bank (2019): 22.

<sup>24</sup> *ibid*: 20.

<sup>25</sup> African Development Bank (2019): 23. See also Economist Intelligence Unit (2017).

<sup>26</sup> African Development Bank (2019): 23.

<sup>27</sup> *ibid*: 29-31.







---

# 2

## Finance

### *Financing the future as debt begins to bite*

#### **As debt-to-GDP ratios soar across Africa, borrowing challenges could mount**

As debt levels continue to rise and the structure of debt becomes more commercial, the cost of servicing is now placing a significant strain on public budgets in many African countries.

China has become Africa's largest creditor and remains committed to financing infrastructure on the continent, pledging a further \$60 billion in loans in 2018.

#### **China is fast becoming the dominant source of foreign direct investment in East Africa and Chinese investors are diversifying their portfolios**

There are now some 10,000 Chinese firms operating in Africa that employ several million people. While Chinese investors have historically taken an interest in manufacturing, natural resources and infrastructure, they are now exploring opportunities in housing, transport, digital and agriculture.

Countries in the region are having contrasting experiences with Chinese investors.

#### **Digital and mobile technologies are enabling states to raise revenue in new ways**

The launch of iTax in Kenya shows how tax compliance can improve when citizens can submit returns and receive advice online.

Governments can now reach previously untapped sources of finance by issuing mobile-only retail bonds to their citizens.

Mobile technology is reducing the cost of sending remittances, which represent a stable and growing source of finance for African governments.

#### **New thinking plus evolving incentives and political pressures are changing aid flows to Africa**

In an age of populism, aid agencies are under increasing pressure to serve national interests.

Aid is increasingly being used as a means of mobilising private finance in less developed countries.

# As debt-to-GDP ratios soar across Africa, borrowing challenges could mount

**As debt levels continue to rise and the structure of debt becomes more commercial, the cost of servicing is now placing a significant strain on public budgets in many African countries.**

Since the global financial crisis of 2008, public debt levels have risen rapidly across Africa, driven primarily by the fall in commodity prices; the continent's annual infrastructure financing deficit (c. \$93 billion); and creditors in slow-growing developed countries looking abroad for higher yields. Indeed, the average return on government bonds is relatively high in Africa, owing to the extra demand being generated by demographic growth and an emergent middle-class.<sup>1</sup>

As a percentage of GDP in 2017, public debt levels surpassed 50% in 25 sub-Saharan African countries. To put this in perspective, the International Monetary Fund (IMF)

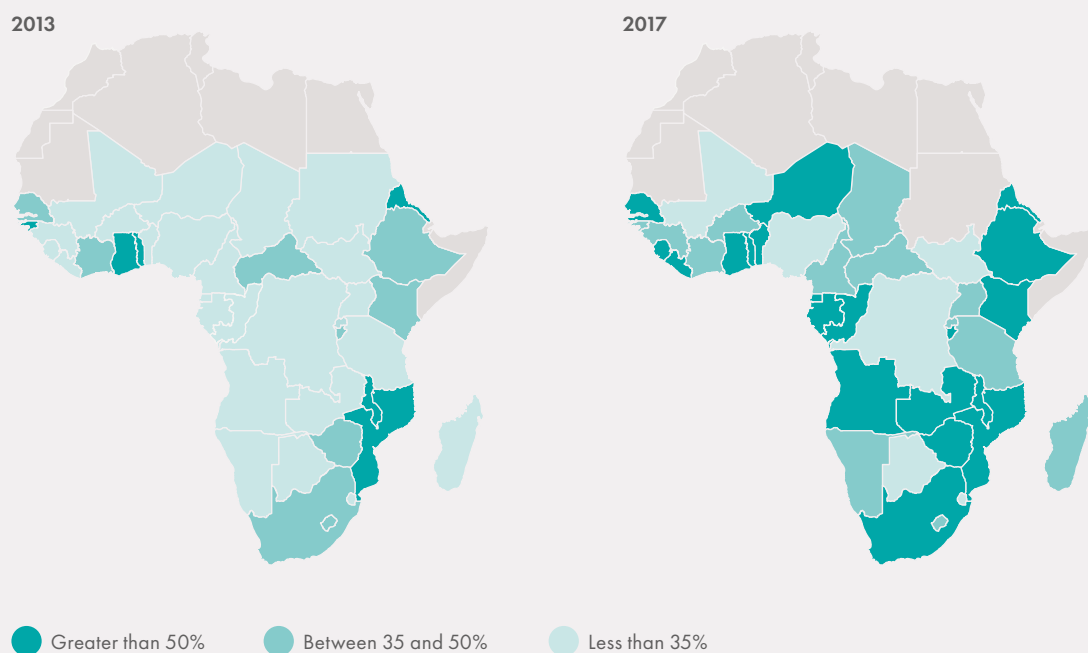
states that the probability of a debt crisis in a low-income country increases dramatically when public debt rises above 40% of GDP (from a 2–5% likelihood to 15–20%).<sup>2</sup>

While the overall quantity of debt across sub-Saharan Africa is causing concern, the structure of the debt is worth highlighting. The share of more costly private debt rose from 9% to 17% between 2000 and 2017<sup>3</sup> and the proportion of borrowing denominated in foreign currency reached 60% in 2018.<sup>4</sup>

Sub-Saharan Africa's median debt service-to-revenues ratio jumped from 5% to 10% between 2013 and 2017 (see Figure 5). The IMF and AfDB have acknowledged the cost of debt servicing is beginning to limit public spending throughout sub-Saharan Africa, with Ethiopia and Kenya already receiving warnings from multilateral lenders. In the case of Kenya, 45% of the government's revenue earned in the first half of 2018 was spent on managing the country's debts, which have risen from KES 1.7 trillion to KES 5 trillion between 2013 and 2018.<sup>5</sup>

**Figure 5**

**Total public debt as a percentage of GDP in sub-Saharan African countries, 2013 vs. 2017**



Source: Brookings (2018: 30)



## China has become Africa's largest creditor and remains committed to financing infrastructure on the continent, pledging a further \$60 billion in loans in 2018.

Reputationally, China was not implicated in the structural adjustment programmes of the 1980s and 1990s, which were blamed for damaging livelihoods and exacerbating inequality in countries such as Kenya, as sudden liberalisation resulted in depleted public budgets.

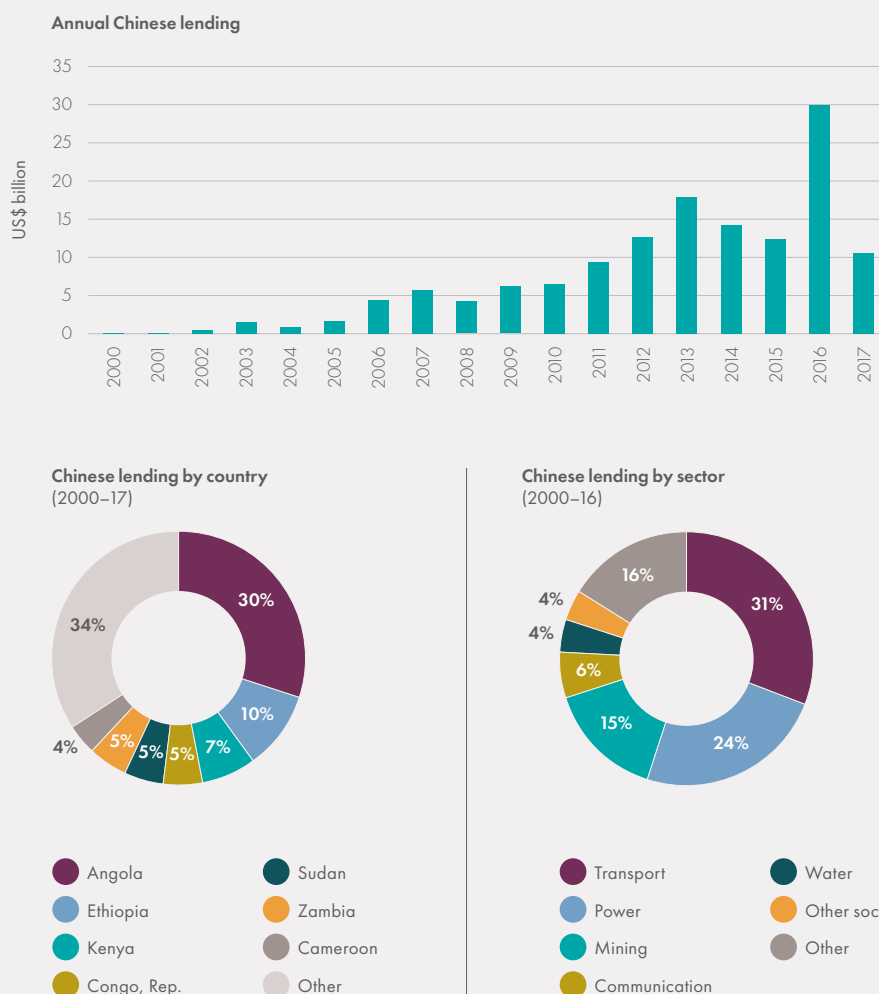
Since the turn of the century, China has lent \$143 billion to African countries (see Figure 6) and has now replaced traditional Western lenders as the region's largest creditor, holding 14% of sub-Saharan Africa's debt stock. In Kenya, China holds KES 478.6 billion worth of the country's bilateral debt – representing 66%. The next largest creditor, Japan, holds 12%.<sup>6</sup>

There are growing concerns about the opacity of Chinese loans, as in the case of the Standard Gauge Railway project in Kenya. Costing \$3.8 billion and principally enabled by a loan of \$3.6 billion from the Export-Import Bank of China, the railway appears to be an extremely expensive venture, particularly as Tanzania's line of similar length for trains that travel twice the speed is being built at roughly half the price (\$1.92 billion).<sup>7</sup> As debt servicing continues to erode public budgets, the political pressure to scrutinise Chinese credit lines is likely to rise.

Based on the latest Forum on China-Africa Cooperation held in 2018, the Chinese financial commitment to Africa seems to be holding steady, with \$60 billion pledged over the next 3 years. However, the summit revealed a shift in China's stance, since the financial pledge was the same as the one made in 2015, breaking the long-term trend of the country doubling or even tripling its loans to Africa every 3 years. In addition, China appears to be moving from a concessional 'resources for infrastructure' model to a more commercially minded focus on equity investments.<sup>8</sup>

Figure 6

### Chinese lending in Africa, 2000–2017



Source: Brookings (2019: 106)

# China is fast becoming the dominant source of foreign direct investment in East Africa and Chinese investors are diversifying their portfolios

**There are now some 10,000 Chinese firms operating in Africa that employ several million people. While Chinese investors have historically taken an interest in manufacturing, natural resources and infrastructure, they are now exploring opportunities in housing, transport, digital and agriculture.**

Over the course of the next decade, China will overtake the US as the largest source of foreign direct investment (FDI) in Africa, with the country's stock having grown from \$1 billion in 2004 to \$35 billion in 2015.<sup>9</sup> As Figure 7 illustrates, China has quickly become a significant investor across Africa, with East African countries such as Ethiopia, Kenya and Tanzania experiencing a sharp influx of Chinese FDI in recent years.

Flagship infrastructure projects undertaken by Chinese contractors include the \$1.5 billion Gas Field Development Project in Tanzania and the \$3.4 billion Ethiopia-Djibouti Railway.

A recent survey suggests some 10,000 Chinese firms now operate in Africa, of which 90% are privately owned.<sup>10</sup> With Africans constituting 89% of their workforce, these private Chinese enterprises employ several million people. These enterprises are predominantly engaging in non-footloose industries, such as manufacturing, indicating long-term commitment. Indeed, a recent survey of more than 1,000 executives revealed that 70% of Chinese respondents plan to grow their operations on the continent (versus 45% of respondents from the rest of the world).<sup>11</sup>

While Chinese firms have traditionally taken an interest in manufacturing, natural resources and infrastructure, research undertaken by McKinsey in 2017 suggests they are set to diversify their engagement in Africa, exploring housing (as construction firms move into real estate);

transport logistics (as a complement to infrastructure projects); digital (in attempts to replicate the success of domestic firms such as Alibaba and Tencent); and agriculture (as Chinese agricultural technologies are tailored for smallholders and thus suit the African market).<sup>12</sup>

One concerning aspect of Chinese commercial engagement in Africa is the limited extent to which Chinese firms procure their inputs from domestic value chains, with only 51% of their supply in Tanzania, 47% in Ethiopia and 44% in Kenya deriving from African firms. A survey of Chinese firms found they would prefer to use local suppliers but have difficulty finding ones that meet their price and quality demands.<sup>13</sup>

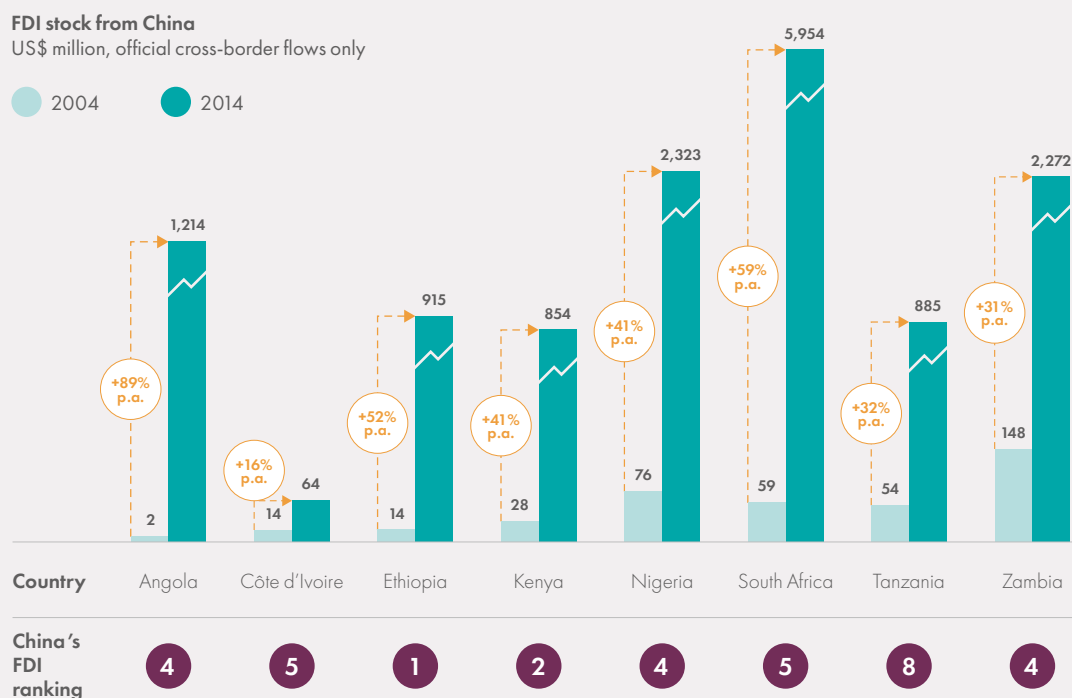
---

IN THE NEXT 10  
YEARS, CHINA  
WILL OVERTAKE THE  
UNITED STATES AS  
AFRICA'S LARGEST  
SOURCE OF  
FOREIGN DIRECT  
INVESTMENT

---

Figure 7

## Chinese FDI growth in selected African countries, 2004 vs. 2014



Source: McKinsey & Company (2017: 22)

## Countries in the region are having contrasting experiences with Chinese investors.

In Ethiopia, the government has made a proactive drive for foreign investment, particularly from China. A robust industrial policy has seen the waiving of customs duties for the import of capital goods; the establishment of a one-stop shop for registering businesses; and the appointment of Chinese speaking liaison officers that actively engage with entrepreneurs from megacities (e.g. Beijing and Shanghai) and provinces (e.g. Guangdong and Shandong).

Marketing is led by the executive, with Ethiopian Prime Minister Hailemariam Desalegn visiting several Chinese industrial hubs in 2017 to specifically attract investment in labour-intensive and pharmaceutical manufacturing.<sup>14</sup>

Meanwhile, a number of Chinese investors are talking about withdrawing from Tanzania – despite the strong historical relationship between the two nations – claiming they have concerns about the strict tax regime; that work permits are proving difficult to obtain; and that promised incentives for investment have not yet materialised.<sup>15</sup>

# Digital and mobile technologies are enabling states to raise revenue in new ways

## The launch of iTax in Kenya shows how tax compliance can improve when citizens can submit returns and receive advice online.

To increase tax compliance, indebted East African revenue authorities may increasingly look to leverage digital technologies. For example, the Kenya Revenue Authority introduced a secure electronic payments platform in 2016 and has recently launched iTax — a taxpayer support platform powered by cloud technology.

Whereas previously citizens had to travel to a physical location with their paperwork or queries, they can now file remotely via a 'single-view' digital tax window and communicate with advisors online. As well as generating reliable audit trails, these developments have enhanced the reach of the revenue authority, with 3 million citizens filing income tax returns in 2018 (up 26% from the previous year).<sup>16</sup> For the digitalisation of public services to be a success over the long term, governments will need to attend to issues of digital literacy and data security.

## Governments can now reach previously untapped sources of finance by issuing mobile-only retail bonds to their citizens.

Recognising the proliferation of mobile money throughout the economy and intent on pursuing an ambitious infrastructure programme, Kenya launched the M-Akiba bond in March 2017. This enables citizens to make micro-investments in government securities using a mobile phone payments platform. Constituting a world first, the bond sold out 13 days after going online, offering thousands of Kenyans an opportunity to earn interest on their savings every six months.

As Figure 8 reveals, the small minimum investment amount of KES 3,000 (approx. \$30) proved particularly popular.

Figure 8

### The M-Akiba Uptake, March 2017

Amount analysis by band (KSh)	Value (KSh million)	Number of investors	Share in total number of investors (%)
Minimum amount – 3,000	5.31	1,772	31
3,001 – 10,000	13.3	1,963	34.5
10,001 – 20,000	9.74	595	10.5
20,001 – 50,000	25.19	677	12
50,001 – 100,000	28.52	366	6
Above 100,000	67.98	318	6
Total	150.04	5,691	100

Source: Brookings (2018: 90)

## Mobile technology is reducing the cost of sending remittances, which represent a stable and growing source of finance for African governments.

As Figure 9 illustrates, remittances to low- and middle-income countries have become significantly greater than flows of aid and have proved more consistent than FDI and portfolio flows since the 1990s. In East Africa, remittances have jumped from \$3.9 billion in 2009 to \$5 billion in 2016.<sup>17</sup> Despite the rise of remittances, it is thought that they continue to constitute only a fraction of sub-Saharan Africa's annual diaspora savings, which equate to 3% of the region's GDP.<sup>18</sup>

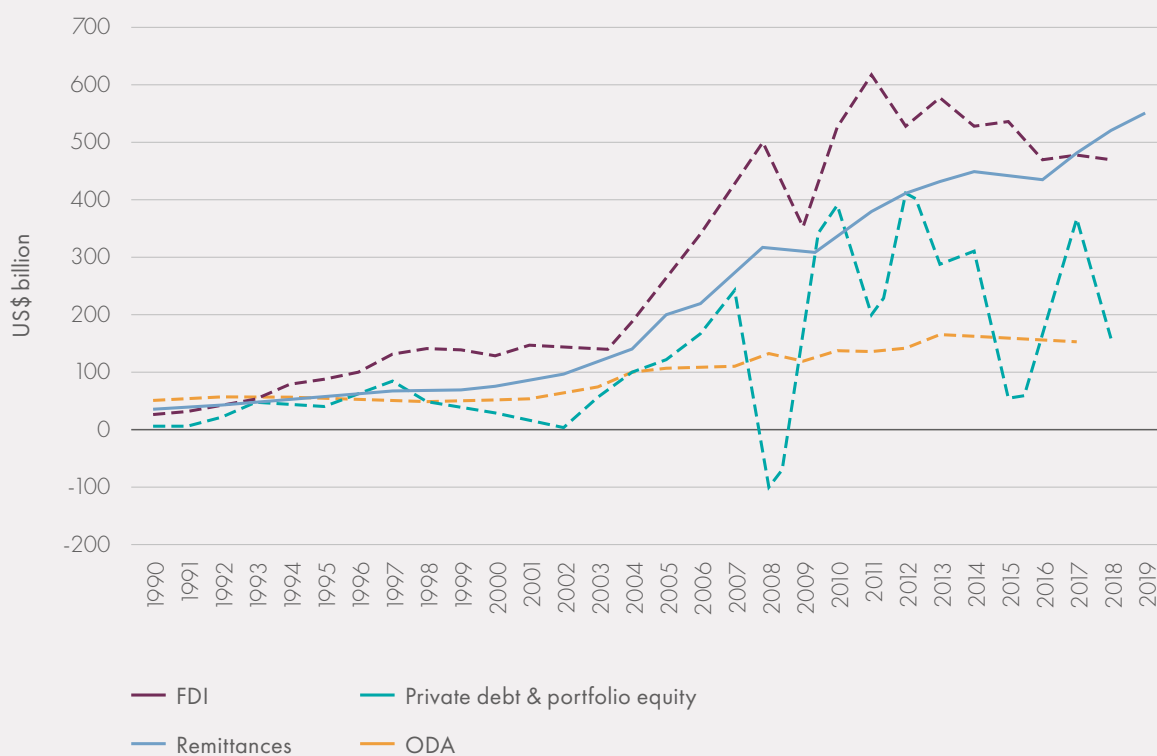
Consequently, African governments are increasingly turning to their diasporas for finance. In part, this is born of a recognition that expatriates are willing to purchase debt at more affordable rates and on a longer-term basis

than the market average, thanks to a deeper knowledge of local risk. To derive gain from the so-called 'brain drain' phenomenon, Ethiopia has raised over 8 billion birr (\$280 million) for its Grand Renaissance Dam by floating a diaspora bond and Nigeria has successfully issued a \$300 million infrastructure bond targeted at its diaspora.

There are signs that mobile money-based remittances are growing at a fast pace, particularly in East Africa, as firms leverage technology to reduce the "excessively high" transaction costs associated with remittances.<sup>19</sup> Indeed, BitPesa now offers a service that cuts out 'middlemen' banks, ensuring a 90% saving on fees and delivery within 24 hours. As they create first mile efficiencies (e.g. real-time exchange rates, payment confirmation) and last mile efficiencies (e.g. recipients don't have to travel to bureaus), low-cost digital transfers present a vast opportunity.<sup>20</sup>

Figure 9

Financial flows to low- and middle-income countries, 1990–2019



Source: Antoninis & Corcoran (2019: n.p.)

# New thinking plus evolving incentives and political pressures are changing aid flows to Africa

## In an age of populism, aid agencies are under increasing pressure to serve national interests.

The total aid transferred to sub-Saharan Africa has recently begun to decrease, falling from \$45.5 billion in 2011 to \$42.9 billion in 2015.<sup>21</sup> In light of such developments, the African Union (AU) appears to be charting a future without aid, suggesting that “aid flows to Africa could diminish to zero [by 2063]” due to “the withering away of the constituency for aid...in Europe”.<sup>22</sup>

As the US and EU economies struggle to rebound from the 2008 global financial crash, there is a growing perception that progress in emerging economies is directly tied to the declining position of the middle-class in advanced economies.<sup>23</sup> The rise of political populism is encouraging a shift in the development priorities of aid agencies, as they increasingly seek to defend budgets with the language of self-interest and security rather than international altruism. In some cases, this shift has been

marked by institutional alterations: in Canada and Australia, the aid ministries have become fully integrated within the foreign affairs ministries, with a similar step under discussion within the US.

In response to high-profile terrorist incidents and the rise in anti-migrant sentiment, development finance is increasingly being earmarked to stem cross-border movement or augment regional security. The EU has developed an Emergency Trust Fund for Africa – a €1.8 billion pool of money directed largely at humanitarian issues in the Horn of Africa – and the US has ramped up donations to those countries perceived to be on the front-line of the global war on terror: e.g. between 2001 and 2014, US aid has risen from \$470,000 to \$2.67 billion in Kenya, tripled in Ethiopia (to \$3.6 billion) and doubled in both Uganda (to \$1.63 billion) and Tanzania (to \$2.65 billion).<sup>24</sup>







## Aid is increasingly being used as a means of mobilising private finance in less developed countries.

With the estimated Sustainable Development Goals financing gap at \$2.5 trillion a year, international development institutions are actively exploring blended finance as a way of turning ‘billions’ of dollars in development aid into ‘trillions’. While the use of public development finance to spur additional private investment is not new, the increasing interest of donors in investing aid in such approaches represents a marked shift.<sup>25</sup> Indeed, this shift was officially signalled in the Addis Ababa Agenda for Action of 2015, which for the first time recognised blended finance – backed by aid – as a critical means of mobilising additional private sector investment in developing countries.

Within bilateral and multilateral development institutions, certain policy changes are incentivising a turn to sub-commercial financing:

- *At the bilateral level* — The new Total Official Support for Sustainable Development metric introduced by the OECD’s Development Assistance Committee has encouraged the investment of aid in blended finance, as donors are able to record both their initial outlay and a significant portion of the private capital mobilised as aid. As blended-finance approaches are mainly channelled through development finance institutions (DFIs) at the bilateral level, donors have responded to this incentive by expanding their investment capacity. Canada has recently established FinDev Canada, a new DFI, while the US is planning to set-up another — the International

Development Finance Corporation.<sup>26</sup> In the UK, the Commonwealth Development Corporation (CDC) Group received an additional capitalisation of £3.8 billion in 2017, which corresponds to roughly 8% of the country’s aid budget over the next 5 years.<sup>27</sup>

- *At the multilateral level* — In 2017, the G20 tasked multilateral development banks with increasing their mobilisation of private capital by 25%–35% by 2020. In response, blended finance investment by multilaterals is set to expand, evidenced by the International Finance Corporation’s \$5.5 billion capital injection in 2018 and the International Development Association’s new \$2.5 billion Private Sector Window, launched in 2017, which is aiming to encourage \$6 billion–\$8 billion of additional investment in its member countries.<sup>28</sup>

## CERTAIN POLICY CHANGES ARE INCENTIVISING A TURN TO SUB-COMMERCIAL FINANCING

There is excitement surrounding blended finance. However, analysis by Attridge & Engen urges caution. This analysis covers the main traditional actors, including multilateral development banks, regional development banks and bilateral DFIs. It shows that blended finance currently appears to be concentrating in middle-income countries (MICs), with only 3.6% (\$2.9 billion) of the private finance mobilised from 2012–2015 flowing to low-income countries (LICs) (see Figure 10).

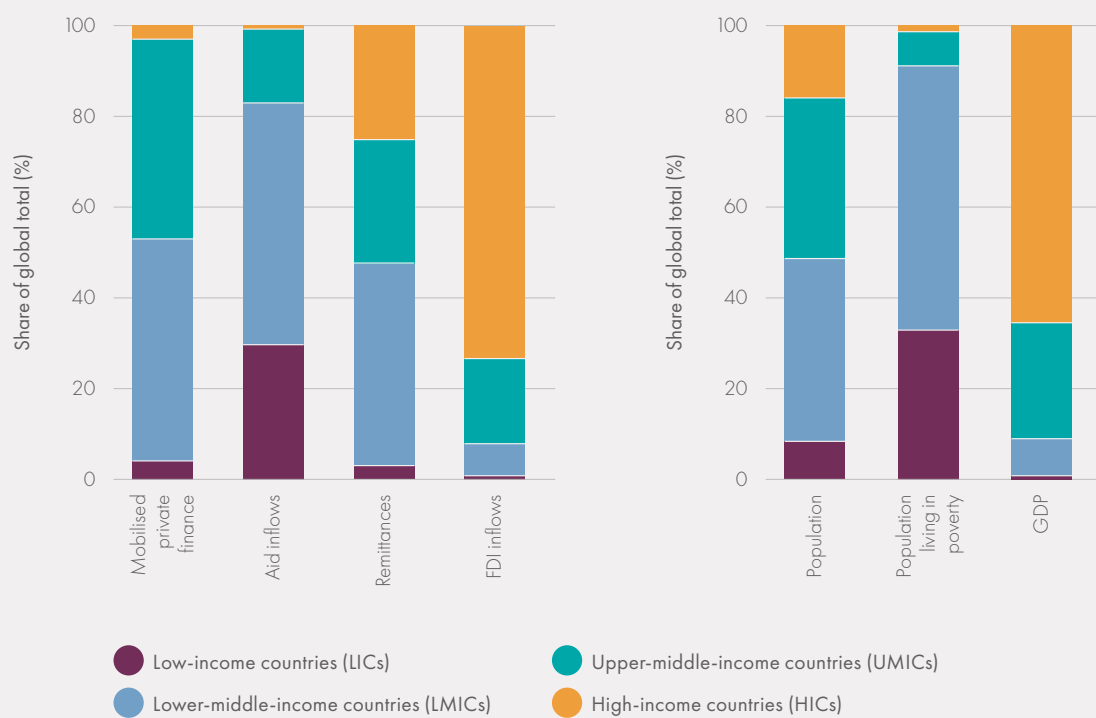
The trend of low investment in LICs is not surprising, as such economies typically exhibit higher levels of perceived risk and a lack bankable projects. However, Attridge & Engen’s analysis illustrates how channelling aid into blended finance instruments may serve to benefit MICs rather than LICs.

Moreover, for every \$1 currently committed by development banks/DFIs to blended-finance approaches in LICs, only \$0.37 of additional private investment is typically crowded in, reflecting the urgent need for business environment reform to accompany blended finance initiatives.<sup>29</sup>

Among LICs, East African countries are relatively prominent recipients of blended finance investments, with Kenya receiving a major share of development bank/DFI commitments to LICs before its reclassification as an MIC in 2015.<sup>30</sup>

**Figure 10**

### An income group comparison of external financial flows



Source: Attridge & Engen (2019: 41)



---

# Chapter Notes

<sup>1</sup> Were (2018): 3.

<sup>2</sup> *ibid*: 2.

<sup>3</sup> Brookings (2019): 30.

<sup>4</sup> World Economic Forum (2018a): 18.

<sup>5</sup> Were (2018): 8.

<sup>6</sup> *ibid*: 3-4.

<sup>7</sup> *ibid*: 9.

<sup>8</sup> Brookings (2019): 105.

<sup>9</sup> McKinsey & Company (2017): 22.

<sup>10</sup> *ibid*: 40.

<sup>11</sup> Leke et. al.'s (2018b).

<sup>12</sup> McKinsey & Company (2017): 61-2.

<sup>13</sup> *ibid*: 47-8.

<sup>14</sup> *ibid*: 54.

<sup>15</sup> *ibid*: 57-8.

<sup>16</sup> Banks-Louie (2018). See also Brookings (2018): 93.

<sup>17</sup> African Union Commission & OECD (2018): 146.

<sup>18</sup> Brookings (2018): 33.

<sup>19</sup> According to the European Political Strategy Centre at the European Union, the global average cost of sending a remittance of \$200 is 7.45%, well above the United Nations' Sustainable Development Goal target of 3% (2017: 9).

<sup>20</sup> WorldRemit estimates that the digitalisation of remittances could result in an extra \$825m in education funding in developing countries (cited in Antoninis & Corcoran 2019).

<sup>21</sup> Kharas & Rogerson (2017): 30.

<sup>22</sup> African Union (2015): 107.

<sup>23</sup> Kharas & Rogerson (2017): 15.

<sup>24</sup> Humanitarian Foresight Think Tank (2017): 10-11.

<sup>25</sup> Private Sector Instruments (PSIs) have been used in the climate finance arena and by national development banks for some time.

<sup>26</sup> The USIDCF will be the product of merging the existing DFI vehicles in the US, the Overseas Private Investment Corporation (OPIC) and the Development Credit Authority (DCA). This is the result of the Build Act, signed in October 2018.

<sup>27</sup> Attridge & Engen (2019): 28.

<sup>28</sup> *ibid*: 29.

<sup>29</sup> *ibid*: 54.

<sup>30</sup> *ibid*: 45.





---

# 3

## Environment

### *Protecting citizens and growth in the face of climate change*

#### Climate change poses a major threat to East Africa

Climate change in East Africa will see temperatures continue to increase, water become scarcer and sea levels rise to the point of flooding coastal settlements.

The changing environment will put rural livelihoods at risk and raise questions about food security, with temperatures exceeding the tolerance of staple crops and lakes becoming less habitable for fish.

The number of climate refugees in East Africa is projected to rise from about 1.8 million in 2020 to between 6.9 million and 10 million by 2050.

#### While governments and donors recognise the need to adapt agricultural practices in response to climate change, policies and programmes have had a limited impact thus far

The cost of adapting to climate change in rural areas will be higher in Africa than in other world regions, with significant investment required in irrigation, data collection and extension services.

While governments in East Africa have introduced climate-smart agriculture policies, the incentives for farmers to adopt new practices have not yet materialised.

#### In East Africa, there is strong commitment to widening access to clean energy and cooking

At the 2015 United Nations Climate Change Conference (COP21), African governments set ambitious targets on renewable energy capacity and clean cooking access, backed by significant investment.

Of all the sub-Saharan Africa regions, East Africa is expected to achieve the fastest growth in its electrification rate up to 2030 due to significant investment in the grid and the proliferation of pay-as-you-go solar home systems.

# Climate change poses a major threat to East Africa

**Climate change in East Africa will see temperatures continue to increase, water become scarcer and sea levels rise to the point of flooding coastal settlements.**

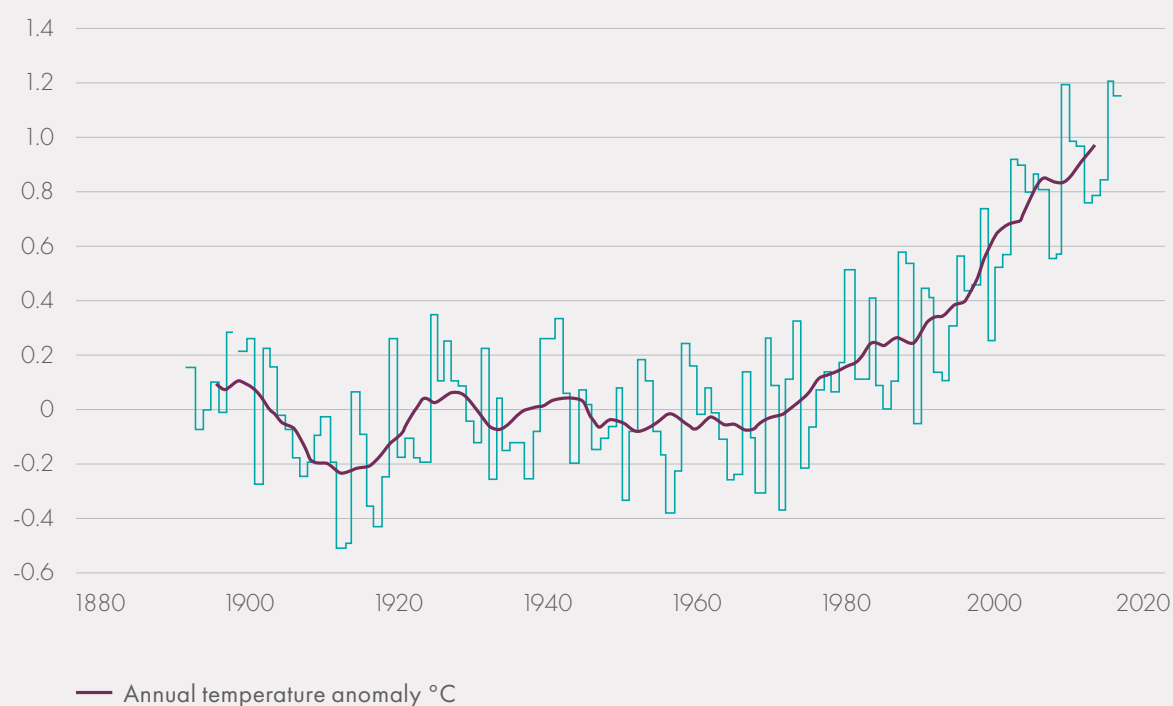
East Africa is already experiencing the impact of climate change, with temperatures rising much higher than historic averages (see Figure 11) and droughts becoming more common. As the long rains fail with increasing frequency, there have been severe droughts in 7 of the last 10 years, with Ethiopia experiencing its worst for 50 years in 2016.

If the current trajectory continues, the environment in East Africa is likely to be radically altered in many ways:

- *Rising temperatures* — across the region, the average annual temperature is likely to increase by between 1°C and 2.4°C by 2065.<sup>1</sup> The implications are significant: for example, as higher altitude areas in Rwanda warm, the risk of malaria infection will grow 150% by 2050.<sup>2</sup>
- *More or less rainfall* — while climate models predict increasing rainfall, the recent series of devastating droughts has made scientists less sure. In any case, even modest increases in rainfall will be offset by higher temperatures and greater evapotranspiration.<sup>3</sup>

Figure 11

Rising temperatures in East Africa, 1880–2017



Source: Carty (2017: 3)



- *Water scarcity* — due to prolonged dry spells and erratic yet intense rainfall events, there will likely be an increase in surface flooding (which may affect urban sanitation as sewage treatment facilities are washed out); more extreme river flow dynamics (which will damage hydropower production); and less reliable water surface stores.<sup>4</sup> There is a “very high” probability that East Africa will be water scarce by 2080,<sup>5</sup> with estimates that the cost of unmet water demand may reach \$5.5 billion as the Lake Victoria, Albert Nile and Lake Kyoga watersheds dry up.<sup>6</sup>
- *Rising sea levels* — sea level rise, averaging 3 millimetres a year, is an imminent threat to the region’s coastal settlements.<sup>7</sup> Dar es Salaam could lose 8% of its area with a 2°C global temperature increase, affecting 140,000 people and \$170 million of assets.<sup>8</sup>

In the coming decades, climate change is likely to be a significant driver of conflict in the region, as water shocks and deviations from normal rainfall patterns are associated “with all types of social conflict”, including those involving state and non-state actors.<sup>9</sup>

## The changing environment will put rural livelihoods at risk and raise questions about food security, with temperatures exceeding the tolerance of staple crops and lakes becoming less habitable for fish.

Across Africa, rising temperatures and unpredictable rainfall will drastically affect agricultural yields: many crops are already close to their temperature tolerance while frequent droughts make irrigation and ploughing more difficult. In the case of maize – a staple crop across the continent – average yields could fall by 40% by 2050 if there is no adaptation,<sup>10</sup> while yields of rice, wheat, sorghum and soybean are projected to decline significantly across East Africa by the end of the century (see Figure 12). In Uganda, the impact of climate change on major export crops, such as coffee and tea, may lead to a cumulative economic loss of \$1.4 billion by the 2050s.<sup>11</sup>

As lake temperatures rise, increased levels of evaporation and a decrease in nutrient concentration (owing to reduced river inflow) will negatively impact fish productivity. For example, Lake Tanganyika's possible

fish yields may decline by 30% owing to climate change.<sup>12</sup> This is particularly concerning in East Africa where deep lakes – such as Chilwa, Kariba, Malawi and Victoria – provide more than 60% of the protein consumed by surrounding communities. Uganda is particularly vulnerable: fishing currently employs 8% of the workforce, generating livelihoods for some 1.2 million people.<sup>13</sup>

## MAIZE YIELDS IN AFRICA MAY SHRINK BY 40% IN TWO DECADES

**Figure 12**

### Projected Percentage Change in Yields in East Africa Under 3 Climate Change Scenarios by 2090

NB: The three climate change scenarios are based on the following assumptions

- B1: Rapid economic growth; focus on sustainability and environmental health; population growth peaks in 2050 and declines after; prevalent non fossil fuel energy source use; relatively low increase in greenhouse gas emissions
- A1B: Rapid economic growth and global economic development with balanced use of fossil fuels and nonfossil energy sources; population growth peaks in 2050 and declines after; moderate increases in greenhouse gas emissions
- A2: Economic development is regionally divided; global population continually grows; consistent fossil fuel use; relatively higher increase in greenhouse emissions

Country	Maize			Rice			Wheat			Sorghum			Soybean		
	B1	A1B	A2	B1	A1B	A2	B1	A1B	A2	B1	A1B	A2	B1	A1B	A2
Ethiopia	-7	-10	-12	-6	-11	-14	-9	-14	-17	-18	-27	-33	-6	-9	-10
Kenya	-6	-9	-11	-7	-12	-15	-8	-12	-15	-16	-23	-29	-5	-8	-10
Malawi	-7	-10	-13	-5	-8	-11	-9	-14	-17	-17	-27	-34	-3	-6	-8
Mozambique	-6	-9	-12	-7	-11	-14	-8	-12	-16	-16	-24	-30	-5	-8	-10
Rwanda	6	9	10	1	2	2	13	19	20	-15	23	25	39	36	35
Tanzania	-6	-10	-12	-5	-9	-12	-8	-13	-16	-16	-25	-30	-5	-8	-10
Uganda	-7	-10	-11	-5	-9	-11	-9	-13	-15	-17	-26	-30	-5	-8	-9
Zambia	-7	-11	-13	-5	-9	-12	-10	-15	-18	-19	-29	-35	-3	-6	-8

Source: Adhikari et. al. (2015: 114)

## The number of climate refugees in East Africa is projected to rise from about 1.8 million in 2020 to between 6.9 million and 10 million by 2050.

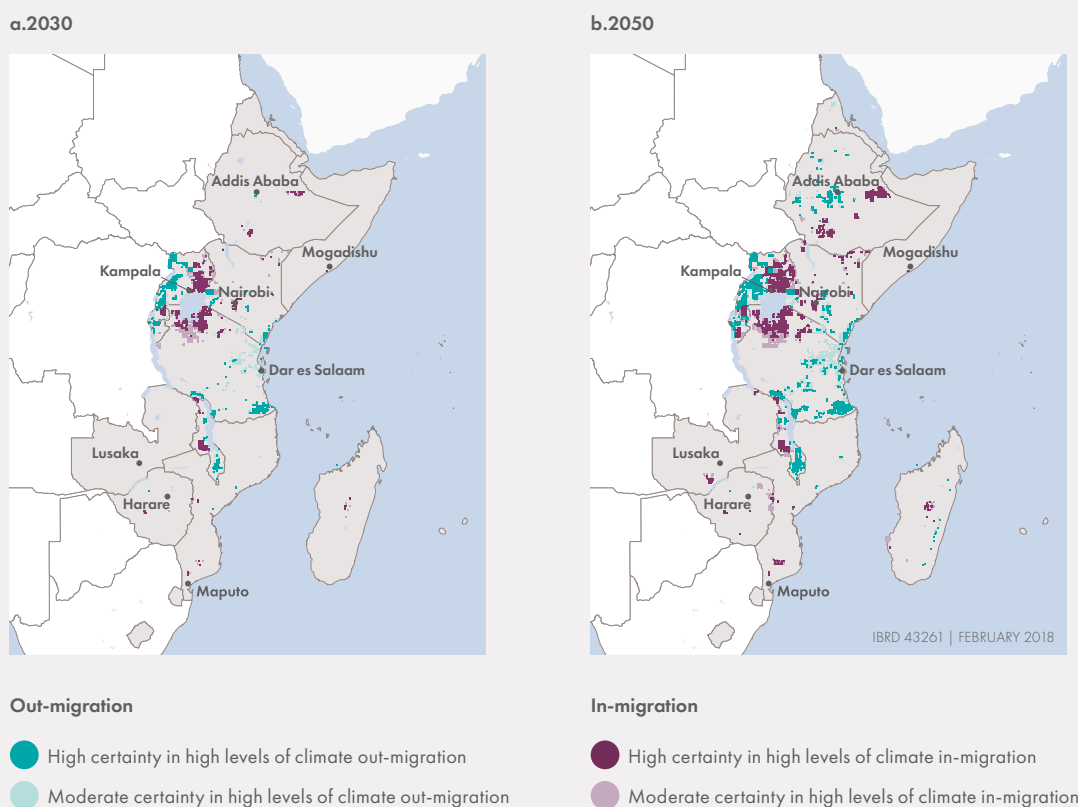
In an optimistic scenario where global temperatures rise by  $0.4^{\circ}\text{C}$ – $1.6^{\circ}\text{C}$ , the number of climate refugees in East Africa is predicted to grow from 1.8 million in 2020 to 6.9 million in 2050. In a more pessimistic scenario where global temperatures rise by  $1.4^{\circ}\text{C}$ – $2.6^{\circ}\text{C}$ , there might be more than 10 million climate refugees in the region by 2050.<sup>14</sup>

As Figure 13 illustrates, climate in-migration hotspots are likely to include urban areas across East Africa, the south-eastern highlands of Ethiopia and the Lake Victoria basin, where climatic conditions are likely to be more favourable and water more available. Climate out-migration from rainfed croplands and coastal areas is anticipated as rising temperatures and sea levels make livelihoods increasingly unsustainable in these locales.

## CLIMATE CHANGE IN EAST AFRICA WILL ACCELERATE URBANIZATION AND ENCOURAGE MIGRATION TO HIGHLANDS AND LAKE BASINS

Figure 13

Hotspots of projected climate out-migration (marked in green) and climate in-migration (marked in purple) across East Africa, 2030 and 2050



Source: Rigaud et. al. (2018: 84)



# While governments and donors recognise the need to adapt agricultural practices in response to climate change, policies and programmes have had a limited impact thus far

## The cost of adapting to climate change in rural areas will be higher in Africa than in other world regions, with significant investment required in irrigation, data collection and extension services.

In sub-Saharan Africa, the cost of adapting to climate change as a share of GDP is projected to be much higher than in other world regions. This is because the region is most at risk of climate impacts (e.g. extreme weather, sea level rise and agricultural productivity loss) and consists of countries with relatively little wealth (see Figure 14). While a sub-Saharan African country must spend on average 0.5% of its GDP to adapt to climate change up to 2050, other regions can put aside between 0.08% to 0.2% of GDP.<sup>15</sup>

The need for this adaptation is increasingly urgent in sub-Saharan Africa given the estimated impact of climate change on rain-fed agriculture, and as extreme weather events are already causing food production to stagnate (see Figure 15).

Successful adaptation in agriculture will require:

- *Greater investment in irrigation* — Given erratic and/or decreasing rainfall, the region will need alternatives to rain-fed agriculture to meet future food demand. Irrigation will likely become an important area of investment and development, particularly as just 4% of sub-Saharan Africa's cultivated land is irrigated now (with most of this located in South Africa, Madagascar and Sudan). In Kenya, firms like SunCulture are innovating in this space, selling solar-powered and smart pump systems to address the constraint of high energy costs in rural areas.

- *Better collection of data* — Studies suggest East Africa lacks quality datasets on soil and crops, making developing climate risk models challenging.<sup>16</sup> There are signs of new technologies easing the process of data collection: The African Soil Information Service has brought the cost of soil mapping down from \$70 to \$2 per sample by using remote sensing and an open-source approach; Aerobotics, a South African start-up, uses machine learning to process satellite imagery of rural terrain.
- *Improved delivery of extension services* — Extension services in East Africa currently appear ill-suited to the informational demands of climate adaptation: in Kenya and Uganda, one survey found that a reason farmers already affected by climate change are failing to adapt is due to a lack of knowledge of mitigation strategies.<sup>17</sup>

---

ADAPTATION  
MEASURES  
ARE URGENTLY  
NEEDED GIVEN  
THE ESTIMATED  
IMPACT OF  
CLIMATE CHANGE  
ON RAIN-FED  
AGRICULTURE

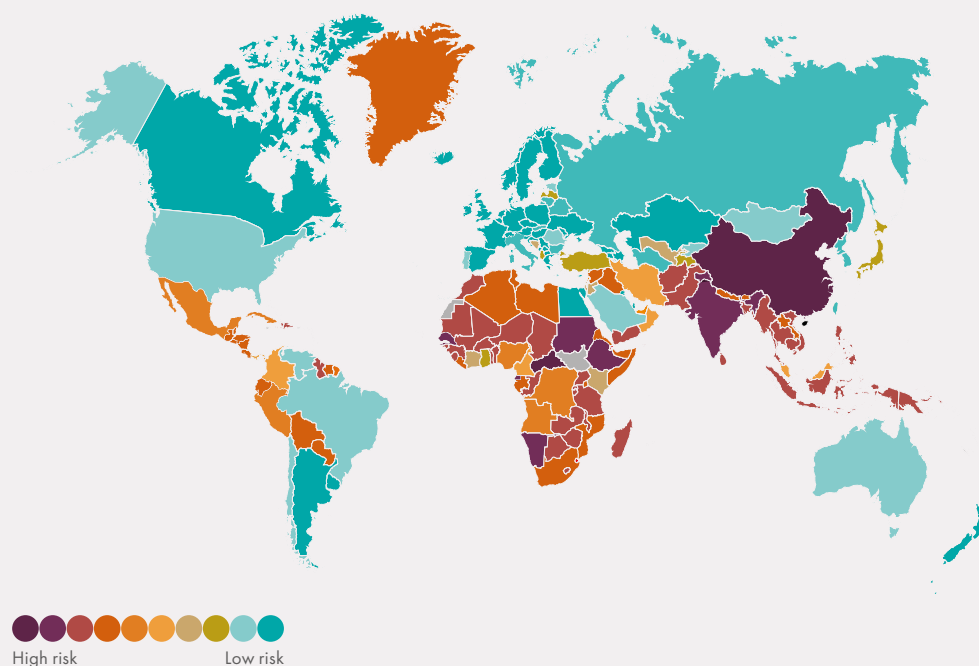
---



Figure 14

### The regions of the world most at risk of being affected by climate change

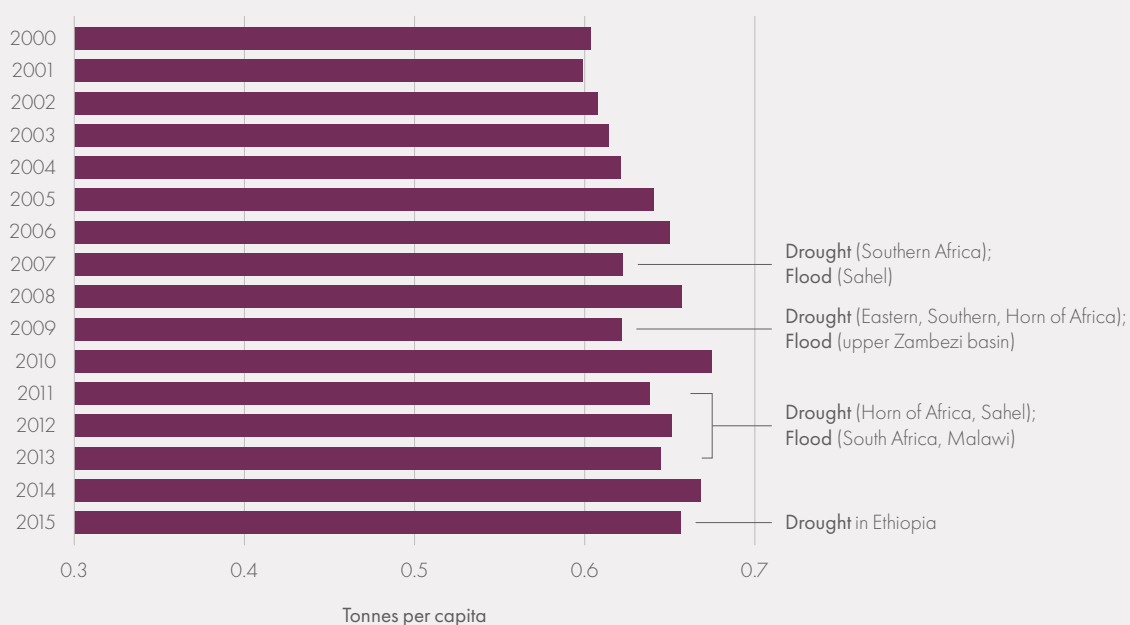
NB: Risk refers to climate impacts such as extreme weather, sea level rise and agricultural productivity loss



Source: European Political Strategy Centre (2017: 7)

Figure 15

### Total food production per capita in sub-Saharan Africa, 2000–2015



Source: IEA (2017: 100)

## While governments in East Africa have introduced climate-smart agriculture policies, the incentives for farmers to adopt new practices have not yet materialised.

Climate-smart agriculture (CSA) is defined as “agricultural approaches that sustainably increase productivity and system resilience while reducing greenhouse gas emissions”.<sup>18</sup>

It comprises certain agroecological techniques (e.g. mulching, intercropping, mixed farming) and the latest in agricultural biotechnology — including high-yield and/or drought-tolerant crop varieties.

There appears to be strong political commitment to promoting CSA within the region. The AU’s New Partnership for Africa’s Development (NEPAD) agency aims to ensure 25 million households are practicing CSA by 2025, and governments have developed National Climate Change Policies (Uganda), National Adaptation Programmes of Action (Tanzania, Uganda), and/or National Climate Change Response Strategies (Kenya, Tanzania).

Traditional donors are also increasingly supporting work in this area. For example, the Africa CSA Alliance (comprised of CARE, Catholic Relief Services, Concern, Oxfam and World Vision) is now partnering with NEPAD, while the UK’s Department for International Development invested \$23 million in kickstarting VUNA (“harvest”), a CSA programme seeking to transform agricultural systems in East and Southern Africa.

However, despite these political commitments and financial pledges, Figure 16 reveals how CSA policies have not yet been translated into coherent strategies incentivising adoption in East Africa.

**Figure 16**

### Climate Smart Agriculture in East African Countries: Policies, Synergies and Incentives

	CSA Policy	Sector Synergy	Incentives for Adoption
Kenya	<ul style="list-style-type: none"> <li>Kenya CSA Programme (2015–2030)</li> <li>National Climate Change Action Plan</li> <li>CSA principles integrated into other policies</li> </ul>	Yet to be realised	Not identified
Tanzania	<ul style="list-style-type: none"> <li>National Climate Change Strategy</li> <li>National Adaptation Plan of Action</li> </ul>	No robust framework to co-ordinate activities	Not identified
Uganda	<ul style="list-style-type: none"> <li>Uganda’s National Climate Change Policy</li> <li>National Agriculture Policy</li> <li>National Land Use Policy</li> </ul>	Policymaking neglected to take a multi-stakeholder approach	No economic incentive to practice CSA

Source: Sibanda et. al. (2017: 19–20)







# In East Africa, there is strong commitment to widening access to clean energy and cooking

**At the 2015 United Nations Climate Change Conference (COP21), African governments set ambitious targets on renewable energy capacity and clean cooking access, backed by significant investment.**

At COP21, 53 African governments submitted nationally determined contributions (NDCs) (i.e. voluntary emissions targets). More than 90% of the NDCs reference expanding renewable energy capacity as a priority and 15 countries set objectives for clean cooking access (e.g. Rwanda is aiming for complete coverage by 2025).

The pledges in the NDCs could lead to 100 million people in sub-Saharan Africa gaining clean cooking access by 2030.<sup>19</sup> The situation is urgent. Almost 80% of the population in sub-Saharan Africa (780 million) depend on solid biomass for cooking; in Rwanda, Uganda and Tanzania it is over 95%. The fumes cause over half a million premature deaths a year, while households (typically women and children) spend two hours a day on average gathering firewood.<sup>20</sup>

In 2016, the AfDB introduced the New Deal on Energy for Africa, aiming to deliver 130 million new grid connections, 75 million off-grid connections and clean cooking to 130 million households by 2025 through investments of \$12 billion and plans to leverage an additional \$45–\$50 billion into the power sector by 2020.<sup>21</sup>

The Africa Renewable Energy Initiative also intends to add 300 GW of new renewable energy capacity, which will require \$70 billion per year.<sup>22</sup>

**Of all the sub-Saharan Africa regions, East Africa is expected to achieve the fastest growth in its electrification rate up to 2030 due to significant investment in the grid and the proliferation of pay-as-you-go solar home systems.**

The International Energy Agency (IEA) has predicted the future of the energy sector by assessing the trajectories of existing/announced policies and combining this with projections on population growth, economic growth, the pace of urbanisation and the price of fuels. As Figure 17 illustrates, power generation capacity in sub-Saharan Africa is expected to double by 2030, with hydropower contributing the most, solar power expanding rapidly and non-renewables continuing to form a significant part of the energy mix.

While the electrification rate across sub-Saharan Africa's sub-regions is expected to improve, population growth means the number without access is likely to rise to 600 million by 2030 (see Figure 18). The projected growth of the electrification rate is mostly due to grid extensions (the majority of which will be renewables-based), although c. 20% of those who gain access by 2030 will do so via solar power systems and 11% via mini-grids (which together account for two thirds of the estimated advance in rural areas).<sup>23</sup>

As the teal line and bar in Figure 18 testify, East Africa is expected to achieve the fastest growth in its electrification rate and will be the only region in which the number of people without access is expected to decline (by 37 million). While Kenya and Ethiopia appear on course to reach near-universal access, Tanzania's electrification rate is projected to climb from 30% in 2016 to 60% in 2030.<sup>24</sup>



Electricity access projections are comparatively high in East Africa due to the pace of recent progress. Between 2012 and 2015, the region was responsible for 80% of the reduction in the number of people without electricity access in sub-Saharan Africa.<sup>25</sup> In Kenya alone, the percentage of the population with electricity access almost doubled between 2014 and 2018 (rising from 36% to almost 70%).<sup>26</sup> This sharp growth is due to:

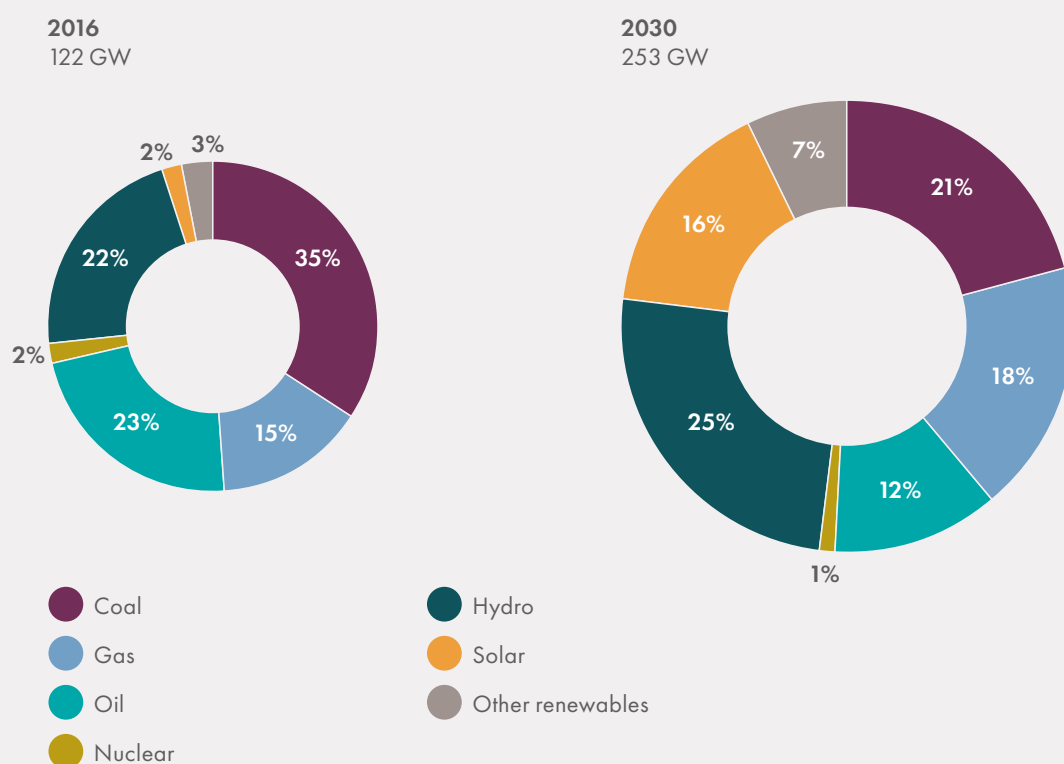
- *Growing investment in renewables-based grid extensions* — Large-scale investment in renewables-based power (especially hydropower and geothermal) in East Africa meant an additional 18 million people gained electricity access each year between 2012 and 2015.<sup>27</sup> The Last Mile Connectivity Project (2015–2017) in Kenya rapidly expanded the

grid to 1.5 million rural citizens, while the Ethiopian government has committed to powering the country's industrialisation with renewable energy (e.g. the eco-friendly Hawassa Industrial Park).

- *A flourishing off-grid marketplace* — Across the region, firms that operate pay-as-you-go business models have thrived, enabling customers to make daily payments on solar home systems via their mobile phones. In Tanzania, a quarter of the households with access to electricity are doing so via off-grid solar and Kenya is now the largest market for solar lanterns on the continent.<sup>28</sup> The solution is remarkably cost-effective: the 500,000+ homes in East Africa with M-KOPA's devices are predicted to save up to \$375 million over the next four years.<sup>29</sup>

Figure 17

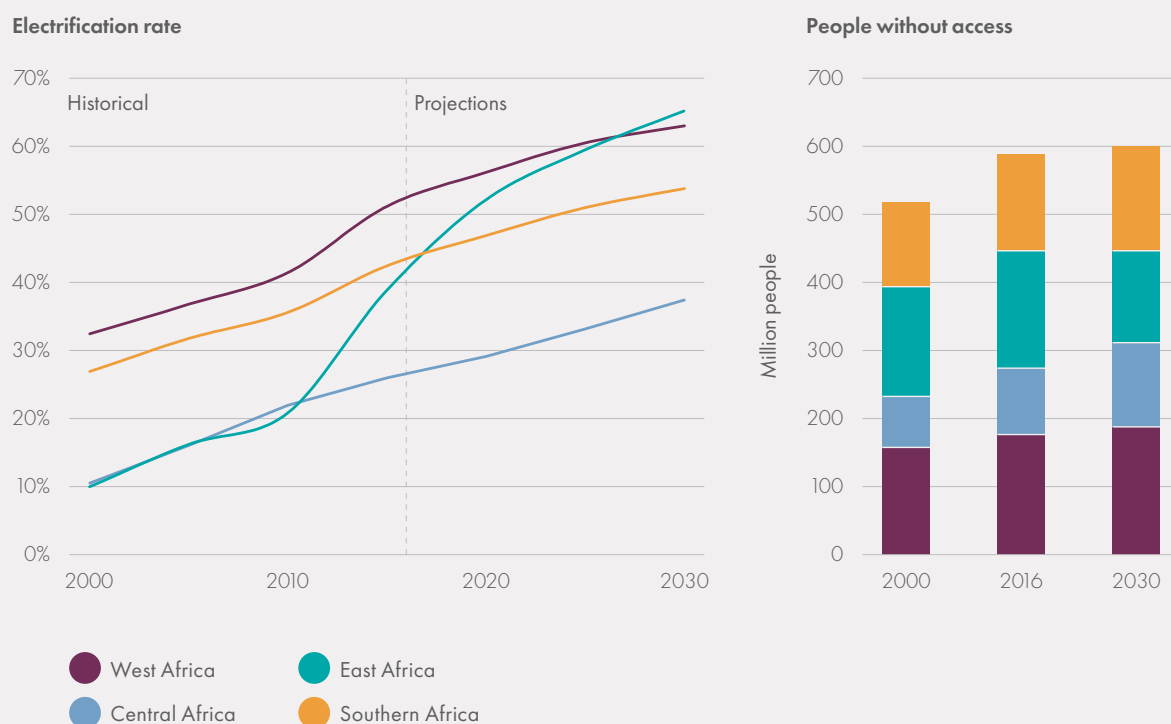
Installed power generation capacity in sub-Saharan Africa by fuel in the IEA's New Policies Scenario, 2016 vs. 2030



Source: IEA (2017: 79)

Figure 18

Electricity access rate and population without electricity access by region in sub-Saharan Africa in IEA's New Policies Scenario, 2000–2030



Source: IEA (2017: 86)

---

# Chapter Notes

<sup>1</sup> Future Climate for Africa (2016): 13.

<sup>2</sup> *ibid*: 77.

<sup>3</sup> Rigaud et. al. (2018): 80.

<sup>4</sup> Future Climate for Africa (2016): 14.

<sup>5</sup> Schaeffer et. al. (2013): 11.

<sup>6</sup> Future Climate for Africa (2016): 96.

<sup>7</sup> Rigaud et. al. (2018): 26.

<sup>8</sup> Humanitarian Foresight Think Tank (2017): 6-7.

<sup>9</sup> Hendricks & Salehyan (2012): 36.

<sup>10</sup> Director of Food and Agriculture at the World Bank, Simeon Ehui, writing in Brookings (2018): 96.

<sup>11</sup> Future Climate for Africa (2016): 97.

<sup>13</sup> Urama & Ozor (2010): 11, 19.

<sup>14</sup> Future Climate for Africa (2016): 97.

<sup>15</sup> Rigaud et. al. (2018): 79.

<sup>16</sup> Schaeffer et. al. (2013): 20.

<sup>17</sup> Mukhala et. al. (2017): 30.

<sup>18</sup> African Center for Economic Transformation (2017): 182.

<sup>19</sup> Food and Agriculture Organisation of the United Nations cited in Sibanda et. al. (2017): 9.

<sup>20</sup> International Energy Agency (2017): 97.

<sup>21</sup> *ibid*: 91, 94.

<sup>22</sup> The President of the African Development Bank, Akinwumi Adesina, writing in Brookings (2018): 16.  
United Nations Department of Economic and Social Affairs (2018): 144.

<sup>23</sup> International Energy Agency (2017): 90.

<sup>24</sup> *ibid*: 86-7.

<sup>25</sup> *ibid*: 81.

<sup>26</sup> I-Dev International (2018): 4.

<sup>27</sup> International Energy Agency (2017): 80.

<sup>28</sup> *ibid*: 82-4.

<sup>29</sup> Former Governor of The Central Bank of Kenya, Njuguna Ndung'u, writing in Brookings (2018): 93.





ROF. ANYANG NYANG

airtel



mikonori

1240



---

# 4

## Technology

### *Taking advantage of the tech revolution*

**In East Africa, access to mobile and digital technology is set to expand, which will deliver economic benefits while potentially opening up a digital divide**

East African governments seem committed to investing in the infrastructure needed to deliver on their promises of widespread mobile and digital access, although the risk of groups being left behind is considerable.

Private sector innovation and foreign investment are helping to drive down costs and overcome the challenge of providing access to new technologies.

**With venture capital pouring into FinTech in East Africa, the digitalisation of financial services looks set to continue apace**

Mobile and digital services like M-Pesa now dominate their offline competitors and are driving the financial inclusion of the previously unbanked.

As platform firms gather more and more transaction data, they are beginning to build robust credit histories for their customers and facilitate longer-term investments.

FinTech in Africa is thriving, with start-ups in the sector securing \$284.6 million in venture capital in 2018 — a 760% rise on the year before.

**Digital technology in agriculture (AgTech) has the potential to dramatically increase the amount and quality of information farmers use to make decisions, while generating significant efficiencies in food supply chains**

By analysing digital images taken by drones and data collected by internet-enabled farming equipment, firms can now provide smallholders with tailored advice at low cost.

Digital platforms are enabling farmers to rent expensive machinery, reliably reach urban markets and receive credit on flexible terms.

**Frontier technologies are developing in Africa and investment in tech start-ups and hubs is taking off**

Technologies including 3D printing, drones and blockchain are being showcased in East Africa and have the potential to productively reshape manufacturing and agricultural supply chains.

In 2018, venture capital investment in Africa quadrupled in comparison to the previous year, with the number of tech hubs in cities across the continent expanding rapidly.

# In East Africa, access to mobile and digital technology is set to expand, which will deliver economic benefits while potentially opening up a digital divide

**East African governments seem committed to investing in the infrastructure needed to deliver on their promises of widespread mobile and digital access, although the risk of groups being left behind is considerable.**

Studies suggest a 10% increase in internet penetration correlates with a 1.35% rise in GDP in developing economies.<sup>1</sup> A recent survey of 700+ businesspeople suggests adoption of mobile and digital technologies is expected to be Africa's biggest growth opportunity over the next 20 years.<sup>2</sup>

In East Africa, countries are at different stages in their journey regarding mobile phone and internet penetration (see Figure 19 for a snapshot of the change in connectivity over the course of 2018). Over the long-term, countries in the region seem committed to expanding access:

- *Large-scale, cross-regional infrastructure projects* — Recently, Tanzania has invested in 10,000km of fibre-optic cable, connecting landlocked countries (such as Uganda, Rwanda, Zambia and Malawi) to the undersea cable global communications network.
- *The political promise of universal access* — For example, Kenya has set its sights on ensuring internet access for every citizen over the next decade as part of its Vision 2030 agenda. The government has made significant strides in recent years, delivering high-speed internet through undersea fibre-optic cables in 2010; spending \$3,178 million on computer-related services as part of the 2012 budget; launching the National Broadband Strategy in 2013 to augment the network; rolling out 4G internet coverage in partnership with telecoms providers in 2014; and commissioning a task-force on the Internet of Things (IoT) and Blockchain as part of the Big Four manufacturing plan in 2018.<sup>3</sup>

While this trend of greater mobile connectivity is a cause for optimism, there are still 800 million citizens in sub-Saharan Africa who do not have access.<sup>4</sup> Indeed, a digital divide is opening up, as a lack of network coverage, digital literacy and content in local languages bar many from the benefits of mobile technology. With regards to internet access, subscription costs remain a fundamental issue: the Oxford Internet Institute's global analysis of broadband affordability reveals how subscriptions in much of Africa cost more than a quarter of the average income (in several countries, subscriptions are more than half of the average income). In addition to relatively high costs, connections are usually slower and less reliable in poorer countries.<sup>5</sup>

Those unable to make use of digital tools risk being left behind as economies are reshaped by new technologies. Indeed, digital inequality may compound other forms of inequality: despite how quickly Africa's internet penetration is growing, it is the only continent in which the digital gender gap has been widening since 2013.<sup>6</sup>

IN DEVELOPING ECONOMIES, A 10% INCREASE IN INTERNET PENETRATION CORRELATES WITH A 1.35% RISE IN GDP

Figure 19

## Annual Digital Growth in Selected East African Countries, 2018–2019

	Population	Mobile Subscriptions in 2019	Change vs. 2018	Internet Users in 2019	Change vs. 2018
Kenya	51.58 million	46.94 million (91% of population)	+0.15	43.33 million (84% penetration)	0
Tanzania	60 million	43.46 million (72% of population)	+0.085	23 million (38% penetration)	+173%
Uganda	44.99 million	24.89 million (55% of population)	+0.027	19 million (42% penetration)	0

Source: We Are Social (2019: n.p.)

### Private sector innovation and foreign investment are helping to drive down costs and overcome the challenge of providing access to new technologies.

For instance, within digital satellite television and mobile phone technology markets, a number of Chinese and American firms are attempting to secure strong positions in East Africa:

- *Digital satellite television* — In a decade, China's StarTimes has become the number-one pay television provider in Africa by subscriber volume, having invested substantially in low-cost digital satellite television in regions with little pre-existing infrastructure. In Tanzania, for example, the firm has invested \$120 million dollars in six years, reducing the local price of pay television by 80–90%. In neighbouring Kenya, rural parts of the country which previously had no access to a television signal now do, helping to bridge the rural-urban information gap.<sup>7</sup>

- *Mobile connectivity and devices* — Studies suggest smartphone connections in Africa will double by 2022 (reaching 636 million, twice the number in North America) and mobile data traffic will increase sevenfold.<sup>8</sup> Private firms are closing in on this opportunity: Google is experimenting with high-altitude balloons in East Africa to deliver wireless internet; Facebook continues to push its Free Basics service across the continent; and the Chinese telecoms firm Telco now has a market share between 25–40% across East Africa, making smartphones for \$50 which are tailored to the local market (e.g. it was the first major brand to introduce a keyboard in Amharic, Ethiopia's official language).

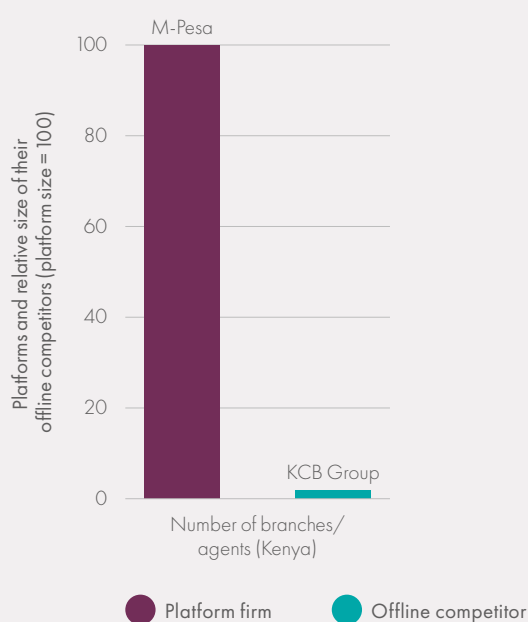
# With venture capital pouring into FinTech in East Africa, the digitalisation of financial services looks set to continue apace

## Mobile and digital services like M-Pesa now dominate their offline competitors and are driving the financial inclusion of the previously unbanked.

The proliferation of mobile technology and connectivity has underpinned the upsurge of electronic payments platforms across East Africa. These have removed numerous obstacles that historically limited access to formal finance, such as physical distance from banks and minimum balance requirements. In terms of the relative size of their operations, mobile services like M-Pesa now dominate their offline competitors, such as the KCB Group (see Figure 20).

Figure 20

### Platform firms vs. offline competitors in finance in Kenya, 2018



Source: World Bank (2019: 42)

As of 2019, 39% of Tanzanians, 51% of Ugandans and 73% of Kenyans are transferring money via their mobiles. To put this in perspective, only 0.5% of Tanzanians, 2.3% of Ugandans and 5.7% of Kenyans own a credit card.<sup>9</sup>

This development cuts across the urban/rural and social divides: in 2006 in Kenya, 38.4% of the population were excluded from access to formal and informal finance; a decade later only 17.4% are, with the percentage of rural people outside the financial system falling by almost half. This also means reserves of previously unbanked finance are being tapped into and made available for productive investment: in Kenya, gross deposits have risen from just under \$7 billion in 2005 to just over \$31 billion in 2018. Moreover, there are signs electronic payment platforms are delivering social impact, with a recent study suggesting that M-Pesa has lifted 2% of Kenyan households out of poverty.<sup>10</sup>

Additionally digital payment platforms are beginning to enable cost-saving innovations in public service provision. For example, in Nairobi's Mathare district, Safaricom partnered with the Nairobi Water and Sewage Company to install a water vending machine, operated via smartcards loaded with mobile money or cash. As a cloud-based system gathers operational data and thereby erodes the coercive power of cartels, the average weekly expenditure on water in Mathare has fallen from KES 250 to KES 2.50 owing to transactional efficiencies.<sup>11</sup>



## As platform firms gather more and more transaction data, they are beginning to build robust credit histories for their customers and facilitate longer-term investments.

Building on the launch of M-Pesa in 2007 in Kenya, which initially facilitated money transfers between users and later enabled electronic payments, Safaricom partnered with the Commercial Bank of Africa (CBA) in 2012 to offer M-Shwari, a service that leverages platform technology to offer savings accounts and digital loans. Combining CBA's risk management expertise with M-Pesa's vast network of agents led to M-Shwari receiving KES 24 billion in deposits and disbursing KES 7.8 billion in credit in its first year.<sup>12</sup> The success of this venture has led to the proliferation of virtual savings and short-term credit supply products across East Africa (see Figure 21).

As platforms continue to gather data on saving and borrowing behaviour, they will begin to build robust credit histories of their customers. Recently, M-Shwari announced plans to segment their borrowers, opening up the possibility of varying loan sizes, interest rates and repayment periods and thereby facilitating longer-term, more productive investments.

So far, the uptake of digital credit has been a largely urban phenomenon, with those who cite 'farming' as their primary income source least likely to have taken out

a digital loan in Kenya.<sup>13</sup> Looking to the future, tailoring digital loans to the demands of the rural market will likely become a major focus area, with flexible repayment structures and adjusted pricing needed to cater to seasonal and insecure livelihoods.

As a relatively new industry, concerns regarding digital credit are starting to emerge, particularly as the growth of sports betting in Kenya correlates with M-Shwari's rise and unregulated lenders are entering the marketplace. Kenya's Finance Ministry has attempted to address the latter concern by proposing a bill in 2018 that would establish a Financial Markets Conduct Authority responsible for overseeing the digital lending market.<sup>14</sup>

## FinTech in Africa is thriving, with start-ups in the sector securing \$284.6 million in venture capital in 2018 — a 760% rise on the year before.

Venture capital investment in African FinTech is rocketing, with start-ups securing deals worth \$284.6 million in 2018 (a 760% rise from the year before). While Nigeria and South Africa were the most popular investment destinations (leading with 28 FinTech deals each), Kenya was the next most popular (11 deals), with Cellulant, a digital payments provider exploring the application of Blockchain technology, receiving the largest capital sum (\$47.5 million).<sup>15</sup>

Figure 21

### Virtual Savings and Short-Term Credit Supply Products in East Africa

Product	Country	Launched	Number of accounts	Average savings	Average loan size	Average loan repayment period	Total loans disbursed	Non-performing loans (industry average is 5.3%)	Other notes
M-Shwari	Kenya	November 2012	20.4 million *	\$6.00	\$31.62	26 days	\$2.09 billion	2.3%	67% of users are under age 34
M-Pawa	Tanzania	May 2014	6.5 million (65% active)	\$1.51	\$16.60	28 days	\$63.7 million (2,612 loans per day)	7.4% for scored customers and at 17.2% for randomly selected customers	—
Mokash	Uganda	August 2016	2.71 million	\$0.41	\$7.75	19 days	\$9.2 million (2,761 loans per day)	—	—
Mokash	Rwanda	February 2017	556,202 (100,000 active)	—	\$10.25 with average loan fee of 9%	—	\$354,000 (1,004 loans per day)	7.7% for scored customers	Customers can borrow up to \$500 at an interest rate of 7%

Source: Brookings (2018: 85)

# Digital technology in agriculture (AgTech) has the potential to dramatically increase the amount and quality of information farmers use to make decisions, while generating significant efficiencies in food supply chains

**By analysing digital images taken by drones and data collected by internet-enabled farming equipment, firms can now provide smallholders with tailored advice at low cost.**

At a global level, investment activity in the AgTech space has been increasing rapidly in recent years, doubling between 2016 and 2017. Momentum was generated in 2013/14 by Monsanto's \$930 million acquisition of The Climate Corporation, a weather insurance firm which analyses 30 years of forecast and geological data in milliseconds to deliver tailored quotes to farmers.<sup>16</sup>

Advances in technology are gradually enabling the collection and analysis of vast data-sets and the delivery of precise information to farmers on their land, crops and local weather conditions. Encouraged by the long-established correlation between increased knowledge and higher farm productivity, multilateral institutions and private firms are becoming increasingly interested in the application of big data in rural contexts:

- *The AU has secured access to European satellite data* — In 2018 the AU arranged for the data collected by the European Commission's Copernicus programme to be shared with environmental scientists in Africa. This includes digital imagery of vegetation, soil/water coverage, sea/land surface temperature and weather patterns. Drawing on this wealth of new data, countries on the continent should be able to better understand soil health (thought to be declining) and monitor pests. This is important as about 50% of Africa's crops are lost to pests and diseases every year and this will only worsen as climate change accelerates.<sup>17</sup>
- *The World Bank is promoting the use of the Internet of Things (IoT)* — The World Bank is beginning to embrace precision technology in its agricultural programmes around the world, exploring how

IoT-enabled irrigation kits, which combine soil water sensors with data analytics, might boost productivity and reduce water wastage. In Kenya, the organisation is already drawing on remote sensors and geographic information systems to accurately monitor the weather and ensure farmers know when to optimally apply their inputs.<sup>18</sup>

- *Google's Impact Challenge and UjuziKilimo* — In 2018, a Nairobi-based start-up that sells digitally-enabled soil sensors, UjuziKilimo, was awarded \$250,000 as the winner of Google's Impact Challenge. While traditional soil sensors can take two weeks to read characteristics, the firm's sensors take 5 minutes. Big data analytics is then applied to the findings to offer insights regarding fertiliser and water. Currently working with 10,000 farmers in Kenya, UjuziKilimo is aiming to reach 300,000 smallholders within a year.<sup>19</sup>

A KENYAN START-UP HAS DEVELOPED DIGITALLY-ENABLED SOIL SENSORS THAT CAN CUT THE TIME NEEDED TO READ SOIL CHARACTERISTICS FROM 2 WEEKS TO 5 MINUTES

**Digital platforms are enabling farmers to rent expensive machinery, reliably reach urban markets and receive credit on flexible terms.**

Operational in Kenya and Nigeria, Hello Tractor is tackling the trend of low mechanisation by enabling farmers to use an app to rent nearby tractors, which have been installed with a device to enable remote monitoring of the vehicle's performance. This service undercuts the cost of hiring manual labour on farms and enables tractor owners to manage their assets more effectively. So far, the firm has served 22,500 farmers, reporting a 200% increase in customer yields.<sup>20</sup>

Twiga Foods now links 13,000 smallholder farmers in rural Kenya to 6,000 informal urban retail vendors on a digital platform. With its own fleet of trucks and set of central pack houses, the easy-to-use platform has reduced post-harvest losses from 30% (at informal markets) to 5% and ensures farmers are paid 24 hours after their arranged pick-up of produce.<sup>21</sup> The platform has recently received a \$10 million investment led by the International Finance Corporation.<sup>22</sup>

Operating throughout East Africa, One Acre Fund's loans to farmers can now be repaid via the M-Pesa platform, with borrowers able to match their repayments to their particular cash flow. By combining this delivery of flexible finance with high-quality inputs, the organisation is generating roughly \$135 per farmer for every dollar it invests.<sup>23</sup>



# Frontier technologies are developing in Africa and investment in tech start-ups and hubs is taking off

**Technologies including 3D printing, drones and blockchain are being showcased in East Africa and have the potential to productively reshape manufacturing and agricultural supply chains.**

While 3D printing is mostly considered as a means of firms in advanced economies re-shoring labour-intensive production, its application in the context of development is beginning to spark interest: might the technology enable a cost-effective response to housing crises in urban areas? Will 3D printed computers and their distribution in rural areas augment data collection and accelerate the proliferation of AgTech?<sup>24</sup> While start-ups in East Africa like Nairobi-based AB3D are experimenting with the technology – manufacturing 3D printers from recycled material and distributing them at low cost<sup>25</sup> – 3D printing is currently constrained by a lack of trained technicians and unreliable power supplies.<sup>26</sup>

Globally, Southern and East Africa are leading the way with regards to unmanned aerial vehicle (UAV) deliveries and regulation. While Malawi has established a Drone Test Corridor (a controlled platform for firms to establish the benefits of UAVs), Rwanda has pioneered the world's first national drone delivery programme and introduced ground-breaking performance-based regulations for drones (whereby the government sets safety thresholds and firms innovate in response). Kenya and Tanzania are not far behind, having recently updated their drone regulatory guidelines and announced future UAV initiatives.<sup>27</sup> The feats of firms like San Francisco-based Zipline and Rwanda's homegrown competitor, Charis UAS, mean medicine can be delivered in minutes rather than hours and farmers can have their land accurately mapped. However, sceptics emphasise that the maintenance and extension of physical infrastructure remains paramount.<sup>28</sup>

While the large-scale deployment of Blockchain is thought to be a relatively long way off, owing to infrastructural (e.g. unreliable power supply, limited internet coverage) and regulatory issues (how do you ensure the digital ledger is updated accurately by users?), the technology has vast potential in both economic and political contexts:

- *In agricultural value chains* — If a farmer's assets (e.g. land, livestock, machinery) are digitally recorded on a Blockchain, they could be effectively used as collateral to enable smallholder access to formal finance. Moreover, if contractual agreements were digitally recorded on a Blockchain in which all buyers in a value chain participate, this might reduce the tendency for smallholders to 'side sell', turning contracts into guarantees when smallholders need credit.<sup>29</sup> Moreover, Blockchain technology could offer a means of directly connecting consumers to producers, with the provenance of goods easily established via a digital trace. Moyee, a coffee distributor operating in Ethiopia, has already created unique digital identities for the 350 farmers it works with to show buyers what each grower is paid. Now, the firm wants to use Blockchain to ensure payment data is automatically recorded, enable coffee drinkers to tip smallholders, and encourage consumers to co-fund farmer projects.<sup>30</sup>
- *In democratic processes* — Blockchain was showcased for the first time in a political context in Sierra Leone's 2017 presidential election. The technology was used to maintain a transparent record of how the populous Western District voted and thereby served to build trust in the outcome.<sup>31</sup>



## In 2018, venture capital investment in Africa quadrupled in comparison to the previous year, with the number of tech hubs in cities across the continent expanding rapidly.

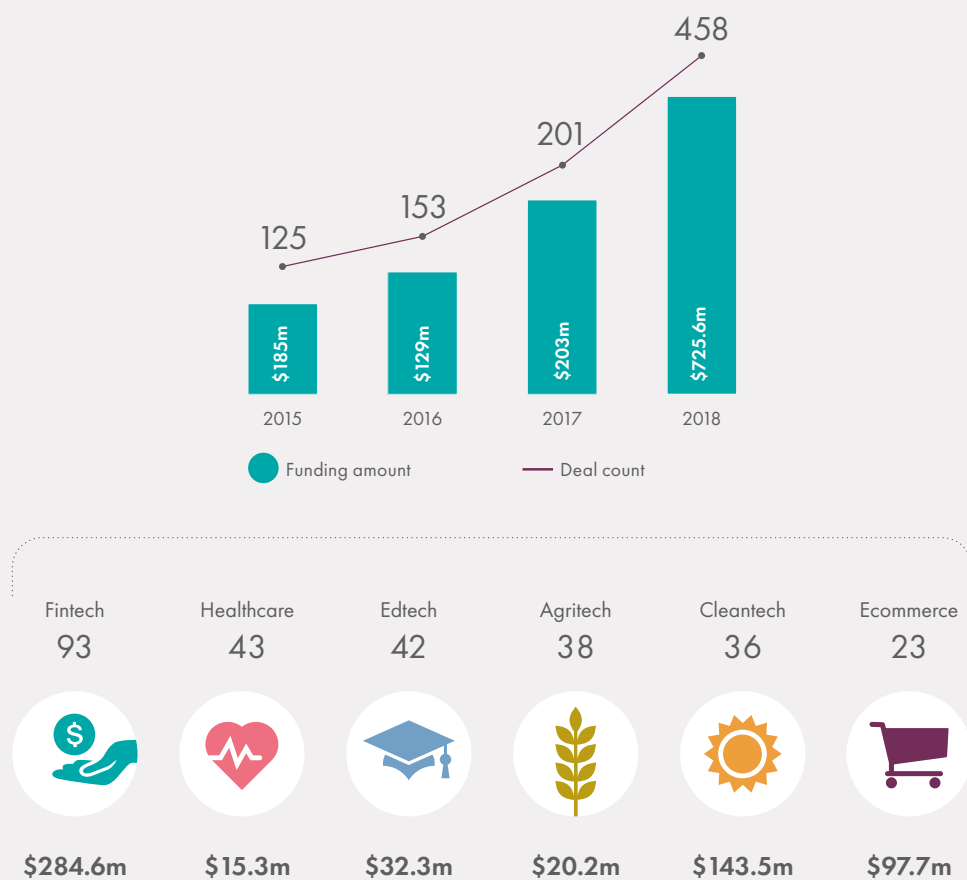
In 2018, venture capital investment quadrupled in comparison to the previous year, with FinTech and Cleantech attracting the most funding (see Figure 22). In Kenya, investment rose from \$33.4 million in 2017 to \$111.8 million in 2018, with three platform firms garnering particular interest: Cellulant (a FinTech firm), M-Kopa (a solar energy firm) and Twiga Foods (a business-to-business food supply firm). Uganda's start-up scene is steadily growing, with firms in the country attracting \$2.4 million across 24 deals in 2018.<sup>32</sup>

Designed to inspire innovation and collaboration between start-ups, tech hubs are growing rapidly across the continent: by the end of 2018, there were 442 in operation (up from 314 in 2017) with Nairobi one of the top 5 ecosystem cities in Africa with 25 hubs and Uganda hosting 16 (see Figure 23).

Optimistic investor sentiment is reflected not just in the number and size of venture capital deals but also in the launch of some 25 new funds across the continent in 2018, amounting to over \$1.05 billion. While the World Bank invested \$3 million in tech hubs in Nigeria, Jack Ma, the founder of Alibaba, established the Netpreneur Prize, which will award 100 African entrepreneurs with \$10 million every year until 2030.<sup>33</sup>

Figure 22

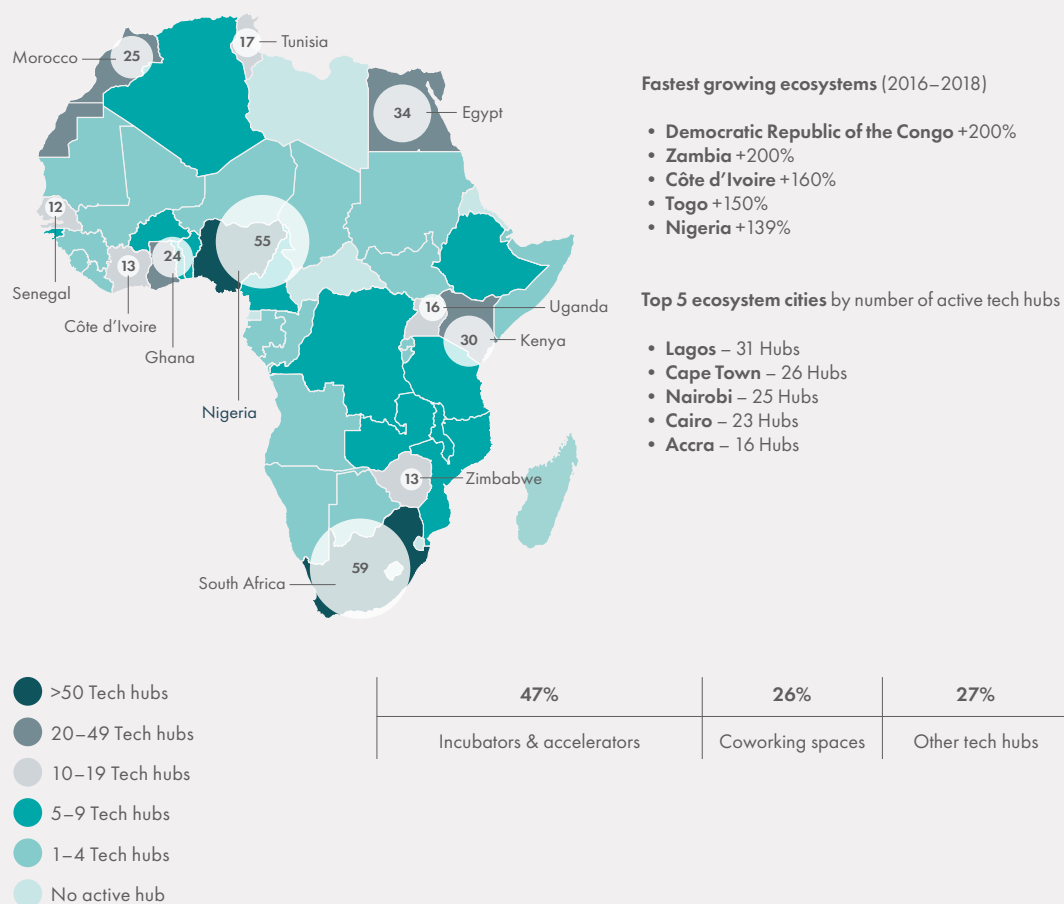
Venture capital investment in Africa, 2015–2018, and a detailed breakdown of the major investment areas in 2018



Source: Wee Tracker (2019: n.p.)

Figure 23

## Africa's landscape of tech hubs



Source: Brookings (2019: 90)

---

# Chapter Notes

- <sup>1</sup> The Economist (2019).
- <sup>2</sup> Leke et. al. (2018a).
- <sup>3</sup> Banga & te Velde (2018): 44.
- <sup>4</sup> GSMA (2019): 16.
- <sup>5</sup> Oxford Internet Institute (2018).
- <sup>6</sup> International Telecommunications Union (2019).
- <sup>7</sup> McKinsey & Company (2017): 44-5.
- <sup>8</sup> We Are Social (2019).
- <sup>9</sup> We Are Social (2019).
- <sup>10</sup> Ndung'u (2018): 6, 10, 13.
- <sup>11</sup> Former Governor of The Central Bank of Kenya, Njuguna Ndung'u, writing in Brookings (2018): 90.
- <sup>12</sup> Kaffenberger et. al. (2018): 5.
- <sup>13</sup> *ibid*: 32.
- <sup>14</sup> *ibid*: 38.
- <sup>15</sup> Wee Tracker (2019).
- <sup>16</sup> CB Insights (2017): 15.
- <sup>17</sup> Ngumbi (2018).
- <sup>18</sup> Director of Food and Agriculture at the World Bank, Simeon Ehui, writing in Brookings (2018): 96.
- <sup>19</sup> Google.org (2018).
- <sup>20</sup> Director of Food and Agriculture at the World Bank, Simeon Ehui, writing in Brookings (2018): 96.
- <sup>21</sup> La Rocque (2018a).
- <sup>22</sup> Nsehe (2018).
- <sup>23</sup> Former Governor of The Central Bank of Kenya, Njuguna Ndung'u, writing in Brookings (2018): 87.
- <sup>24</sup> Omidyar Network (2018): 16.
- <sup>25</sup> Banga & te Velde (2018): 40.
- <sup>26</sup> Hallward-Driemeier et. al. (2018): 100.
- <sup>27</sup> Bright & Stein (2018).
- <sup>28</sup> Bello-Schuenemann et. al. (2017): 5.
- <sup>29</sup> Mattern (2018): 3.
- <sup>30</sup> Lei Win (2017).
- <sup>31</sup> John (2018).
- <sup>32</sup> Wee Tracker (2019).
- <sup>33</sup> *ibid*.





---

# 5

## Work

### *Creating the jobs and workforce of the future*

#### **As the demand for jobs in East Africa rapidly expands, the advance of automation poses both a challenge and an opportunity**

Between now and 2030, EAC states need to create 7,000 jobs a day to keep pace with demographic growth.

Previous predictions on the extent automation threatens jobs in developing countries are likely too extreme.

However, automation in other economies may still create significant challenges for East African countries.

Nevertheless, automation could still deliver positive economic impacts for East Africa.

#### **Growing demand from African consumers could drive a manufacturing transformation, but this needs productivity to rise and logistics costs to fall**

Africa could double its manufacturing output within a decade. Significantly, most of this growth would be in response to African demand.

African manufacturing growth could occur across multiple sectors responding to many different opportunities.

Labour-intensive manufacturing still holds potential for African countries, but low productivity and other factors driving high unit labour costs must be addressed.

#### **Some believe ‘industries without smokestacks’ – such as business process outsourcing, horticulture and tourism – could replace manufacturing as the engine of development**

Economies are deindustrialising at lower levels of GDP than they did historically and in East Africa labour is predominantly migrating from agriculture to the service sector.

‘Industries without smokestacks’ exhibit qualities typically associated with manufacturing and are playing an increasingly prominent role in East Africa’s economies.

#### **Digital platforms are reshaping how businesses in East Africa engage customers, employ workers and manage their operations**

The e-commerce sector in Africa is growing quickly as governments and firms seek to learn lessons from Alibaba’s success in China.

By 2030, there will be between 29–80 million digitally enabled gig workers in Africa as young people increasingly turn to online platforms as a source of livelihood.

Most of Africa’s growing youth population will be forced to find work in the informal economy, which may become gradually more formal as small businesses adopt digital technology to better manage their activities.

# As the demand for jobs in East Africa rapidly expands, the advance of automation poses both a challenge and an opportunity

## Between now and 2030, EAC states need to create 7,000 jobs a day to keep pace with demographic growth.

Some commentators are optimistic about Africa's demographic trend, citing the historical link between growing working-age populations and GDP growth, and suggesting that the pace of job creation on the continent (3.8% per annum) has been outstripping the growth in the labour force (2.8% per annum) since the turn of the century.<sup>1</sup>

Other commentators voice concern and emphasise the enormity of the challenge ahead. Indeed, according to recent estimates, only one formal job is being created for every four young people who are entering the labour market on the continent.<sup>2</sup> In East African Community (EAC) member states, 3.9 million people are expected to join the labour market every year up until 2030, meaning some 7,000 jobs will need to be created every day in order to keep pace.<sup>3</sup>

Many commentators remain sceptical about the pace and potential of job creation in formal manufacturing. One prediction holds that only 4%–5% of the 450 million Africans expected to join the labour force over the next two decades will find a wage-paying job in industry, with some 20% finding a wage-paying job in services and the majority having to work on a self-employed basis.<sup>4</sup>

## Previous predictions on the extent automation threatens jobs in developing countries are likely too extreme.

Since the Oxford University economists Osborne & Frey concluded in 2013 that 47% of jobs in OECD countries and two-thirds of jobs in developing countries could be done by machines over the next decade or two, the debate around automation has tended to focus on the extent to which it will destroy livelihoods.<sup>5</sup>

Recently, however, this rather extreme prediction has been challenged, with Nedelkoska & Quintini finding that only 14% of jobs in OECD countries are “highly automatable” (i.e. have an automation probability of >70%)<sup>6</sup> and Hallward-Driemeier et. al. indicating that the share of jobs at a high risk of automation in a developing country like Kenya stands at roughly 2%.<sup>7</sup> These significantly reduced predictions are a product of analytical approaches that are more nuanced than Osborne & Frey's, examining the extent to which tasks would be realistically automated rather than whether or not they could technically be automated.

Regarding the pace of automation, Figure 24 also indicates how robots are unlikely to be a competitive option in Kenya for another 15 years (and in Ethiopia, the inflection point of robot cost vs. labour cost will not be reached until 2042).<sup>8</sup>

## However, automation in other economies may still create significant challenges for East African countries.

It is significant that operating robots in advanced economies may be commercially viable much earlier than in East Africa, since this may exacerbate the digital divide and force firms in less-automated countries to keep wages very low in a bid to remain internationally competitive.<sup>9</sup>

More importantly, Figure 24 clearly illustrates that operating robots in an advanced economy like the US will be cheaper than employing labour in a developing country like Kenya in little over a decade (i.e. the point at which the teal line crosses under the orange line on the graph). This is a significant finding, since it implies that Kenya now has a very narrow window of opportunity in which to take advantage of the country's cost-competitive position in labour-intensive manufacturing activities.

## Nevertheless, automation could still deliver positive economic impacts for East Africa.

While it may be some time before automation is widespread in emerging economies, some argue that it is set to enhance productivity in these contexts and stimulate a process of creative destruction in the labour market, since lower costs and prices will likely expand demand, incentivise greater production and thereby boost overall employment.<sup>10</sup> While there are significant infrastructural barriers impeding the deployment of robots in East Africa (e.g. low levels of connectivity) and labour dislocation costs to consider, policy commitments in Rwanda and firm-level evidence from Tanzania reveals how the region could benefit from digital automation's economic impact:

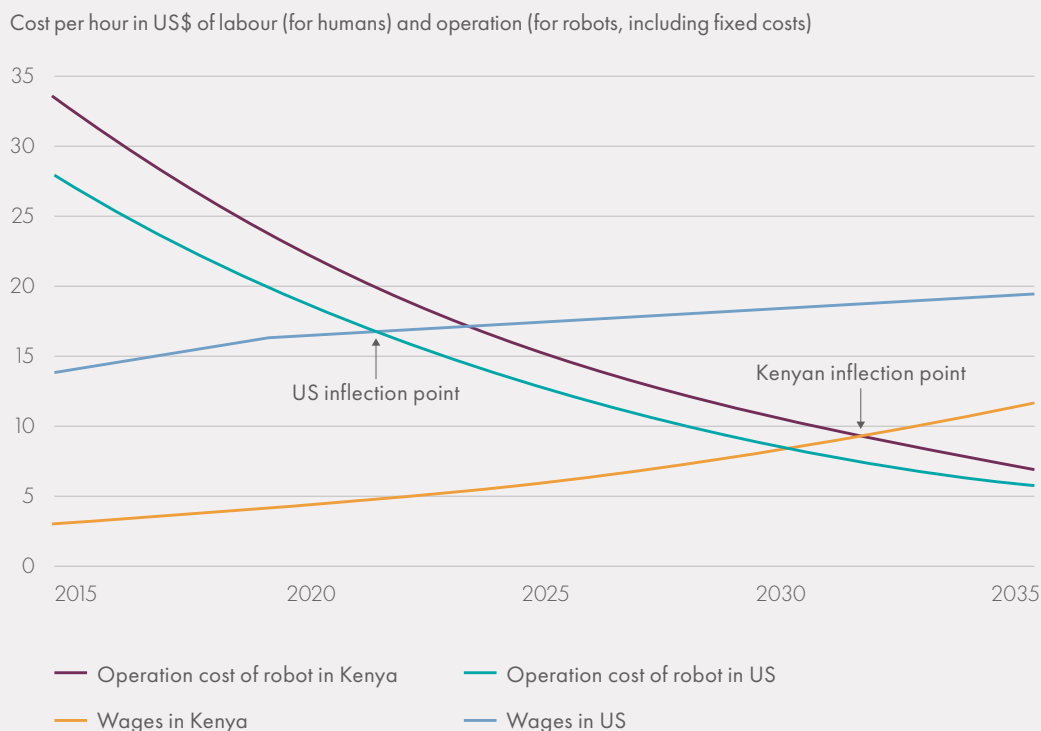
- Rwanda has made digital transformation one of the key pillars of the 'Smart Rwanda 2020 Masterplan'. Goals include Rwanda becoming a knowledge-driven economy and an African ICT hub; delivering broadband to every citizen by 2020; and ensuring

nation-wide national digital literacy. The National Industrial Research and Development Agency (NIRDA) has been tasked with "preparing Rwanda to adopt the emerging technologies of the 4th Industrial Revolution" and claims that the country is already ranked first in the world for network readiness and second in the world for ICT promotion. In preparation for the future of work, Rwanda has reached 95% 4G network coverage, installed 7000km of fibre and is investing heavily in R&D for "exports and economic digital transformation" (including the Internet of Things, big data and analytics and cyber security research).<sup>11</sup>

- A to Z Textile Mills of Tanzania recently installed a laser fabric-cutting machine in a bid to automate a significant part of its garment manufacturing process. Producing 25,000–30,000 pieces of fabric a shift, the machine requires 17 people to operate, achieving an output equivalent to that of 25–35 manual labourers. However, since the machine is capable of producing a higher volume of cut fabric, the firm has employed an extra 300 people to help stitch the additional input.<sup>12</sup>

Figure 24

### The operational cost of robots vs. wages in furniture production in USA and Kenya, 2015–2035



Source: Banga & te Velde (2018: 54)

# Growing demand from African consumers could drive a manufacturing transformation, but this needs productivity to rise and logistics costs to fall

**Africa could double its manufacturing output within a decade. Significantly, most of this growth would be in response to African demand.**

McKinsey Global Institute estimates Africa has an opportunity to double its manufacturing output over the course of the next decade and consequently generate 6–14 million stable jobs (see Figure 25). Notably three-quarters of this manufacturing opportunity is based on firms responding to the rocketing domestic consumer/local B2B demand and deepening intra-African trade, with only the remaining quarter related to Africa growing its share of global exports.<sup>13</sup>

Historically, the African manufacturing sector's ability to take advantage of regional demand has been limited by both weak infrastructural links and the market dominance of non-African FDI. Indeed, while FDI to sub-Saharan Africa has steadily increased over the last two decades – despite the sector's ailing performance (see Figure 26) – the fact that it predominantly originates from China, the US and the major ex-colonial powers means African manufacturing firms often target their operations towards Chinese, American and Western European marketplaces.<sup>14</sup>

However, the status quo – of African-based firms manufacturing goods for non-African markets – might be disrupted in the near future, as the continent takes bold steps towards greater regional integration, evidenced by the recent announcement of the African Continental Free Trade Agreement and how intra-African investment is becoming an “increasingly significant source of FDI in the region”.<sup>15</sup> Intra-African investment now accounts for some 40% of total manufacturing investment in Rwanda, with South African and Moroccan firms in particular expanding their portfolios on the continent.<sup>16</sup> This trend may prove vital for meeting the soaring local demand, as African investors, unlike their foreign counterparts, tend to encourage production for the local market (e.g. South Africa's Seemhale Telecoms is planning to produce cheap and durable mobile phones for African consumers, whilst Kenya's Mobius Motors is aiming to do the same with cars).

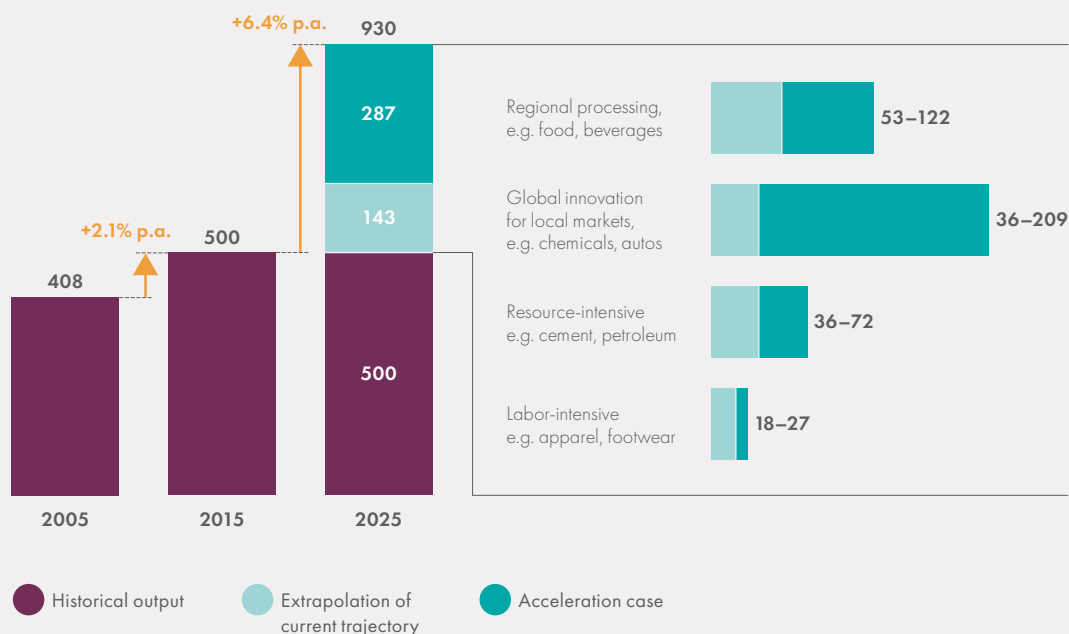
INTRA-AFRICAN  
INVESTMENT IS  
BECOMING AN  
INCREASINGLY  
SIGNIFICANT  
SOURCE OF FDI  
IN THE REGION,  
AND AFRICAN  
INVESTORS – UNLIKE  
THEIR FOREIGN  
COUNTERPARTS –  
TEND TO  
ENCOURAGE  
PRODUCTION FOR  
THE LOCAL MARKET



Figure 25

## The African manufacturing opportunity, 2005–2025

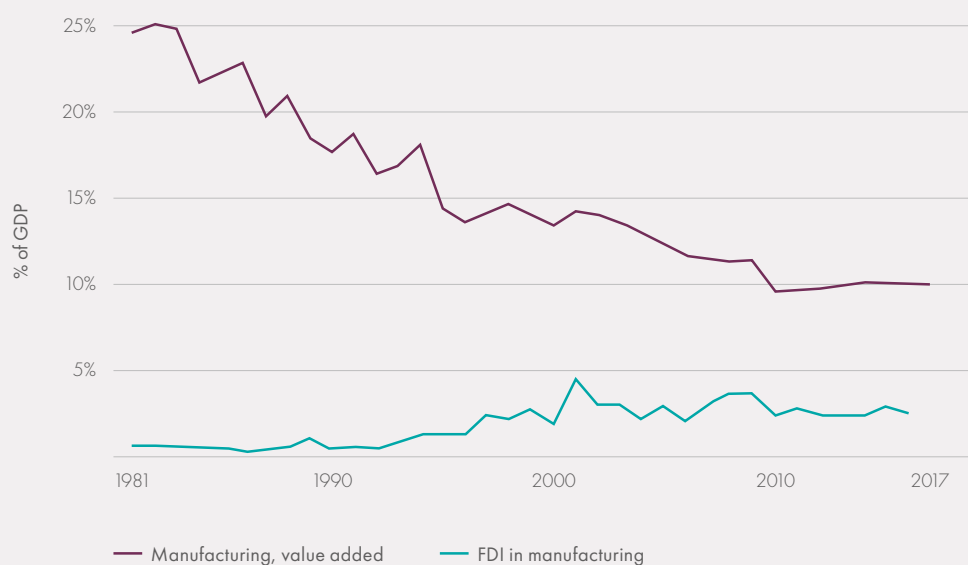
Potential revenue from African manufacturers  
US\$ billion, 2015 prices



Source: McKinsey Global Institute (2016: 68)

Figure 26

## Manufacturing value added and FDI in manufacturing as percentage of GDP in sub-Saharan Africa, 1981–2017



Source: Signé (2018: 13)

## African manufacturing growth could occur across multiple sectors responding to many different opportunities.

The McKinsey Global Institute has highlighted growth opportunities and currently unmet potential across multiple sectors, including:

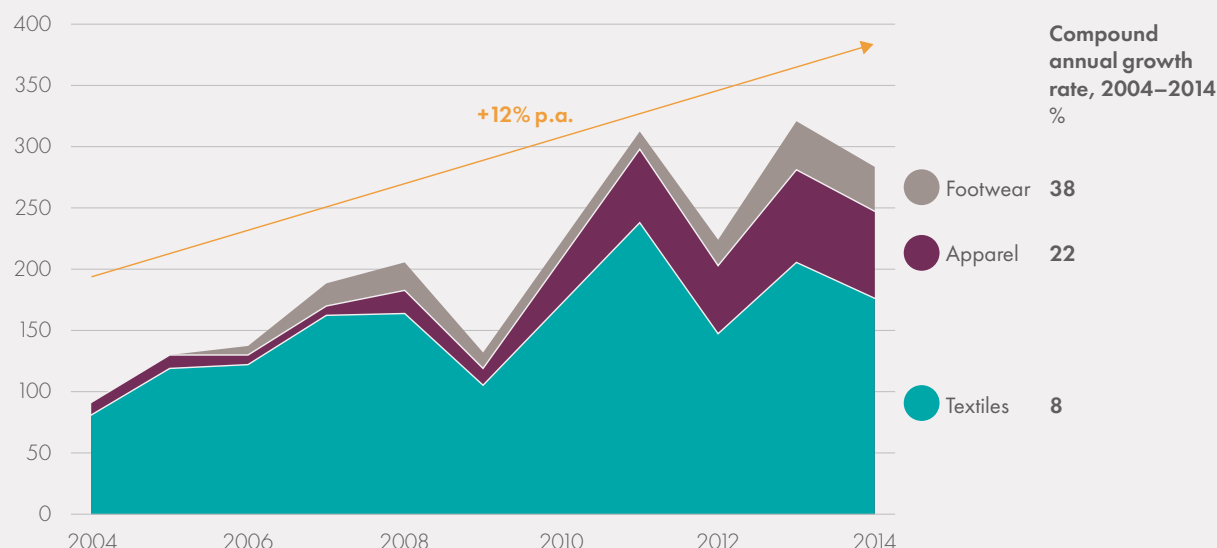
- *Regional processing (e.g. food and beverages, fabricated metal)* — Africa continues to import a third of the food, beverages and other processed goods it consumes, which is significantly above the global average (e.g. the Mercosur trade bloc in Latin America imports about 10%). As populations expand (about 3% per year), incomes grow (about 5% per year) and urbanization accelerates, demand for regional processing goods will continue rising, offering considerable stimulus for local suppliers.<sup>17</sup>
- *Global innovations for local markets (e.g. chemicals, automotive, machinery)* — B2B spending is projected to grow across the continent (from \$2.6 billion in 2015 to \$3.5 billion in 2025), generating a growing demand for manufacturing inputs such as machinery and chemicals (Kenya is thought to have a particular opportunity in augmenting its supply of the latter).<sup>18</sup> Moreover, the demand for vehicles is likely to continue growing in line with greater consumer spending power, since rising incomes over the last decade have translated into a doubling of cars on African roads (up to 32 million in 2015).<sup>19</sup>
- *Resource-intensive manufacturing (e.g. cement, petroleum)* — Despite buoyant demand for housing and infrastructure in Africa, the continent still imports a large share of the manufactured products required, including 15% of its cement. Moreover, Africa's capacity to refine oil has not kept pace with the burgeoning demand for petroleum products, leading imports to rise 19% between 2004 and 2014. Expanding cement and petrol production will require significant capital outlays and have an adverse environmental impact, but the size of the local market opportunity will likely encourage considerable investment in the years to come.<sup>20</sup>



Figure 27

## Ethiopia's expansion in labour-intensive exports, 2004–2014

**Ethiopia labour-intensive exports**  
US\$ million, 2015 prices



Source: McKinsey Global Institute (2016: 78)

### Labour-intensive manufacturing still holds potential for African countries, but low productivity and other factors driving high unit labour costs must be addressed.

High unit labour costs have been eroding Africa's potential advantage in labour-intensive exports: for example, despite the introduction of the African Growth and Opportunity Act (AGOA) in May 2000 giving African countries an advantage on price over China, Bangladesh and Vietnam in the American market, the continent's trade with the US has actually declined by 6% a year over the last decade.<sup>21</sup>

This is due to low productivity growth and high logistical costs, which also mean Africa has only increased global labour-intensive exports by 3% a year over the last decade (vs. 14% a year in China and Bangladesh and 18% a year in Vietnam) and holds just a 1% share of the global market (vs. China's 35%).

While labour-intensive manufacturing is thought to represent a relatively small part of the overall manufacturing opportunity in Africa, the realisation of its full potential could still yield 2–3 million jobs and \$27 billion in revenue by 2025.<sup>22</sup>

Ethiopia's recent trajectory indicates the potential for rapid expansion (see Figure 27). While this is partly a product of the country's low labour costs, it also reflects the importance of investing in infrastructure (e.g. 66,000km of new roads since 2000); introducing industrial parks; enhancing the business environment (e.g. setting up a one-stop shop for commercial bureaucracy, waiving capital import duties); and expanding access to education. This means the country is competitive on the basis of unit labour costs rather than simply wages – now producing polo shirts at half the cost of China and leather loafers at a fifth of the cost.<sup>23</sup>

# Some believe ‘industries without smokestacks’ – such as business process outsourcing, horticulture and tourism – could replace manufacturing as the engine of development

**Economies are deindustrialising at lower levels of GDP than they did historically, and in East Africa labour is predominantly migrating from agriculture to the service sector.**

Owing to the advance of labour-saving technologies and the decades-long dominance of China in labour-intensive export markets, some economists suggest that countries now deindustrialise at an earlier stage in their development than they did historically.<sup>24</sup> Indeed, an analysis of growth experiences in 71 countries since the 1970s reveals how

manufacturing employment previously peaked when per capita GDP was \$12,400 (in 1995), whereas two decades later this peak is reached at a GDP per capita of around \$5,000. In addition, the peak value added from manufacturing was historically realised at a per capita GDP of about \$48,000; nowadays, a country reaches its peak when half as wealthy (about \$22,000 GDP per capita).<sup>25</sup>

Furthermore, lacking strong manufacturing bases, emerging economies today exhibit higher shares of employment in the services sector at lower levels of GDP than was the case in advanced economies as they developed (see Figure 28).

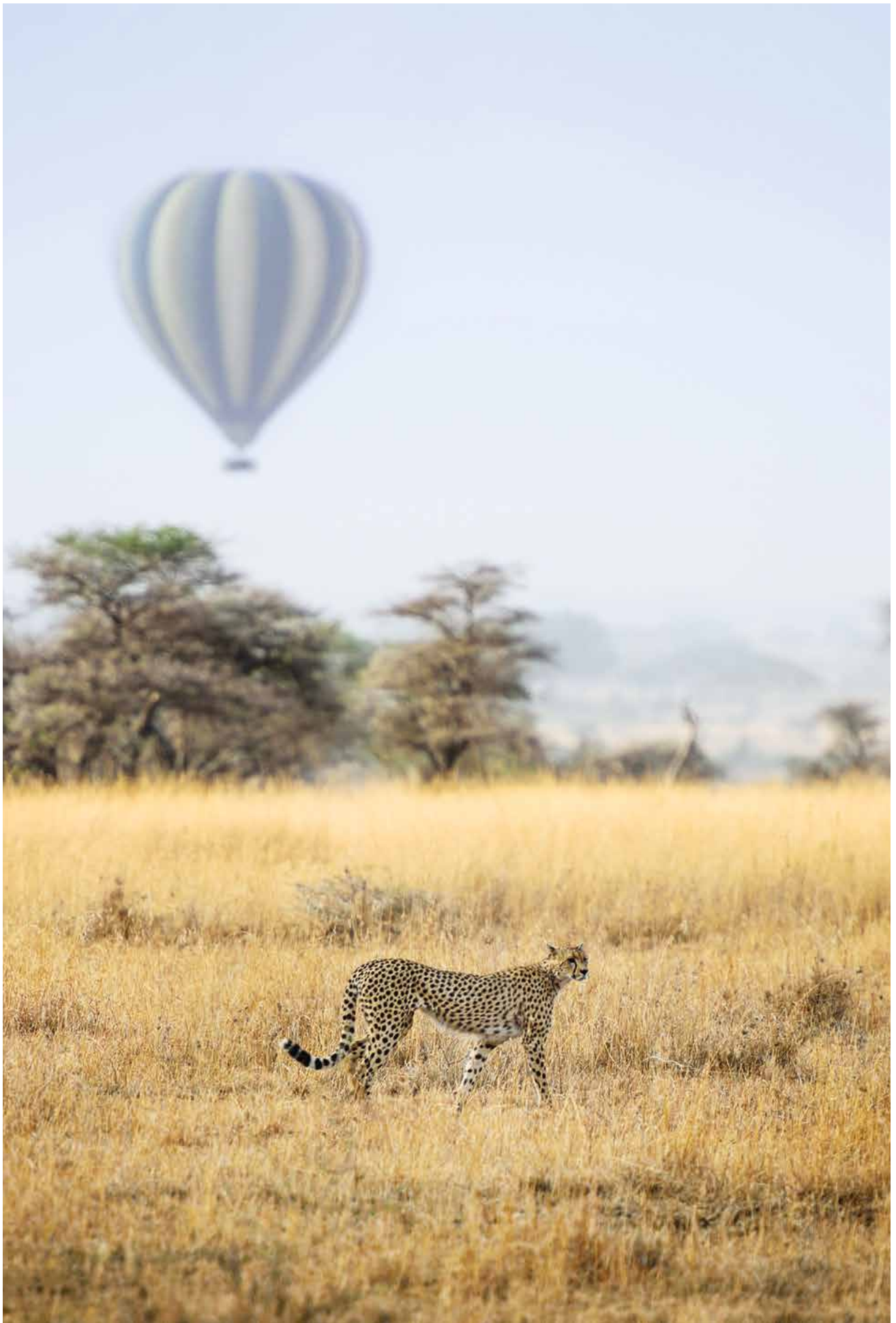
Figure 28

Share of employment in services by country over time, 1970–2016



Source: McKinsey Global Institute (2018: 108)





## 'Industries without smokestacks' exhibit qualities typically associated with manufacturing and are playing an increasingly prominent role in East Africa's economies.

With the term 'industries without smokestacks', commentators are attempting to capture how certain services, such as business process outsourcing, and agro-industries, such as horticulture, increasingly exhibit the qualities traditionally associated with manufacturing. These include high tradability; the potential for economies of scale; and a capacity to employ large numbers of people.<sup>26</sup>

As Figure 29 shows, sub-Saharan Africa's recent pattern of structural transformation appears to have been largely led by services rather than manufacturing, as labour has shifted directly from the primary sector to the relatively more productive tertiary sector. Due to this trend, Africa's service exports have grown six times faster than goods exports between 2002 and 2015, thereby increasing their share of the continent's non-mineral exports by 58%.<sup>27</sup>

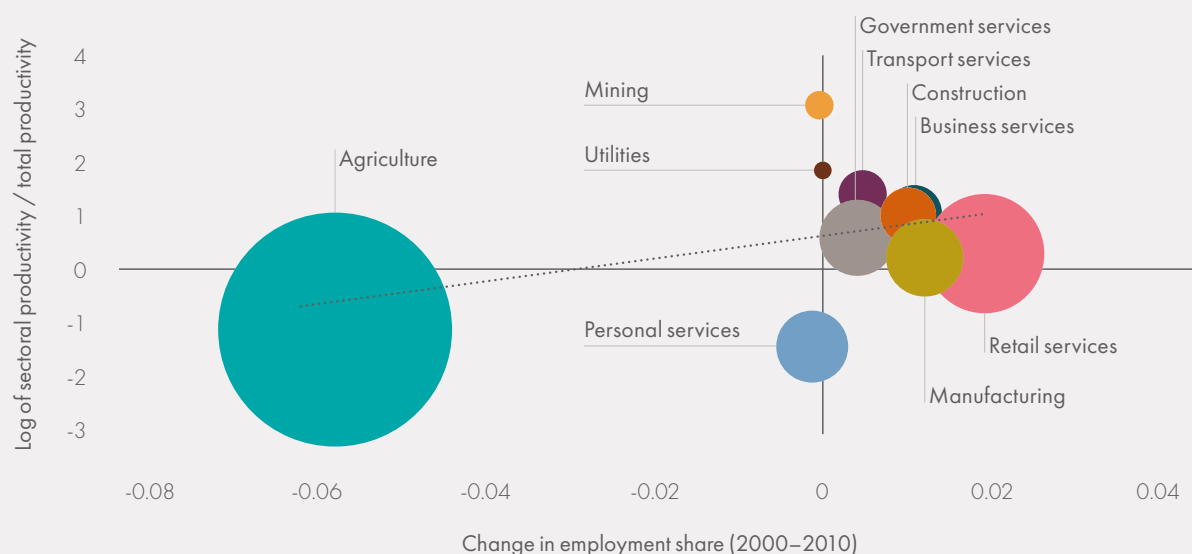
Across East Africa, many industries without smokestacks have risen to prominence, highlighting the role they could potentially play in addressing the region's future jobs demand:

- *Tourism* — Tourism generates at least 3% of sub-Saharan Africa's GDP, and accounts for 14% of GDP in Tanzania and 11.3% of GDP in Ethiopia. It employs 3.2% of the workforce in Tanzania and 9.8% in Ethiopia.<sup>28</sup>
- *Horticulture* — Having developed strong trade links with the European market, both Ethiopia and Kenya have firm footholds in horticultural GVCs, with cut flower exports generating 180,000 jobs in the former and 40,000–70,000 in the latter.<sup>29</sup>
- *ICT-based services* — In both Kenya and Rwanda, ICT-based services have become major sources of economic growth, with Kenya's sector responsible for 11.8% of the country's GDP growth since 2011.<sup>30</sup> With the global trade in ICT-based services having doubled over the last decade and set to grow 3% annually over the course of the next decade, Kenya is taking decisive steps to secure a market share, launching the 'National ICT Master Plan' in 2017 to build up its human capital and information infrastructure.<sup>31</sup> The AU has also acknowledged the opportunity in ICT, promoting a Pan-African E-Network as part of Agenda 2063 and supporting member states with ICT-related policy-making, broadband extensions and cyber security measures.<sup>32</sup>

Figure 29

### Sectoral productivity and employment changes in sub-Saharan African countries (including Ethiopia, Kenya & Tanzania), 2000–2010

NB: The size of the circle represents the employment share in 2000, a rough proxy for the sector's relative size in the economy



Source: Brookings (2018: 73)



Despite the promise of some services in certain contexts, it must be stressed that only services with high skill demands (such as ICT-based services) exhibit the full range of productivity-enhancing characteristics, such as economies of scale and innovation potential (i.e. new products/ processes and research & development spending).<sup>33</sup>

Moreover, even relatively low-productivity services, such as construction and tourism, require some training, which means significant effort must be put into upskilling the labour force migrating from agriculture for service-led growth to be a success. Otherwise the numbers working informally and on an own-account basis in low-skill and low-productivity services will continue to swell.<sup>34</sup>

## CUT FLOWER EXPORTS GENERATE UP TO 70,000 JOBS IN KENYA



# Digital platforms are reshaping how businesses in East Africa engage customers, employ workers and manage their operations

## The e-commerce sector in Africa is growing quickly as governments and firms seek to learn lessons from Alibaba's success in China.

The meteoric rise of Alibaba in China indicates how quickly e-commerce platforms can proliferate when the technological infrastructure is in place. Whereas the Swedish-based IKEA, founded in 1943, waited 30 years to expand into Europe and took seven decades to achieve global revenues of \$42 billion, Alibaba was able to engage 1 million users in 2 years and generate annual sales of \$700 billion in 15 years thanks to its digital technology.<sup>35</sup> Importantly, the firm demonstrated the potential of digital platforms to transform the dynamics of business in rural areas, enabling over 2,000 so-called 'Taobao Villages' to surface online in just under a decade. These now play host to just under 500,000 micro e-tailers.

Recognising an opportunity to replicate the firm's success in Africa, Jack Ma, the founder of Alibaba, introduced the

Electronic World Trade Platform (eWTP) alongside Paul Kagame at the World Economic Forum in 2019. eWTP is now operational in Rwanda, enabling coffee farmers to sell directly through the platform to Chinese customers without paying tariffs and thereby receiving \$12 per kilogram (versus \$8 previously).<sup>36</sup> Offering small and medium-sized enterprises (SMEs) a pathway into global value chains, Ma's intention is to implement the programme in other African countries after its Rwandan debut.

The e-commerce sector in Africa is developing quickly: the Nigerian e-commerce platform Jumia, founded in 2012, is operational in 23 African countries, enabling 50,000 merchants to sell electronics, groceries and clothes to app users.<sup>37</sup> In addition, a number of competitors, such as PigiaMe, Nuria, OLX and Kilimall are now active in Kenya. However, the inclusive potential of this technology has been far from realised: in Nigeria alone, there are an estimated 37 million micro-enterprises which do not have a digital presence.<sup>38</sup>





**By 2030, there will be between 29–80 million digitally enabled gig workers in Africa as young people increasingly turn to online platforms as a source of livelihood.**

Technology is creating a range of new opportunities in the labour market, as cost-effective platforms generate a demand for shared-ride drivers, homestay hosts, e-commerce sellers and handymen. Indeed, platforms are increasingly responsible for both direct and indirect employment: while Jumia employs 3,000 people across Africa and Safaricom employs 5,400 in Kenya, the former has signed up around 100,000 commission-based affiliates who help customers make orders and the latter's M-Pesa is now supported by 182,472 agents transferring cash to mobile money.<sup>39</sup>

With the recent launch of the Ajira Digital Programme, the Kenyan government has begun encouraging young people to find and complete tasks online for individuals and firms. This initiative was inspired by the rise of Upwork, a leading online freelance platform that has registered 40,000 Kenyans to deliver digital services on-demand.<sup>40</sup>

Based on the International Labour Organisation's projections, there may be between 29 and 80 million so-called 'iWorkers' in Africa by 2030, the majority of which will be young people.<sup>41</sup> As a recent survey of Ugandan youth illustrates (see Figure 30), a decisive factor in this trend is likely to be an inability to find salaried employment, although a significant share appear to appreciate the greater independence and higher income level that is associated with own-account work.

## TECHNOLOGY IS CREATING NEW OPPORTUNITIES IN THE LABOUR MARKET

**Figure 30**

### Young Own-Account Workers in Uganda by Reason for Self-Employment

Reasons for Self-employment	Rural	Urban	Male	Female	Total
Could not find a wage or salary job	40.2	34.1	37.9	33.5	35.4
Greater independence	27.3	20.1	24.9	19.1	21.6
Required by the family	7.3	20.3	8.7	24.1	17.6
Higher income level	12	14.7	17.6	11.5	14.1
More flexible hours of work	8.6	6	5.9	7	6.5
Other	4.6	4.4	4.4	4.4	4.4
Total	100	100	100	100	100

Source: Ng'weno & Porteous (2018: 5)

**Most of Africa's growing youth population will be forced to find work in the informal economy, which may become gradually more formal as small businesses adopt digital technology to better manage their activities.**

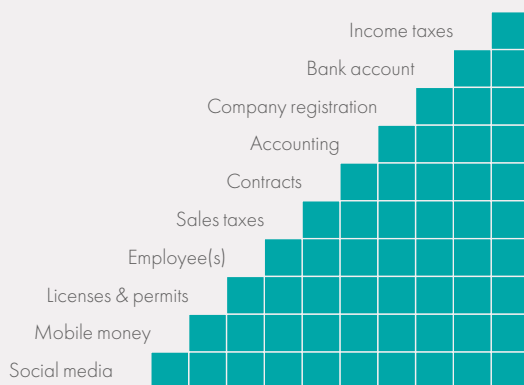
The majority of Africa's youth bulge will likely make their livelihoods in the informal economy. This will present challenges on productivity (as informal firms produce four to five times less output per worker than formal equivalents); worker protection (as informal firms do not guarantee wages, working hours or pensions); and revenue generation (as informal firms and workers do not pay tax). Increasing the share of formal employment is extremely challenging: in Kenya, it has remained at just 15% for the last 5 years.

However, some evidence suggests that the increasing adoption of digital technologies will gradually formalise informal sector activities, enabling a low-cost step-by-step transition (see Figure 31). Platforms like Sokowatch are enabling informal retailers to demand stock via mobile and then leveraging this data to deliver credit and marketing advice, and Safaricom now has 1,200 people in a contact centre mentoring entrepreneurs on how to build businesses using mobile money.<sup>43</sup> The CEO of Lynk, a platform that links handymen to tasks with a mission to "transform the informal sector", suggests the firm is building "actionable digital identities" for gig workers, gathering data on jobs completed and income to offer loans and skill accreditation.<sup>44</sup>

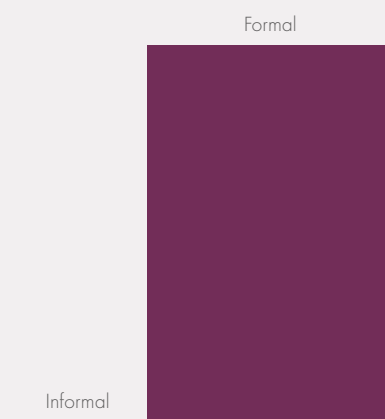
**Figure 31**

**Digital vs. traditional business formalisation process**

Digital business progression



Traditional business progression



Source: Ng'weno & Porteous (2018: 3)

---

## Chapter Notes

- <sup>1</sup> McKinsey Global Institute (2016): 37-8.
- <sup>2</sup> Director of Strategy & Learning at Mastercard Foundation, Lindsay Wallace, writing in Brookings (2019): 48.  
This figure is taken from the African Development Bank's Jobs for Youth in Africa Strategy.
- <sup>3</sup> Supporting Economic Transformation (2018).
- <sup>4</sup> Brookings (2019): 45.
- <sup>5</sup> Pathways for Prosperity Commission (2018): 6.
- <sup>6</sup> Nedelkoska & Quintini (2018): 7.
- <sup>7</sup> Hallward-Driemeier et. al. (2018): 135.
- <sup>8</sup> Banga & te Velde (2018): 53.
- <sup>9</sup> *ibid*: 27.
- <sup>10</sup> Pathways for Prosperity Commission (2018): 21. See also McKinsey Global Institute (2018): 95-6.
- <sup>11</sup> Sayinzoga, K. (2019).
- <sup>12</sup> Banga & te Velde (2018): 20.
- <sup>13</sup> McKinsey Global Institute (2016): 63.
- <sup>14</sup> Signé (2018): 12-3. See also United Nations Conference on Trade and Development (2017): 44 and Foreign Direct Investment Intelligence (2017): 6.
- <sup>15</sup> Signé (2018): 13.
- <sup>16</sup> *ibid*: 10, 13.
- <sup>17</sup> Leke et. al. (2018a).
- <sup>18</sup> McKinsey Global Institute (2016): 55, 74.
- <sup>19</sup> *ibid*: 73.
- <sup>20</sup> *ibid*: 74.
- <sup>21</sup> *ibid*: 79.
- <sup>22</sup> *ibid*: 77.
- <sup>23</sup> *ibid*: 78.
- <sup>24</sup> For example, see Rodrik (2016).
- <sup>25</sup> McKinsey Global Institute (2018): 98.
- <sup>26</sup> Rodrik (2018): 12. See also Brookings (2019): 46.
- <sup>27</sup> Brookings (2019): 46.
- <sup>28</sup> *ibid*: 46-7.
- <sup>29</sup> *ibid*: 47.
- <sup>30</sup> Ngui & Kimuyu (2018): 213.
- <sup>31</sup> McKinsey Global Institute (2018): 110.
- <sup>32</sup> African Union (2015): 98.
- <sup>33</sup> Hallward-Driemeier et. al. (2018): 151.
- <sup>34</sup> For a discussion on the recent growth of the informal economy in Tanzania, see Ellis et. al. (2018).
- <sup>35</sup> World Bank (2019): 6.
- <sup>36</sup> Hanley (2019).
- <sup>37</sup> World Bank (2019): 39. See also Ng'weno & Porteous (2018): 6.
- <sup>38</sup> Ng'weno & Porteous (2018): 6.
- <sup>39</sup> For further information regarding Jumia, see Ng'weno & Porteous (2018): 5-6.  
For further information regarding Safaricom, see Ndung'u (2018): 15.
- <sup>40</sup> Ndung'u (2018): 17.
- <sup>41</sup> Porteous & Ng'weno (2019).
- <sup>42</sup> Ng'weno & Porteous (2018): 1-2.
- <sup>43</sup> Ngui & Kimuyu (2018): 223.
- <sup>44</sup> CEO and Co-Founder of Lynk, Adam Grunewald, writing in Brookings (2019): 54.





---

# 6 Social

## *Realising the promise of the demographic dividend*

### **East Africa's 'youth bulge' presents challenges and opportunities**

As the rest of the world's populations age, East Africa's fast-growing population will be increasingly young.

If East Africa's transition to low birth rates occurs too slowly, then the 'demographic dividend' may not materialise.

### **Urbanization is set to advance rapidly in East Africa and cities will require major investment in order to fulfil their productivity potential**

In East Africa, the number of people living in cities is set to more than treble by the middle of the century, rising from 100 million to somewhere in the region of 350–450 million.

Urban areas are considerably more productive than rural ones and governments are trying to encourage spill-overs between clustered firms.

There is a risk that East Africa's cities become 'low development traps' as their fragmented form and lack of adequate infrastructure make them relatively costly to inhabit, navigate, and do business in.

### **In East Africa, GDP growth is being accompanied by rising inequality, which may inhibit development over the medium and long term**

Household consumption should expand significantly in East Africa due to population growth and rising incomes, with 6 million households moving from earning less than \$5,000 a year in 2015 to between \$5,000–\$20,000 by 2025.

There are likely to be 400 million people in sub-Saharan Africa living under the \$1.90 poverty line in 2030, and the gap between the richest and poorest in East Africa has been widening since the turn of the century.

Governments are beginning to explore digital technologies for administering wealth distribution programmes.

### **The advance of technology may erode the global demand for unskilled labour, forcing economies to compete on the basis of skills and education**

Enrolment rates at primary and secondary level in sub-Saharan Africa have improved substantially in recent decades, but a 'learning crisis' is taking place as students graduate without the skills demanded in the modern economy.

Some firms, governments and universities are exploring the potential of online tools in skills training and education.

### **African migration is expected to accelerate**

Since the 1960s, the number of African migrants has increased in line with population growth, although a greater proportion of migrants now leave the continent.

Climate change and growing populations and incomes will see migration within and from Africa increase, with the number migrating per year potentially more than doubling between now and 2050.

# East Africa's 'youth bulge' presents challenges and opportunities

## As the rest of the world's populations age, East Africa's fast-growing population will be increasingly young.

Home to 1.2 billion people in 2017, Africa's population is set to more than double by 2050, reaching 2.5 billion.<sup>1</sup> Western, Central and Eastern Africa will be mainly responsible for this growth. Moreover, the continent's demographic explosion is set to endure: by the end of this century, sub-Saharan Africa's population may reach close to 4 billion.<sup>2</sup>

The number of young people on the continent will soar – increasing by 522 million by 2050 – while populations throughout the rest of the world are likely to age (see Figure 32). Because of this, the annual growth rate of

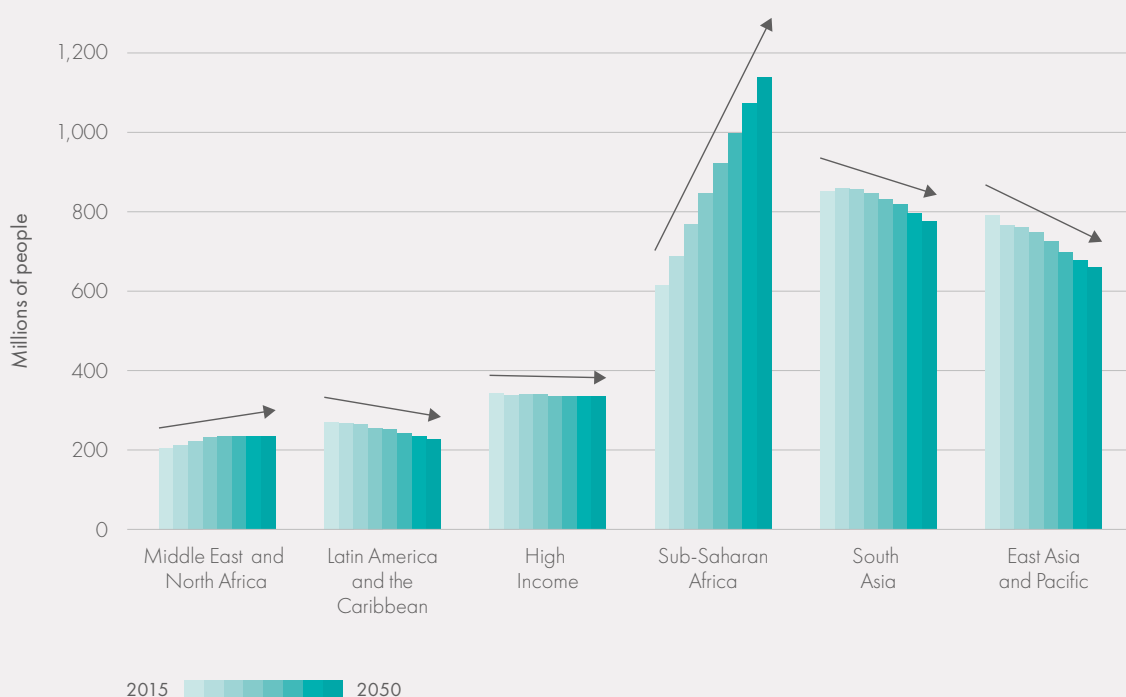
the working-age population in sub-Saharan Africa is set to exceed 2.7% until the middle of this century, whereas the working-age population in the likes of China, Korea and Thailand is expected to decline by 10–15% over the next three decades.<sup>3</sup>

While East Africa had a population of 442 million in 2017, this will rapidly grow to between 675 million and 786 million by 2050.<sup>4</sup> Over the short-term (i.e. between 2017 and 2022), the population of Tanzania will rise from 56 million to 66 million, while Kenya's population will rise by 6 million (up to 54.7 million) and Uganda's by 7.4 million people.<sup>5</sup>

Figure 32

### Global youth population projections, 2015–2050

NB: Youth defined as 15–24 year olds



Source: Brookings (2019: 50)

## If East Africa's transition to low birth rates occurs too slowly, then the 'demographic dividend' may not materialise.

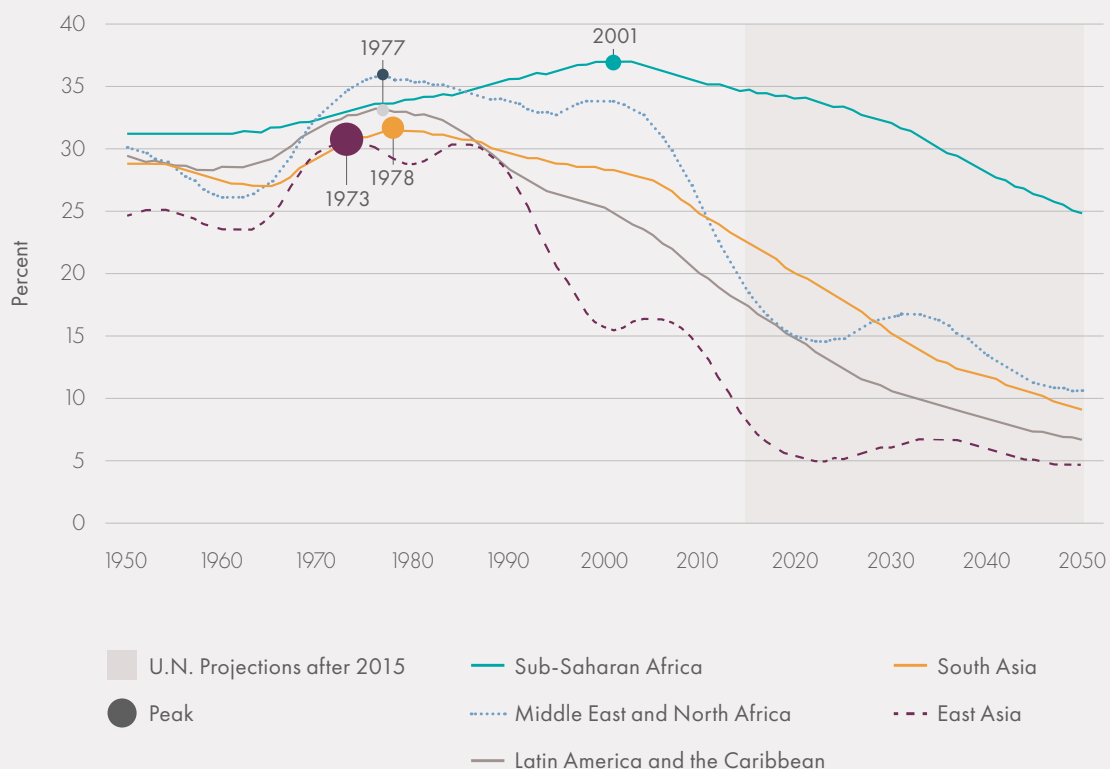
As Louise Fox, Chief Economist at the United States Agency for International Development, argues, a demographic dividend in sub-Saharan Africa may be imperilled by the relatively slow rate of the continent's demographic transition (i.e. the shift from high birth/death rates to low birth/death rates, typically associated with economic development).<sup>6</sup> As Figure 33 reveals, the youth share of the working-age population in sub-Saharan Africa is expected to decline very slowly up until 2050, indicative of continuing high fertility rates and significant numbers of young women giving birth.

As a point of comparison, while fertility rates in sub-Saharan Africa have marginally declined from 6.5 children per woman in the 1950s to 5.4 in the 2000s, fertility rates in East Asia dropped dramatically over the same period, falling from 5.6 children per woman to 1.6.<sup>7</sup> In Kenya, for example, the fertility rate has been gradually declining as life expectancy has increased (now below 4). Even so, a relatively high proportion of women (c. 8%) are continuing to have children before they are 18 (in comparison, 4% of women in South Asia and 2% of women in East Asia give birth before that age).<sup>8</sup>

Figure 33

### Youth as share of working-age population, 1950–2050

NB: Youth defined as 15–24 year olds



Source: Brookings (2019: 57)

# Urbanization is set to advance rapidly in East Africa and cities will require major investment in order to fulfil their productivity potential

**In East Africa, the number of people living in cities is set to more than treble by the middle of the century, rising from 100 million to between 350–450 million.**

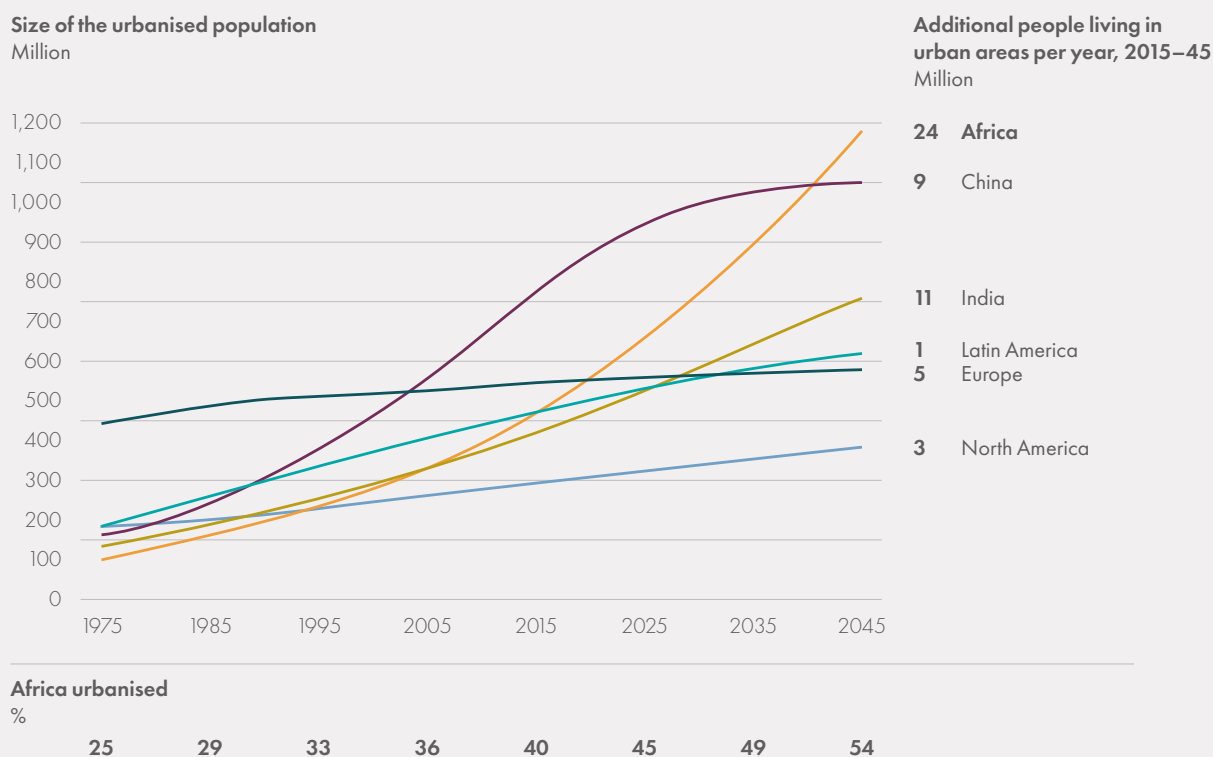
Africa is urbanizing at a considerably faster rate than any other world region, with every other person likely to live in a city in just under two decades' time and the continent home to 6 of the world's 41 megacities by 2030 (see Figure 34).<sup>9</sup>

In East Africa, the urban population is expected to roughly quadruple between now and 2050, rising from 100 million to somewhere in the region of 350–450 million.<sup>10</sup> Thus, national populations in the region will be 50% urbanised by 2050 (up from 27% now), with Dar es Salaam projected to be the fastest growing city by population size in Africa (doubling to 10 million between 2015 and 2030).<sup>11</sup>

Over the last two decades, urban population growth in Africa has not been driven primarily by rural to urban migration (which has actually slowed over the period), but by natural population growth (i.e. birth rates minus

**Figure 34**

**The pace of Africa's urbanization vs. the rest of the world, 1975–2045**



Source: McKinsey Global Institute (2016: 37)



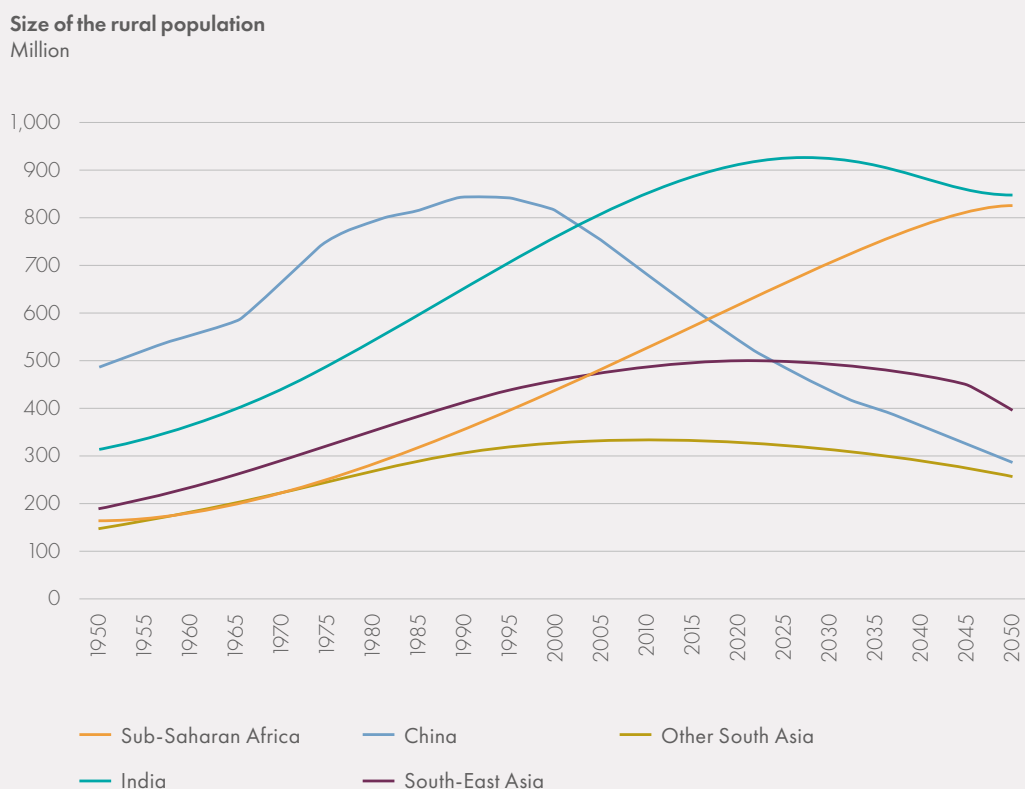
death rates in urban areas) and the reclassification of rural areas as urban after they reach a threshold number of people or population density. Indeed, a growing proportion of Africa's urban population are set to live in secondary or tertiary towns with strong economic links to surrounding rural areas.<sup>12</sup>

While urbanization proceeds apace, rural sub-Saharan Africa is projected to have roughly 50% more people in 2050 than in 2015 (see Figure 35), with this growth fuelled by the youth bulge. However, as the number of people per hectare continues to rise, the median farm size continues to shrink, and the rising demand for land prices younger generations out of farm ownership, migration from rural to urban areas will likely accelerate in the decades to come.

## DAR ES SALAAM'S POPULATION IS PROJECTED TO DOUBLE BETWEEN 2015 AND 2030

**Figure 35**

Trends in rural population in selected developing regions, 1950–2050



Source: Jayne et. al. (2017: 4)

## Urban areas are considerably more productive than rural ones and governments are trying to encourage spill-overs between clustered firms.

Around the world, more than 80% of GDP is generated in cities, revealing the significant role urban areas play in stimulating economic growth. In East Africa, urban areas are responsible for an increasingly large share of growth: in Kenya, economic activity in Nairobi alone accounts for 20% of GDP, even though the capital is home to just 9% of the population.<sup>13</sup>

Urban areas across the continent are rapidly pulling away from their rural counterparts in terms of their relative wealth: in 2015, the average per capita GDP in an African city was \$8,200, compared to \$3,300 in the countryside.<sup>14</sup>

In a bid to encourage business spill-overs and thereby stimulate productivity, East African governments look set to continue experimenting with a range of urban planning initiatives, including the establishment of industrial zones (e.g. the Eastern Industrial Zone outside Addis Ababa which now hosts 27 firms) and high-tech clusters (e.g. the one in Nairobi, which houses IBM's first African research centre and a Microsoft Development Centre).

## There is a risk that East Africa's cities become 'low development traps' as their fragmented form and inadequate infrastructure make them relatively costly to inhabit, navigate, and do business in.

While urbanization has been historically linked with economic development, it is worth emphasising that the process in sub-Saharan Africa is taking place at a relatively low level of GDP per capita (see Figure 36). Some commentators argue the projected pace of change and the particular constraints on public investment may inhibit the productive potential of urban areas in sub-Saharan Africa:

- *Cities are crowded, not economically dense* — As investment in transport infrastructure and housing continues to lag behind the pace of urbanization, slums will carry on growing around urban cores where new arrivals hope to find work nearby. While 34% of urban populations in non-African developing countries live in slums, roughly 60% of Africa's urban population live in slums (see Figure 37 for a country by country view).

Capital investment in African cities over the past 40 years averages just 20% of GDP (compared to China's capital investment rising from 35% to 48% of GDP between 1980 and 2011).<sup>15</sup> If these dynamics persist, congestion costs alone may simply offset the benefits traditionally associated with urban concentration.

- *Cities are disconnected* — Urban form is dictated by long-lived structures and is therefore difficult to alter, so cities can become locked into unproductive patterns of activity. Throughout Africa, cities tend to be characterised by spatial fragmentation, with roads disproportionately concentrated around city centres while periphery areas are largely disconnected from economic hubs. The high costs associated with travel may be eroding the potential for Africa's urban firms to enjoy scale economies – they employ 20% fewer workers than comparable firms elsewhere in the world. Moreover, instead of endeavouring to cluster new construction around city centres and thereby increase the economic density of urban areas, African cities are tending to grow outward (or 'leapfrog'), oftentimes creating satellite districts that are both poorly integrated and aggravate displaced rural communities.<sup>16</sup>
- *Cities are costly* — Owing to their fragmented form and inadequate infrastructural connections, cities in Africa are relatively costly to live in and navigate. For example, urban households in African cities pay 20–31% more than in other developing countries for everyday goods and services. These costs have a knock-on impact on wages. For firms keen to trade on the international marketplace where product price is set by global competition, the relatively high level of local wages may deter investment (e.g. unit labour costs are 20% higher in Dar es Salaam than in Dhaka, Bangladesh).<sup>17</sup>

Figure 36

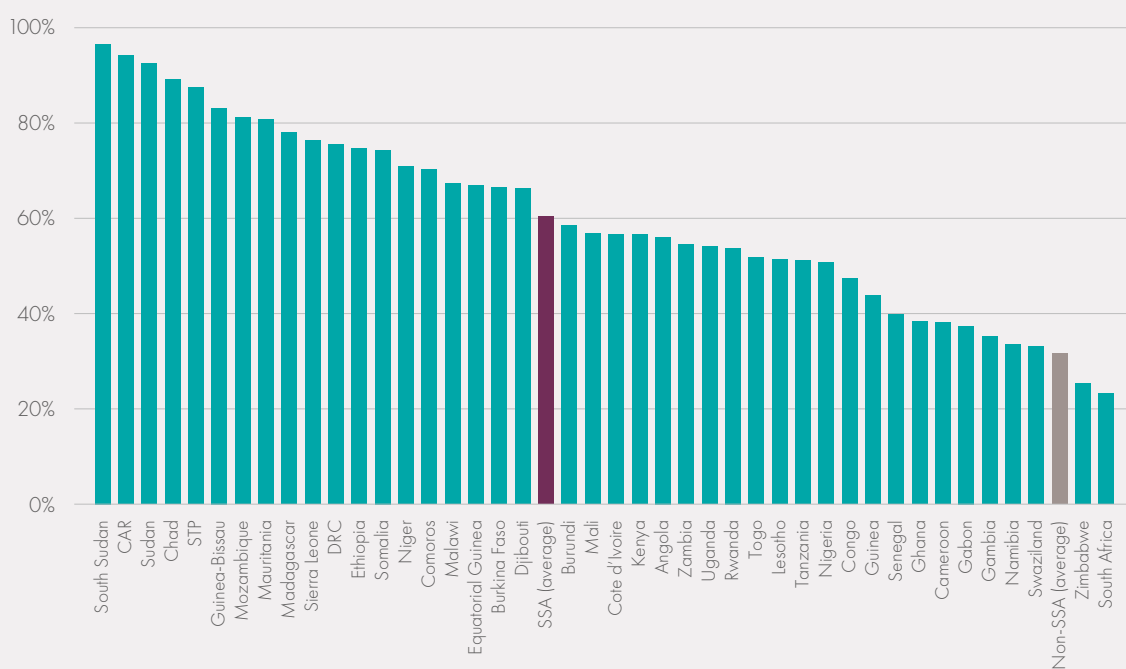
### Global urbanization rates and GDP per capita



Source: Lall et. al. (2017: 17)

Figure 37

### Percentage of city dwellers living in slums in sub-Saharan Africa



Source: Lall et. al. (2017: 40)

# In East Africa, GDP growth is being accompanied by rising inequality, which may inhibit development over the medium and long term

**Household consumption should expand significantly in East Africa due to population growth and rising incomes, with 6 million households moving from earning less than \$5,000 a year in 2015 to between \$5,000–\$20,000 by 2025.**

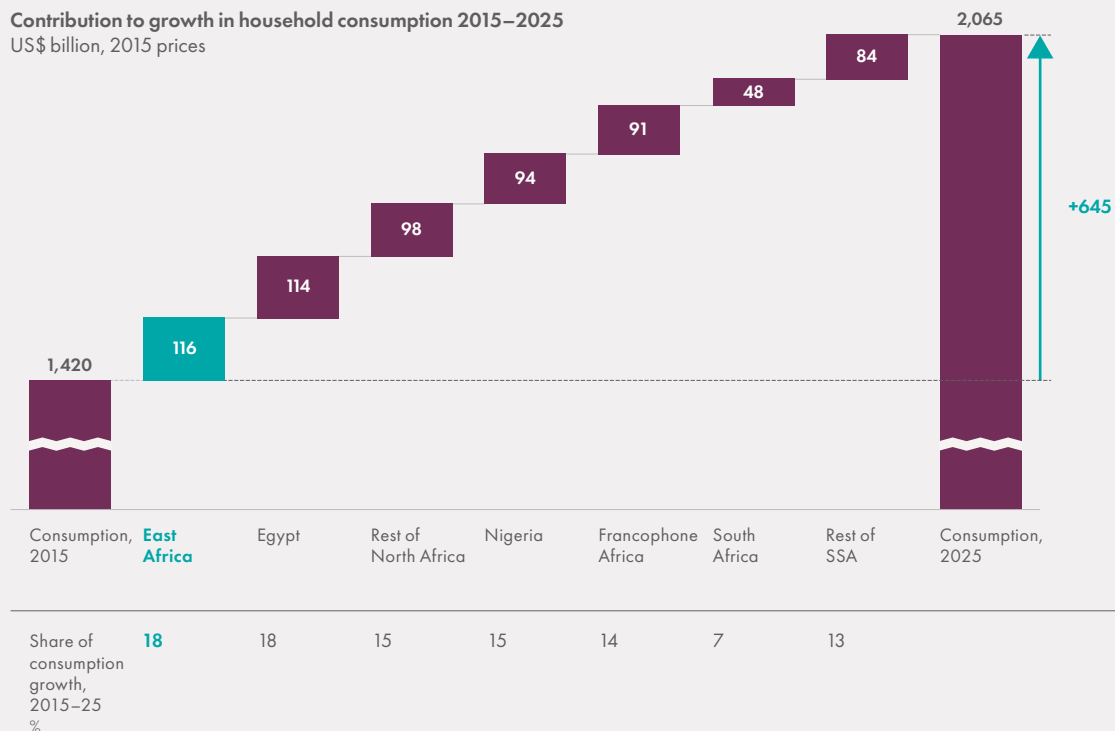
Between 2015 and 2025, Africa's household consumption is expected to grow at 3.8% per year and reach close to \$2.1 trillion (see Figure 38). East Africa will be responsible

for a considerable share of this projected growth, with the region's percentage of the continent's consumption increasing from 12% in 2005 to 15% in 2025.<sup>18</sup>

In Africa as a whole, population growth was responsible for 60% of new household spending between 2005–2015, with the remaining 40% due to rising incomes. In East Africa specifically, however, rising incomes were responsible for a much greater proportion of private consumption growth (52%).<sup>19</sup> This regional trend in rising incomes is projected to continue, with more than 6 million East African households (11% of total households) moving from earning less than \$5,000 per year to between

**Figure 38**

## Africa's household consumption growth, 2015–2025



Source: McKinsey Global Institute (2016: 44)



\$5,000–\$20,000 a year by 2025.<sup>20</sup> While food and beverages will constitute the largest spending area, there will be a shift to greater discretionary spending, with demand growing for housing, consumer goods, hospitality and healthcare.<sup>21</sup> Meeting this growing consumer demand will place added stress on the region's natural resources at a time when these are increasingly under threat from climate change.

With food demand in Africa set to increase 55% by 2030, agricultural production systems will struggle to keep pace. The trend of food demand vastly outstripping national supply is well-established: sub-Saharan Africa's food import bill has risen by a factor of 7 in recent years (from \$6 billion in 2001 to \$45 billion in 2014).<sup>22</sup>

Increasingly, demand looks set to be concentrated in cities, which typically have nearly double the per capita consumption of their national averages. This trend is already particularly pronounced in Kenya, where Nairobi has a per capita consumption that is almost three times the country as a whole (\$1,802 vs. \$673).<sup>23</sup>

**There are likely to be 400 million people in sub-Saharan Africa living under the \$1.90 poverty line in 2030, and the gap between the richest and poorest in East Africa has been widening since the turn of the century.**

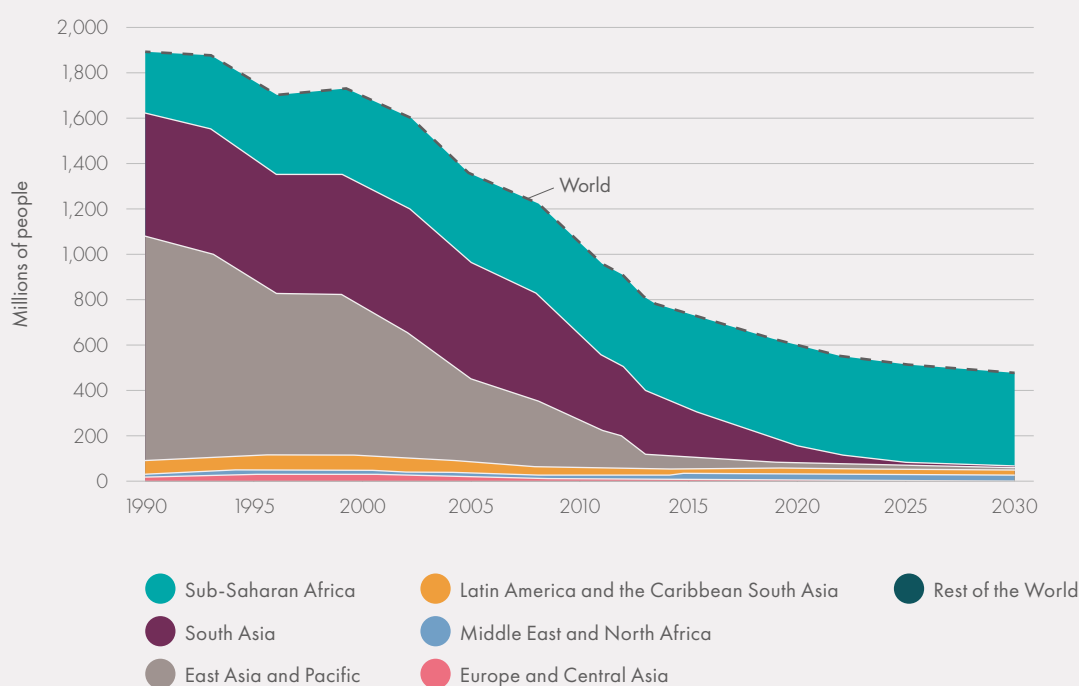
In 2018 the World Bank concluded that Goal 1 of the SDGs, regarding the ending of poverty in all its forms everywhere by 2030, is out of reach. In 2030, the poverty rate is likely to be near 6%, with sub-Saharan Africa home to 87% of the world's extreme poor (up from around 25% in 2012) (see Figure 39).<sup>24</sup> The number of extreme poor living in sub-Saharan Africa is set to remain at around 400 million between 2015 and 2030, which reflects how the continent's economies, despite growth projections, will struggle to keep pace with demographic change.

In East Africa, countries appear extremely unlikely to achieve the first SDG. The number of those living under

**Figure 39**

### Number of extreme poor by region, 1990–2030

NB: The international poverty line is used, set at US\$1.90 per day in 2011 purchasing power parity dollars



Source: World Bank (2018: 25)

\$1.90 per day will decline only marginally over the next 50 years, with the population living under \$3.10 projected to stay roughly the same (see Figures 40 & 41).

In part, this reflects how the spoils of economic growth tend to be relatively inequitably shared in sub-Saharan Africa compared to other world regions: while a 1% increase in GDP per capita in non-African developing country translates into a 2% reduction of poverty, it only leads to a 0.7% reduction of poverty in countries on the continent.<sup>25</sup>

As Figure 42 reveals, income inequality has risen in most East African countries post-2000, reaching a point whereby 48.4% of the region's income goes to the richest 20% of the population, with just 2.3% going to the poorest 10%.<sup>26</sup> This rise in income inequality in East Africa is likely to inhibit the region's future economic performance, since inequality tends to be negatively associated with growth.<sup>27</sup>

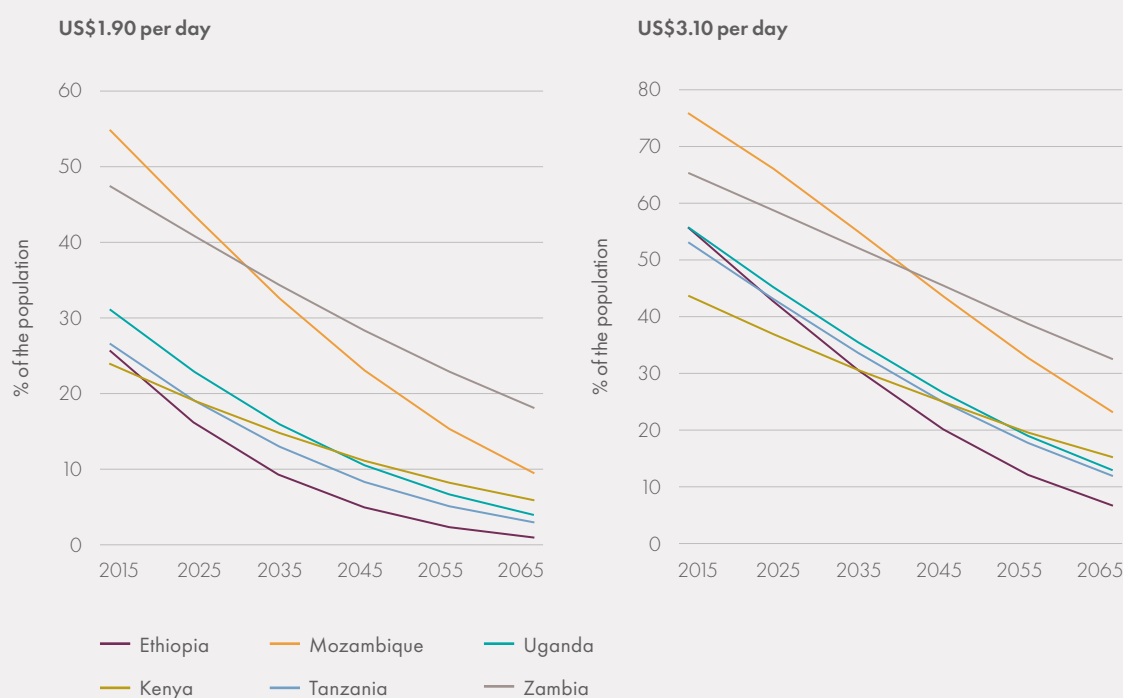
The African Development Bank has voiced concern about the growing income disparity among East Africa's populations, emphasising how inequality "adversely affects poverty reduction and causes a lack of social cohesion that could lead to conflict".<sup>28</sup> This correlation is well-established in the literature, with several studies observing

how rising income inequality tends to weaken governance, undermine social stability and reinforce inequalities in health and education that perpetuate social immobility.<sup>29</sup>

As the United Nations Development Programme makes clear, East Africa's human development indicators have slowed their advance in recent years — indicative of how the region's improving economic performance is not translating into particularly strong social outcomes.<sup>30</sup>

**Figure 40**

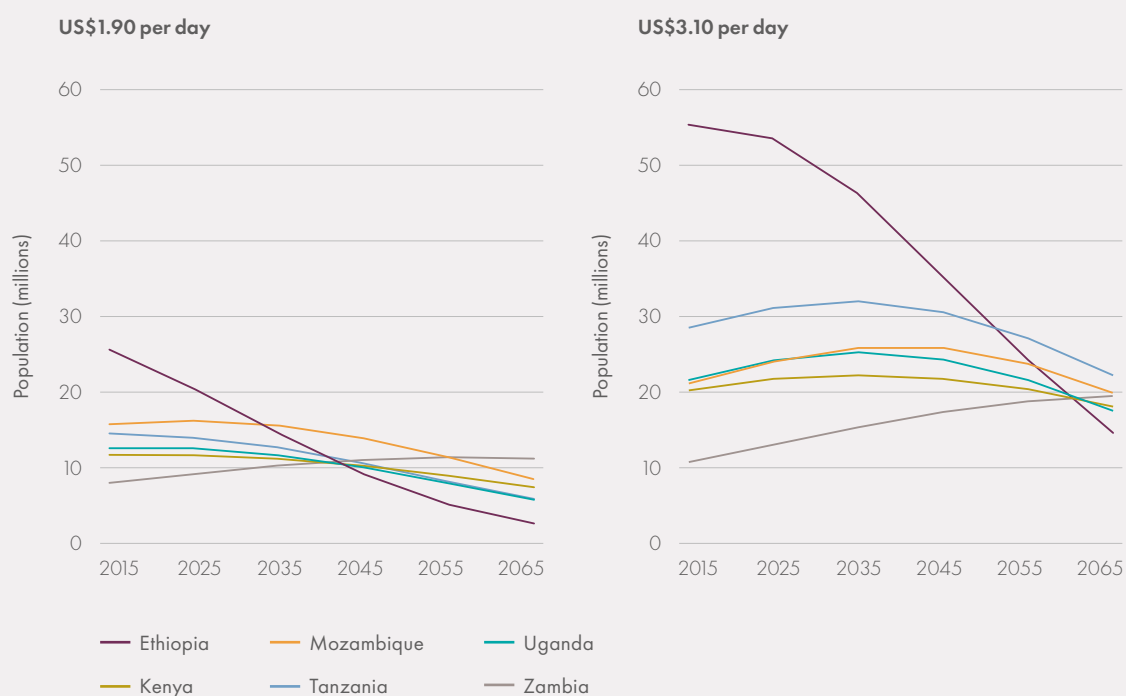
### Projected headcount poverty ratios in selected East African countries, 2015–2065



Source: OECD (2017: 49)

Figure 41

Projected number of people living below poverty lines in selected East African countries, 2015–2065



Source: OECD (2017: 49)

Figure 42

Inequality in East Africa as Measured by Gini Index, 1999–2013

NB: The Gini index measures the extent to which the distribution of income among individuals/households within an economy deviates from a perfectly equal distribution. The index ranges from 0 in the case of “perfect equality” (i.e. each share of the populations get the same share of income) to 100 in the case of “perfect inequality” (all income goes to the share of the population with the highest income)

	1999	2005	2010	2012	2013
Comoros	-	55.9	-	-	45.0
Djibouti	39.1	41.5	44.1	45.1	44.1
Ethiopia	30.0	28.9	33.2	-	-
Kenya	46.9	48.5	-	-	-
Madagascar	38.6	39.9	42.4	42.7	-
Mauritius	37.7	35.7	35.7	35.8	-
Rwanda	48.5	52.0	51.3	49.7	50.4
Seychelles	42.8	42.8	43.4	45.7	46.8
Tanzania	37.3	40.3	36.4	37.8	-
Uganda	43.0	42.9	44.2	41.0	-

Source: AUC/OECD (2018: 153)

## Governments are beginning to explore digital technologies for administering wealth distribution programmes.

With consumer spending power set to grow and the number of extreme poor expected to remain high, inequality will continue to be a major issue in many East African countries. Moreover, as technology proliferates and provides new ways to connect, populations may soon gain a heightened perception of the stratification and inequality of opportunity in their societies.<sup>31</sup>

Nevertheless, technology may also offer a means of providing social safety nets for those in need, with financial inclusion gathering pace and cash transfers becoming more cost effective to administer.<sup>32</sup> As the UNDP highlights, the efficacy of well-funded, well-administered and well-directed cash transfers is becoming clearer, with empirical cross-country evidence revealing that this form

of social protection strongly impacts the Gini coefficient in developing countries. However, transfer amounts in East African countries remain relatively low.<sup>33</sup> Moreover, despite inequality's negative implication for growth, there is little reason to presume that economic growth will result in greater spending on social protection programmes, since there is no statistically significant relationship between GDP growth rates and public social expenditure throughout sub-Saharan Africa.<sup>34</sup>

Despite these trends, certain countries are undertaking small steps to develop stronger and more transparent social welfare systems. Tanzania has recently expanded its conditional cash transfer programme, injecting a tenfold increase in spending between 2013 and 2016 and covering 16% of the population.<sup>35</sup> Kenya's Central Bank has also recently combined an integrated financial management information system with G-Pay, which will enable a more direct and transparent transfer of public resources to selected vulnerable groups.<sup>36</sup>





# The advance of technology may erode the global demand for unskilled labour, forcing economies to compete on the basis of skills and education

**Enrolment rates at primary and secondary level in sub-Saharan Africa have improved substantially in recent decades, but a 'learning crisis' is taking place as students graduate without the skills demanded in the modern economy.**

A recent survey of 300+ global firms reveals that the availability of talent – rather than the cost of labour – has become the foremost consideration when deciding whether to invest in sub-Saharan Africa.<sup>37</sup>

As technology erodes the demand for less advanced skills, a premium is being placed on the advanced cognitive and socio-behavioural skills that enable workers to effectively complement new machinery and deliver high value-added services. While this trend is established in advanced economies, it is emerging in East Africa: for example, the

share of employment in high-skill occupations in Ethiopia increased by 13% between 2000 and 2014.<sup>38</sup>

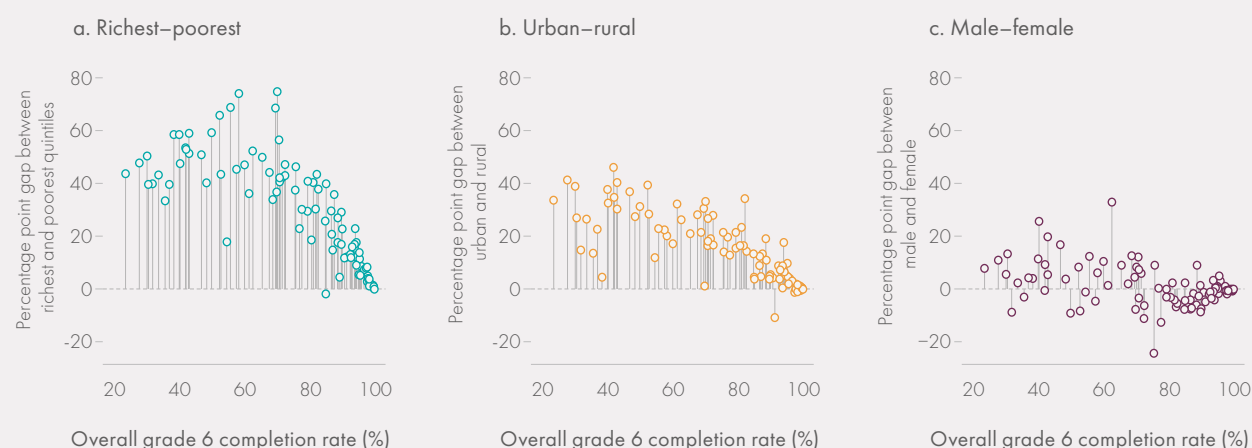
As the nature of the global economy evolves and the demand for higher-order skills increases, those countries unable to equip their populations with these skills risk being left behind. In this context, it is worth noting that 60% of Kenya's working age adults have level 1 literacy or below, which means their proficiency is limited to basic texts and they have no ability to evaluate or interpret information from a variety of texts.<sup>39</sup>

While enrolment rates in primary and secondary schools in sub-Saharan Africa have improved significantly in recent decades, the continent's population remains a long way behind the rest of the world in terms of educational attainment.<sup>40</sup> Moreover, education systems in developing countries seem to be compounding rather than tackling problems of wealth, urban-rural and gender inequality – only about a quarter of the poorest children in low income countries complete primary school (compared to three-quarters of the richest) (see Figure 43). Poorer families in

**Figure 43**

**Gap in grade 6 completion rate for 15–19 year olds by wealth, location and gender in developing countries around the world**

NB: Each vertical line indicates the size and direction of the gap for a country



Source: World Bank (2018: 62)

East Africa are still forced into making difficult trade-offs when sending children to school: when the direct costs for primary education were removed in Uganda and Malawi, enrolment rates rose by 60% and 33% respectively.<sup>41</sup>

While the numbers of those with access to primary and secondary education has expanded around the world, the World Bank claims there is a 'learning crisis' taking place within schools in developing countries.<sup>42</sup> An assessment of grade 6 students in southern and East Africa found that 37% are not competent in reading and 60% are not competent in mathematics, with an average student from an LIC performing worse than 95% of their year group peers in OECD countries.<sup>43</sup> Since teachers are "the most important determinant of student learning", the persistent lack of high-quality teachers in sub-Saharan Africa is a major constraint on educational attainment.<sup>44</sup> With training colleges forced to lower requirements to respond to the soaring demand for schooling, teachers in sub-Saharan Africa are not performing much better on reading and mathematics tests than the highest-performing grade 6 students (see Figure 44) and are regularly absent from

classrooms altogether (e.g. students in Tanzania, Kenya and Uganda only receive about half of their scheduled teaching a day).<sup>45</sup>

In terms of tertiary education, there are deep-rooted issues regarding capacity and curricula: while only 12% of secondary school students are able to enrol at a university (compared to 30% in China and 25% in India), graduates do not tend to be adequately trained in the sciences and many lack the soft skills needed for lifelong learning.<sup>46</sup>

Moreover, since foundational skills are essential for further skills accumulation, evidence suggests that bridging the skills gaps later in life – via on-the-job training courses, for example – is particularly challenging.<sup>47</sup>

**Figure 44**

**Percentage of Teachers Who Score At Least 80% on a Test of Grade 4 Material in High School**

Subject	Average	Kenya (2012)	Mozambique (2014)	Nigeria (2013)	Tanzania (2014)	Togo (2013)	Uganda (2013)
Equivalent to student language curriculum	61	66	77	24	41	54	90
Equivalent to student mathematics curriculum	56	82	26	31	62	24	55

Source: World Bank (2018b: 80)

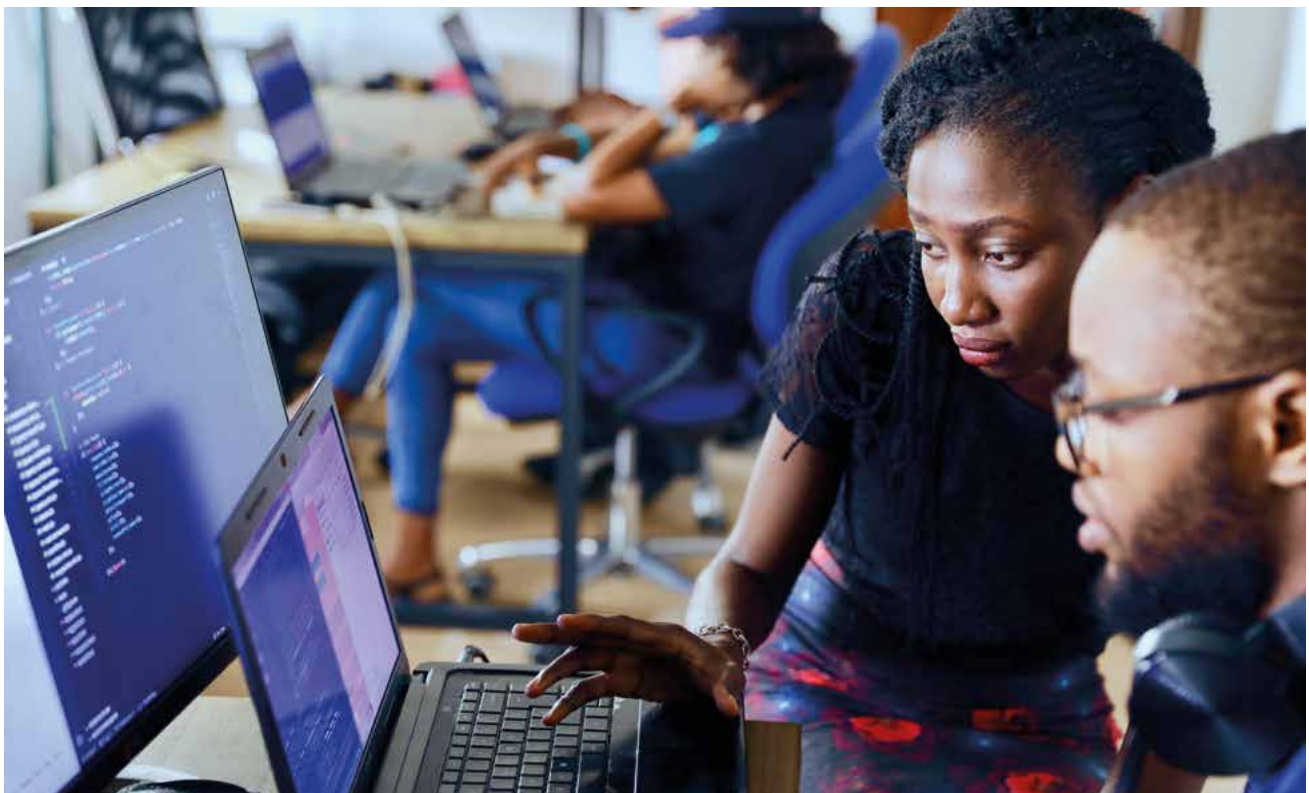
## Some firms, governments and universities are exploring the potential of online tools in skills training and education.

While the pace of technological change is generating an urgent need to adapt the education system, the new technologies themselves might offer a cost-effective means of realising this. In a bid to expand access to education and deliver relevant skills, many private sector firms and governments in Africa are exploring the potential of digital tools:

- *Private sector initiatives* — Launched in Mauritius in 2015, the African Leadership University (ALU) recently opened a campus in Kigali and a lifelong learning centre in Nairobi, using the latest technology to reduce teaching costs and deliver individualised e-learning. Raising \$30 million in a Series B round at the start of 2019, ALU's ambition is to build 25 campuses and train 3 million leaders over the next five decades.<sup>48</sup> Meanwhile, Andela, a US software development firm, is aiming to train 100,000 programmers by 2024 using a free online learning tool. The firm's qualified workforce will then work either directly for Andela or its global client base, programming remotely from either Kampala, Nairobi or Lagos.<sup>49</sup>

- *Government initiatives* — As part of Agenda 2063, the AU has announced the Pan-African E-University as a flagship programme, exploring how open, distance and e-learning methods might efficiently accelerate knowledge of science and technology while ensuring Africans are guaranteed access to educational resources from anywhere and at any time. At a national level, the Rwandan government has made significant strides towards broadening digital education: the country's Ministry of Youth and ICT has launched a 'Digital Ambassadors Programme', engaging 5,000 young people as digital-skills trainers. Once qualified, this small group will tour the country and deliver hands-on training to 5 million Rwandans on how to use the internet and mobile apps.<sup>50</sup>

The World Bank's analysis offers a less optimistic view of technology's potential in primary and secondary education, suggesting that most ICT interventions have had little impact in classrooms, with computers not necessarily proving to be helpful when teaching literacy and numeracy. This suggests that while introducing children to digital technologies is an important part of readying them for the future of work, these technologies should not be considered as a substitute to investing in traditional schooling infrastructure (e.g. school buildings, teachers and management).<sup>51</sup>



# African migration is expected to accelerate

**Since the 1960s, the number of African migrants has increased in line with population growth, although a greater proportion of migrants now leave the continent.**

While the share of Africa's population living abroad has remained relatively stable between the 1960s and 2017 (c. 2.5%), the number of African migrants has increased by a factor of four over the period (rising from 8.1 million to 36.3 million). This shows cross-border movement has increased in line with demographic growth. In East Africa specifically, the share of the population living abroad has remained stable and slightly below the continental average (c. 2.2%), with the region accounting for 27% of Africa's migrants in 2017 (c. 9.8 million people).<sup>52</sup>

Although the rate of migration relative to population size has remained steady, there has been a marked change in where Africans are migrating to. While in the early 1960s less than a quarter of African migrants had settled outside of Africa (23% or c. 1.9 million people), the share of migrants living in other continents has now doubled (47% or 17 million people in 2017). Although most East African migrants continue to move within the region, the share leaving the continent has increased by a factor of 10 between the 1960s and 2017 (from circa 3% to just over 30%).<sup>53</sup>

While most East Africans migrate within the region due to the high cost of long-distance travel, the International Organisation for Migration notes an emerging trend of low and semi-skilled labourers moving to Gulf Cooperation Council (GCC) countries on temporary work contracts. Owing to the geographic proximity of the Gulf States, the jobs on offer and the recently signed labour agreements between countries such as the United Arab Emirates and Kenya, many more East Africans labourers are expected to migrate to GCC countries in the near future.<sup>54</sup>

Importantly, recent political instability and conflict in sub-Saharan Africa has led to a surge in the number of internally displaced persons (IDPs) and refugees. Between 2010 and 2016, the number of sub-Saharan Africans displaced within their own country doubled (rising to 9 million),<sup>55</sup> while the number of those seeking refuge abroad reached 5.3 million in 2016.<sup>56</sup> In recent years, East African countries have both produced and received a significant share of the IDPs and refugees on the continent, as large numbers from South Sudan, Somalia, Sudan and Eritrea seek protection in neighbouring countries.

**Climate change and growing populations and incomes will see migration within and from Africa increase, with the number migrating per year potentially more than doubling by 2050.**

Analysis by the Joint Research Centre at the European Commission (JRC) suggests the number of Africans leaving their country of origin every year could feasibly double by 2050, rising from 1.4 million in 2015 to 2.8 million.<sup>57</sup> The JRC says that number could reach 3.5 million by 2050 should rapid socio-economic development take place.<sup>58</sup> This projection is based on the migration "hump" theory, which holds that emigration increases with development (i.e. as more people can afford to move) and only declines after an economy surpasses \$7,000–\$13,000 GDP per capita.

While socio-economic development in sub-Saharan Africa may result in more formal jobs, better education and lower fertility rates, the increasing pool of people with the financial capital to move and the human capital to secure work abroad may result in migration accelerating. In this context, it is worth noting that it will be many decades before countries in East Africa reach their 'peak' emigration rates (see Figure 45).

Climate change will also have an impact, with many experts now assuming that it will result in greater human mobility. As agricultural productivity drops and tension over scarce farmable land and water resources intensifies, global estimates predict anywhere between 25 million and 1 billion people will be displaced by environmental degradation by 2050.<sup>59</sup>

While migration appears set to increase further in Africa as a result of demographic, socio-economic development and environmental trends, immigration has already become a major political and cultural issue in advanced economies, as anti-migration parties gain ground around the world and most citizens drastically overestimate the percentage of their country's population who are immigrants.<sup>60</sup>



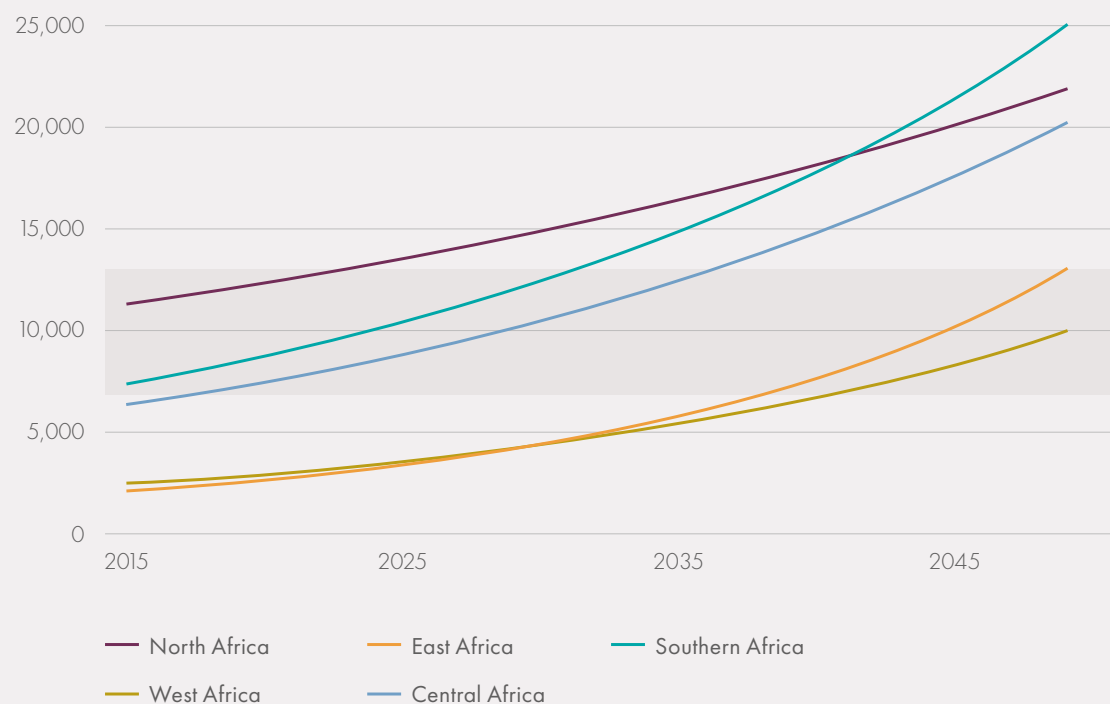
Figure 45

Projected GDP per capita in African regions assuming an increase of 1% in annual growth rates compared to 2010–2015, 2015–2050

NB: The shaded grey area represents the \$7,000–\$13,000 'peak' emigration threshold

**GDP per capita, PPP**

2011 international dollars



Source: European Commission Joint Research Centre (2018: 26)

---

## Chapter Notes

- <sup>1</sup> Joint Research Centre at the European Commission (2018): 25.
- <sup>2</sup> Jayne et. al. (2017): 3.
- <sup>3</sup> World Bank (2019): 127.
- <sup>4</sup> Rigaud et. al. (2018): 79.
- <sup>5</sup> Humanitarian Foresight Think Tank (2017): 7.
- <sup>6</sup> Chief Economist at the United States Agency for International Development, Louise Fox, writing in Brookings (2019): 57.  
This observation is taken from Mason, A., Lee, R., Abrigo, M. and Lee, S-H. (2017) Support Ratios and Demographic Dividends: Estimates for The World. Technical paper. UNDESA.
- <sup>7</sup> Jayne et. al. (2017): 3.
- <sup>8</sup> Chief Economist at the United States Agency for International Development, Louise Fox, writing in Brookings (2019): 57-8.
- <sup>9</sup> Schünemann et. al. (2017): 6.
- <sup>10</sup> Rigaud et. al. (2018): 87.
- <sup>11</sup> Daniels (2018).
- <sup>12</sup> Jayne et. al. (2017): 4-5.
- <sup>13</sup> Lahaye et. al. (2017): 14.
- <sup>14</sup> McKinsey Global Institute (2016): 36.
- <sup>15</sup> Lall et. al. (2017): 38, 41.
- <sup>16</sup> *ibid*: 20-2.
- <sup>17</sup> *ibid*: 23, 25.
- <sup>18</sup> McKinsey Global Institute (2016): 45.
- <sup>19</sup> *ibid*: 45.
- <sup>20</sup> *ibid*: 50.
- <sup>21</sup> *ibid*: 48, 51.
- <sup>22</sup> Jayne et. al. (2017): 6.
- <sup>23</sup> McKinsey Global Institute (2016): 54.
- <sup>24</sup> World Bank (2018a): 24, 25, 33.
- <sup>25</sup> *ibid*: 25.
- <sup>26</sup> African Development Bank (2019): 14.
- <sup>27</sup> International Monetary Fund (2015): 60, 68.
- <sup>28</sup> African Development Bank (2019): 14.
- <sup>29</sup> AUC/OECD (2018): 45. See also International Monetary Fund (2015): 68, Stiglitz (2015): 287 and United Nations Development Programme (2017): 158, 239, 247.
- <sup>30</sup> United Nations Development Programme (2017): 258.
- <sup>31</sup> World Bank (2019): 9.
- <sup>32</sup> Kharas & Rogerson (2017): 29.
- <sup>33</sup> United Nations Development Programme (2017): 185.
- <sup>34</sup> *ibid*: 181.
- <sup>35</sup> World Bank (2019): 129.
- <sup>36</sup> Ndung'u (2018): 9-10.
- <sup>37</sup> World Economic Forum (2018): 122.
- <sup>38</sup> World Bank (2019): 127.
- <sup>39</sup> World Bank (2018b): 76.
- <sup>40</sup> *ibid*: 56, 59.
- <sup>41</sup> *ibid*: 63.
- <sup>42</sup> *ibid*: 57-104.

- 
- <sup>43</sup> *ibid*: 72-4.
- <sup>44</sup> *ibid*: 80.
- <sup>45</sup> *ibid*: 81.
- <sup>46</sup> McKinsey Global Institute (2016): 124-5. See also Co-Founder of Akon Lighting Africa, Thione Niang, writing in Brookings (2019): 16.
- <sup>47</sup> World Bank (2018b): 77.
- <sup>48</sup> Adegoke (2019).
- <sup>48</sup> World Bank (2019): 20.
- <sup>50</sup> Banga & te Velde (2018): 59.
- <sup>51</sup> World Bank (2018b): 147.
- <sup>52</sup> Joint Research Centre at the European Commission (2018): 9-11.
- <sup>53</sup> *ibid*: 10.
- <sup>54</sup> International Organisation for Migration (2018): 53.
- <sup>55</sup> International Monetary Fund (2016): 9.
- <sup>56</sup> Joint Research Centre at the European Commission (2018): 14.
- <sup>57</sup> *ibid*: 27.
- <sup>58</sup> *ibid*: 28.
- <sup>59</sup> European Political Strategy Centre at the European Commission (2017): 6.
- <sup>60</sup> *ibid*: 21.







---

# 7

## Political

### *Managing risks and opportunities in a fast-changing landscape*

#### **The nature of conflict in Africa is changing**

States are having to adapt to a new landscape of security threats, in which inter-state conflict and traditional civil war have been replaced by non-state based conflict and terrorist activity.

Al-Shabaab will remain a major security threat across East Africa.

In future, high levels of poverty, large numbers of disaffected youth and climate change could trigger new conflicts.

#### **Populism and digital technologies are creating democratic challenges**

Around the world, democratic institutions and norms are facing challenges and civil liberties are being threatened.

The way citizens engage with politics is being changed by digital platforms.

#### **The Ibrahim Index of African Governance suggests the quality of governance across East Africa has improved over the last decade**

‘Safety and rule of law’ — while there has been deterioration on the continent as a whole, there has been some progress in East Africa.

‘Sustainable economic opportunity’ — most governments across the continent are struggling to provide their citizens with the opportunity to prosper, but the business environment in East Africa has improved significantly.

‘Human development’ — while there have been remarkable improvements in healthcare across the continent, the quality of education appears to be in decline.

#### **The prospects for further political integration in East Africa appear mixed**

Greater regional integration in East Africa appears unlikely in the short-term owing to political and institutional challenges.

Over the medium- and long-term, greater regional political integration in East Africa may be prompted by factors including the need to manage the effects of climate change, the discovery of oil and gas and the implementation of the African Continental Free Trade Agreement.

# The nature of conflict in Africa is changing

**States are having to adapt to a new landscape of security threats, in which inter-state conflict and traditional civil war have been replaced by non-state based conflict and terrorist activity.**

Since the turn of the millennium, the absolute number of fatalities from armed conflict in Africa has been in slow decline, although the recent struggle against Boko Haram in the Sahel has disrupted this downward trend (see Figure 46).<sup>1</sup> Now, conflict-related deaths are mostly concentrated in seven African countries: Sudan, Nigeria, the Democratic Republic of Congo, Somalia, the Central African Republic, South Sudan and Libya. Indeed, the number of 'new' violent conflicts peaked in the 1990s and has now been surpassed by recurrent conflicts as countries become caught in so-called 'conflict traps' – a negative cycle of economic depression, unabated resentment and unenforced security guarantees.<sup>2</sup>

In line with a global trend, the nature of conflict in Africa has changed in recent years, as inter-state conflict and traditional civil war have been replaced by non-state based conflict.<sup>3</sup> Terrorist incidents have increased

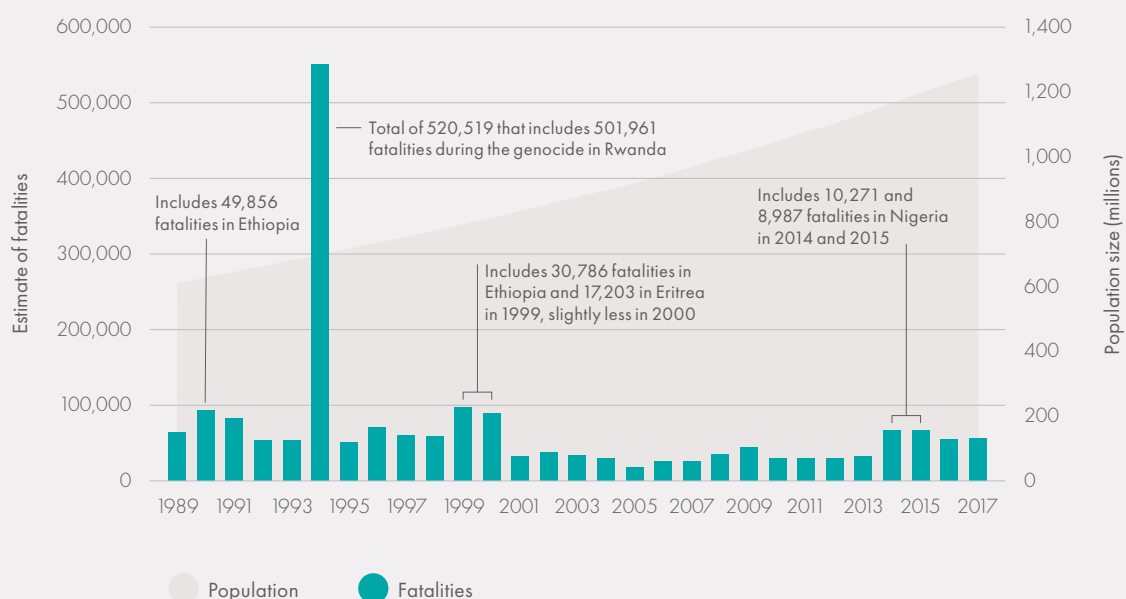
dramatically, with the number of states experiencing sustained activity from violent Islamist extremism rising from 5 in 2010 to 12 today.<sup>4</sup> Since armed non-state actors – such as Al-Shabaab – regularly cross borders, intra-state conflicts are becoming "transnationalised", as neighbouring states increasingly intervene in internal conflicts abroad.<sup>5</sup>

While the African Union has decided to take financial responsibility for 25% of peacekeeping activities in Africa by 2020, the organisation's African Peace and Security Architecture (APSA) framework appears to be increasingly unfit for purpose. Primarily designed to check instances of large-scale organised violence, such as inter-state conflict or civil war, the APSA is less suited to tackle decentralised and non-state based violence.<sup>6</sup>

Since 2001, the number of non-violent protests and violent riots on the continent has increased by a factor of 12, with the Arab Spring in 2010 triggering a significant upsurge. While armed conflict often takes place in rural areas, protests and riots are a predominantly urban phenomenon in Africa and seem to be facilitated – at least in part – by the recent growth in mobile subscriptions and spread of internet connectivity.<sup>7</sup>

**Figure 46**

**Total fatalities from armed conflict in Africa vs. population growth, 1989–2017**



Source: Cilliers (2018: 4)

## Al-Shabaab will remain a major security threat across East Africa.

Although Al-Shabaab has lost control of many Somali cities and towns over the last decade, the group is still capable of raising considerable funds; staging complex acts of terror across the region; and lethally engaging Somali government forces and the 22,000-strong African Union Mission in Somalia (AMISOM). Since Ugandan troops arrived in Somalia in 2007 and Kenyan troops followed in 2011, Al-Shabaab's strategy has shifted towards targeting civilians abroad.

Before the 2015 Garissa University attack, the Kenyan state adopted a hardline approach to combat Al-Shabaab's presence in the country, with operations such as Usalama Watch in 2014 involving the police indiscriminately rounding up thousands of ethnic Somalis.<sup>8</sup> Recognising that this approach was deepening social divides and abetting Al-Shabaab's recruitment, the state's tactics have evolved since 2015. Ethnic Somalis now lead police operations in Northern/coastal areas and consult local Muslim communities on security issues. Due to improved intelligence gathering and decreased tension between the Muslim periphery and Christian centre, Al-Shabaab's recruitment has slowed in Kenya in recent years, with many militants either moving underground or to neighbouring countries, particularly Tanzania.<sup>9</sup>

While Tanzania does not supply AMISOM with troops, the country has emerged in recent years as a prominent place of recruitment and theatre for attacks.<sup>10</sup> With activity accelerating since 2015, militants have targeted coastal regions in particular (e.g. Tanga, Mtwara and Pwani), though bigger towns have been affected (e.g. Mwanza, Arusha and Dar es Salaam) and members of the ruling Chama Cha Mapinduzi (CCM) party are being singled out (by May 2017, 30 had been killed). Launching a 'special operation' in 2017 in response to an ambush on police officers in Kibiti, the state now appears to be adopting a hardline approach, with Muslim leaders complaining of arbitrary arrests and indiscriminate killings in their communities.<sup>11</sup>

Uganda's Muslim community is relatively small (c. 14% of the population) and its ethnic Somali community is well integrated. Al-Shabaab has not staged a major attack in Uganda since 2010. However, since the indiscriminate arrest of Muslims typically follows high-profile crimes in Uganda, and a dozen imams have been murdered in unexplained circumstances since 2012, militants may yet find ways of exploiting a growing sense of unease, according to the International Crisis Group.<sup>12</sup>

## In future, high levels of poverty, large numbers of disaffected youth and climate change could trigger new conflicts.

High levels of poverty and inequality are robustly associated with conflict, as unequal distribution of resources fuels resentment among marginalised groups. Projections show that roughly 535 million Africans will be living in extreme poverty by 2030 and recent economic growth has resulted in increases in income inequality.<sup>13</sup>

Youth bulges exhibit a strong relationship with upsurges in violence in poor countries, particularly when opportunities are scarce, education quality is low and democratic expression is inhibited. In many East African countries, 15 to 29 year olds will soon constitute a major share of the population: Uganda will have the largest youth bulge on the continent by 2023 (with over 50% of the population aged 15 to 29), while Tanzania and Ethiopia will not be far behind.<sup>14</sup>

The 'bad neighbourhood effect' is a major risk factor for countries situated in a conflict-ridden region, as violence beyond the border threatens to spill over and large quantities of displaced persons seek refuge abroad. For example, it is thought that Tanzania loses 0.7% of GDP for each neighbour in conflict, with the country's development trajectory and stability put under considerable strain by the ongoing violence in the DRC and the outbreak of the political crisis in Burundi in 2014, which has resulted in 250,000 refugees arriving in Tanzania.<sup>15</sup>

In the coming decades, climate change is expected to make water shortages and unreliable rainfall commonplace throughout East Africa. As productive land becomes scarcer and people are forced to migrate, this may lead to considerable social tensions.<sup>16</sup>

# Populism and digital technologies are creating democratic challenges

## Around the world, democratic institutions and norms are facing challenges and civil liberties are being threatened.

According to the Economist Intelligence Unit, there has been a deterioration of democratic standards around the world over the last decade.<sup>17</sup> As Figure 47 illustrates, the sub-categories that constitute the Democracy Index present a mixed global picture: while 'political participation' has markedly improved, owing to increases in voter turnout and lawful demonstrations, 'civil liberties' appear to be eroding, with the score relating to the presence of free media falling further than any other over the last 10 years.<sup>18</sup>

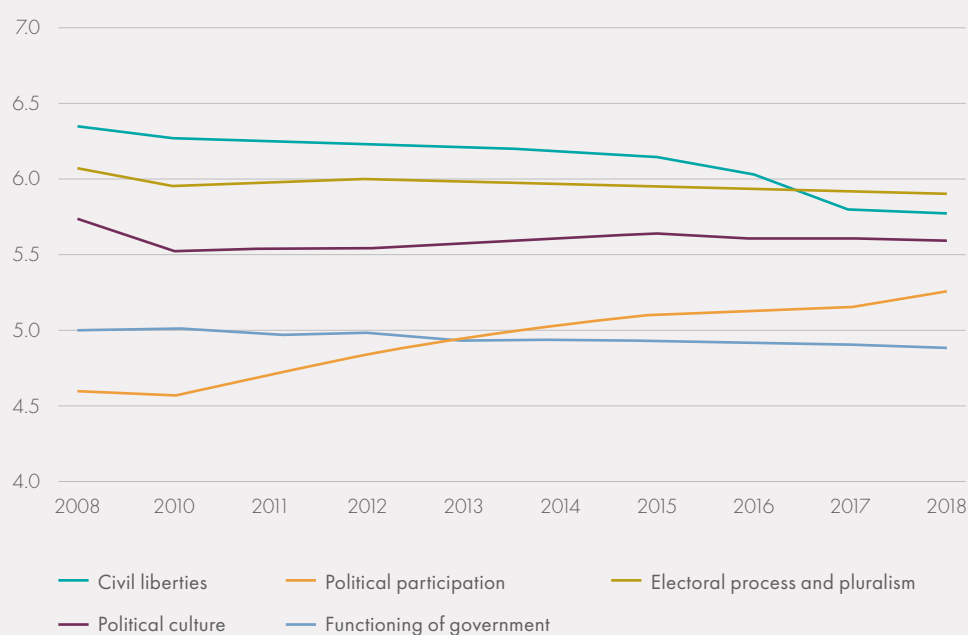
Although sub-Saharan Africa's score on the 2018 Democracy Index remains considerably below the world average, the region has slowly improved its performance in recent years.<sup>19</sup> Improvements in 'political participation' have inspired this slight upward trend, with elections now commonplace across much of the continent.<sup>20</sup>

As the Democracy Index score in Western Europe has declined more than in any other world region over the last decade,<sup>21</sup> commentators such as Cilliers suggest this may have a knock-on effect in sub-Saharan Africa, with the long-standing global leadership position of liberal democracy threatened by more authoritarian development models, such as China's.<sup>22</sup> Indeed, according to a recent survey of 45,000 citizens across 34 African countries conducted by Afrobarometer, only 42% of respondents demanded democracy (i.e. favoured democracy and rejected authoritarian rule) and just 34% are satisfied with how their democracy actually works.<sup>23</sup>

Figure 47

### Evolution of democracy in the world, 2008–2018

NB: The Economist Intelligence Unit Democracy Index score is out of 10, 10 being the best



Source: The Economist Intelligence Unit (2019: 4)





## The way citizens engage with politics is being changed by digital platforms.

In East Africa, the rise of social media has the potential to facilitate freedom of expression, offering citizens a means of ‘speaking truth to power’; steering the public discourse to new terrain; and linking local struggles to global movements.<sup>24</sup> While the radio remains the most popular source of everyday news in Africa, the internet and social media have increased audience share in recent years, appealing to (and in most cases only accessible by) the younger, wealthier and urban segments of the population.<sup>25</sup>

Despite this promise, there is an emerging trend of actors around the world using social platforms as a way of quelling dissent and sowing discord.<sup>26</sup> Lawmakers are struggling to formulate – let alone impose – effective rules on social media behemoths and artificial intelligence is becoming increasingly sophisticated, adding to the risks.<sup>27</sup>

Encrypted digital spaces such as WhatsApp are now also being targeted.<sup>28</sup> As WhatsApp is less data hungry than the likes of Facebook, the messaging app is more

widely used than social platforms in less developed countries, with group chats proving particularly fertile for spreading misinformation since rumours are forwarded by trusted family members or friends and look like personal messages.<sup>29</sup> The political opportunity afforded by this technology is increasingly being seized upon around the world: in India, for example, the political parties now have “social media war rooms” during election time, in which workers “package as many insults as possible into one WhatsApp message” before sending them out to party members around the country for propagation.<sup>30</sup>

It is important to emphasise that the demand for free media and private communication appears to be waning in Africa, as citizens perhaps recoil at the magnitude of hate speech online and appear willing to trade personal liberty for a promise of greater national security.<sup>31</sup> Indeed, according to Afrobarometer’s latest survey in 2018, only 59% of Ugandans, 50% of Kenyans and 40% of Tanzanians think the media should be free — down from 80% of Ugandans, 59% of Kenyans and 73% of Tanzanians in 2011.<sup>32</sup> Furthermore, only 48% of Ugandans, 38% of Kenyans and 34% of Tanzanians believe the government should not monitor online conversations to make sure people are not plotting violence.<sup>33</sup>

# The Ibrahim Index of African Governance suggests the quality of governance across East Africa has improved over the last decade

The Mo Ibrahim Foundation defines governance as encompassing “the provision of the political, social and economic public goods and services that every citizen has the right to expect from their state, and that a state has the responsibility to deliver to its citizens”.<sup>34</sup> Understanding the trajectory of governance in East Africa is crucial, since progress in economic and human development in the context of low- and middle-income countries is often determined by state capacity rather than simply the presence of electoral democracy.<sup>35</sup>

Measuring 102 indicators across 4 categories and drawing on 35 independent sources, the Ibrahim Index of African Governance (IIAG) assesses the extent that states on the continent are keeping citizens safe; protecting their rights; facilitating economic opportunities; and delivering critical services.

The latest IIAG published in 2018 shows that East African countries have improved their scores substantially between 2008 and 2017 (see Figure 48), with Rwanda and Kenya performing particularly strongly: Rwanda’s overall governance score advanced by +5.9 (reaching 64.3 overall) and Kenya’s jumped by +6.1 (up to 59.8 overall). While Tanzania and Uganda’s progress has been more marginal over the last decade, their overall scores – of 58.4 and 55.0 respectively – still exceed the African average.<sup>36</sup>

## **‘Safety and rule of law’ — while there has been deterioration on the continent as a whole, there has been some progress in East Africa.**

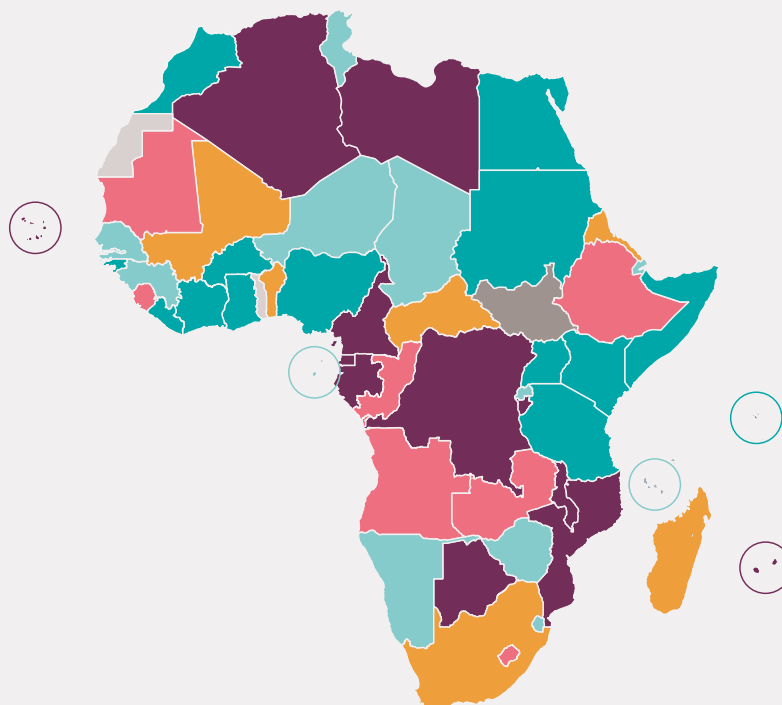
Of the 4 categories, safety and rule of law is the only one to have seen a net decline over the last decade, with the African average score falling from 55.1 to 52.6 between 2008 and 2017.<sup>37</sup> For the most part, this deterioration is due to large declines in personal safety and national security across the continent, with many states evidently struggling to keep pace with the increased threat of terrorist attacks and the complexities of intra-state conflict.

On the issue of transparency and accountability, the African average presents a decidedly mixed picture: while slight gains have been made in addressing issues of corruption in the public sector over the last five years, there has been a sharp rise recorded in private sector corruption and only two countries (Ethiopia and Mali) have made any progress on sanctions for the abuse of office.<sup>38</sup>

Since transparency and accountability scores are so strongly correlated with a country’s overall governance score, it is worth highlighting that East African countries, unlike the rest of the continent, have made improvements in this domain over the last decade. While the African average score in transparency and accountability has stagnated, both Rwanda and Kenya have improved their scores by a sizeable margin as they have sought to curb corruption in both the public and private spheres. Enhanced anti-corruption drives in Tanzania and the greater disclosure of state-owned company records in Uganda mean these states are performing above the continental average.

Figure 48

Quality of governance according to the Ibrahim Index of African Governance (IIAG), 2007–2018



Classification	Characteristic
<b>Improved</b>	
Increasing Improvement	Progress over the last ten years, with the rate of improvement increasing
Slowing Improvement	Progress over the last ten years, with the rate of improvement slowing
Warning Signs	Progress (or no change) over the last ten years, but showing recent decline
<b>Deteriorated</b>	
Bouncing Back	Decline (or no change) over the last ten years, but showing recent progress
Slowing Deterioration	Decline over the last ten years, but the rate of decline is slowing
Increasing Deterioration	Decline over the last ten years, with the rate of decline increasing

Source: [iiag.online](http://iiag.online)

**‘Sustainable economic opportunity’ — most governments across the continent are struggling to provide their citizens with the opportunity to prosper, but the business environment in East Africa has improved significantly.**

Defined as “the extent to which governments enable their citizens to pursue economic goals and provide the opportunity to prosper”, the African average sustainable economic opportunity score remains the lowest and slowest improving of the four main categories.<sup>39</sup> Indeed, as Figure 49 makes clear, Africa’s strong GDP growth in recent years has simply not translated into enhanced economic prospects for the average African citizen, with the sizeable deterioration of the business environment appearing responsible for this dilemma.

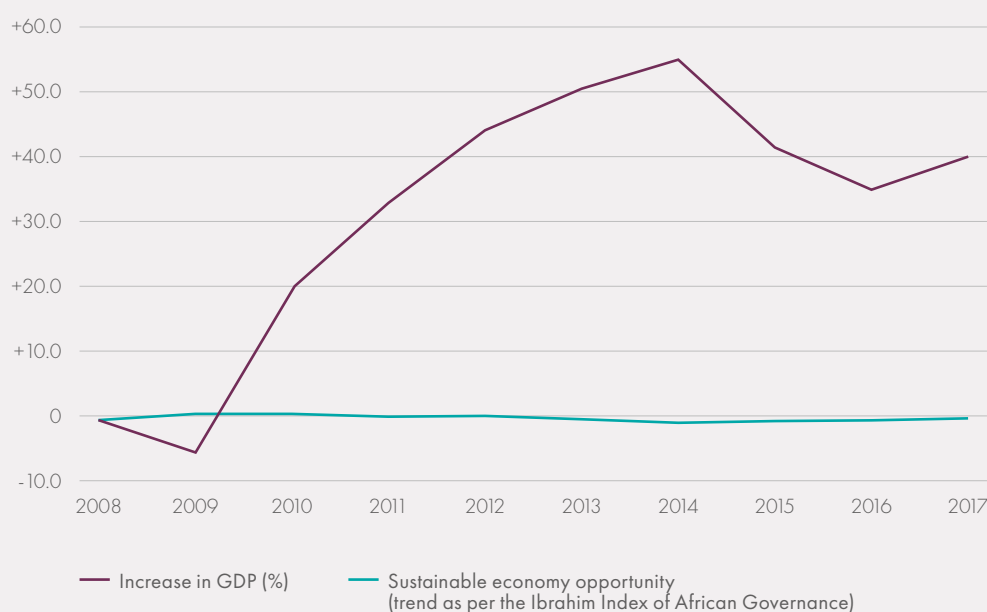
However, of the 10 countries who experienced the strongest spells of GDP growth between 2008 and 2017, the 2 that feature in the 10 largest improvers in business environment scores are Kenya and Rwanda. Indeed, with a significant gain in the sustainable economic opportunity category, Rwanda is now considered to have the strongest business environment on the continent, having substantially enhanced its customs procedures, reduced red tape and improved extension services in rural areas.<sup>40</sup>

While Kenya still lags slightly behind Rwanda’s performance in public management, the country has dramatically enhanced its sustainable economic opportunity score in recent years — improving customs procedures significantly; investing considerably in transport and digital infrastructure; and paying more attention to development issues in rural areas.

**Figure 49**

**Sustainable economic opportunity (annual average trend) vs. increase in Africa’s GDP (%), 2008–2017**

NB: The sustainable economic opportunity category in the IIAG measures the extent to which governments enable their citizens to pursue economic goals and provide the opportunity to prosper



Source: Mo Ibrahim Foundation (2018: 20)



**‘Human development’ — while there have been remarkable improvements in healthcare across the continent, the quality of education appears to be in decline.**

The average African human development category score has improved year on year, rising by +3.5 since 2007 to reach 52.8 — the highest of the 4 main categories.<sup>41</sup> Health is responsible for the majority of this upward trend and is the highest performing indicator of any in the IIAG. Most East African states have significantly improved the extent they can provide care for their citizens. While advances in welfare provision have been meagre at a continental level, Kenya, Rwanda, Uganda and Tanzania are outperforming this average.

Education is showing a worrying sign of spiralling into decline across the continent, as positive scores for higher enrolment rates are being offset by declining levels of satisfaction with provision; a perceived worsening of quality; and a sense that curricula are misaligned with today’s market needs.<sup>42</sup> While Rwanda has made strong progress across the indicators relating to education, the country represents an outlier in East Africa, as Kenyans, Tanzanians and Ugandans grow increasingly dissatisfied with provision — a cause for concern given the magnitude of the youth bulge expected in each country.

KENYA, RWANDA,  
UGANDA AND  
TANZANIA  
ARE ALL OUT-  
PERFORMING THE  
CONTINENTAL  
AVERAGE ON  
IMPROVING  
WELFARE  
PROVISION



# The prospects for further political integration in East Africa appear mixed

## Greater regional integration in East Africa appears unlikely in the short-term owing to political and institutional challenges.

The EAC has expressed interest in moving beyond economic integration and becoming a political federation. However, a lack of will at the national level combined with a disquieting global atmosphere make such a move unlikely in the short-term.<sup>43</sup> Indeed, disputes between members states continue to threaten the integrity and functioning of the trade bloc.<sup>44</sup>

Compromise on the regional stage remains challenging, with multilateral initiatives generally only embarked upon if they satisfy key national interests and constituents. This helps explain why East African countries hold overlapping

memberships with different regional economic communities<sup>45</sup> and why the EAC was unable to reach an internal consensus over the course of a fourteen-year negotiation with the EU (2005–2019).<sup>46</sup>

Institutionally, integration in East African regional economic communities remains relatively shallow, with little decision-making power shifting from national capitals to regional bloc headquarters.<sup>47</sup> According to the African Development Bank, regional bodies tend not to be capacitated enough to engage with how interests and incentives vary across different sectors and policy areas (e.g. infrastructure, energy, gender).<sup>48</sup> Moreover, as regional economic communities rely on international aid, there is a risk that donors drive rather than support reforms, resulting in regional institutions that are not improving their core capabilities overtime.<sup>49</sup>



**Over the medium- and long-term, greater regional political integration in East Africa may be prompted by factors including the need to manage the effects of climate change, the discovery of oil and gas and the implementation of the African Continental Free Trade Agreement.**

Despite the challenges facing greater regional integration, there are many forces that may serve to advance the process in the long-term:

- Since a significant number of East African countries are landlocked, including 3 of the EAC's 5 member states, physical location will mean ensuring efficient transport corridors to seaports remains a regional priority.<sup>50</sup>
- As climate change encourages cross-border migration, rendering swathes of territory either unproductive or uninhabitable, states in the region may feel obliged to collaborate more closely in response.<sup>51</sup>
- The recent discoveries of natural gas and oil in Kenya, Tanzania and Uganda and the continued exploitation of oil in South Sudan look set to provide a long-standing incentive for expanding regional infrastructural links.<sup>52</sup> Indeed, there are two mega infrastructure projects under way which could have a significant impact on regional trading dynamics. Tanzania's Mwambani Port and Railway Corridor is on course to connect Rwanda, Burundi, Uganda, DRC, Zambia, Zimbabwe and Malawi to a seaport. However, the viability of Kenya's LAPSSET (Lamu Port – South Sudan – Ethiopia Transport) Corridor has been questioned, due to its \$3.3 billion construction cost, the ongoing conflict in South Sudan and Uganda's decision to take its oil through Tanzania.<sup>53</sup>
- The African Continental Free Trade Agreement (AfCFTA) has – as of April 2019 – been ratified by 22 member states – the minimum number required for the trade pact to enter into force. East African states have an opportunity to capitalise on the political good will associated with the AfCFTA and its plan to tackle issues of intra-African trade policy, facilitation, infrastructure and finance.<sup>54</sup>
- Concerted diplomatic effort will be crucial if regional integration is to continue apace in the years to come. President Kenyatta's endeavour to de-escalate the trade dispute between Rwanda and Uganda in March 2019 signals an intent to embody a remark he made after his visits to Kigali and Kampala: "The more we meet, the more we interact, the better we integrate as people."<sup>55</sup>

**HORIZON**  
EAST AFRICA

**CONNECT WITH US TO  
CONTINUE THE CONVERSATION**

We are eager to hear from others to discuss the findings of this report, deepen our understanding, and help target our future research.

To get in touch and to keep up-to-date with Horizon's activities, please connect with us online:

@horizon\_ea

info@horizon-ea.com

www.horizon-ea.com

---

# Chapter Notes

- <sup>1</sup> Cilliers (2018): 4. See also International Monetary Fund (2019): 25.
- <sup>2</sup> Cilliers (2018): 22. See also von Soest & De Juan (2018): 2 and International Monetary Fund (2019): 31.
- <sup>3</sup> UN and World Bank (2019): 12. See also International Monetary Fund (2019): 25-9.
- <sup>4</sup> Cilliers (2018): 3.
- <sup>5</sup> von Soest & De Juan (2018): 3.
- <sup>6</sup> *ibid*: 6.
- <sup>7</sup> Cilliers (2018): 8-9.
- <sup>8</sup> International Crisis Group (2018): 6.
- <sup>9</sup> *ibid*: 11.
- <sup>10</sup> *ibid*: 18.
- <sup>11</sup> *ibid*: 19-21.
- <sup>12</sup> *ibid*: 26.
- <sup>13</sup> Cilliers (2018): 12. See also von Soest & De Juan (2018): 4.
- <sup>14</sup> Cilliers (2018): 19-21.
- <sup>15</sup> *ibid*: 24.
- <sup>16</sup> Hendricks & Salehyan (2012): 36.
- <sup>17</sup> Economist Intelligence Unit (2019): 19.
- <sup>18</sup> *ibid*: 5.
- <sup>19</sup> *ibid*: 10.
- <sup>20</sup> *ibid*: 30.
- <sup>21</sup> *ibid*: 10.
- <sup>22</sup> Cilliers (2016): 21.
- <sup>23</sup> Mattes (2019): 5, 13.
- <sup>24</sup> Ogola (2018).
- <sup>25</sup> Conroy-Krutz & Sanny (2019): 16.
- <sup>26</sup> Watts (2018): 2.
- <sup>27</sup> *ibid*: 8, 11.
- <sup>28</sup> Portland Communications (2018).
- <sup>29</sup> The Economist (2018a).
- <sup>30</sup> *ibid*.
- <sup>31</sup> Conroy-Krutz & Sanny (2019): 1. See also Logan & Penar (2019): 7.
- <sup>32</sup> Conroy-Krutz & Sanny (2019): 4, 6.
- <sup>33</sup> Logan & Penar (2019): 7-8.
- <sup>34</sup> Mo Ibrahim Foundation (2018): 9.
- <sup>35</sup> Cilliers (2016): 27.
- <sup>36</sup> Mo Ibrahim Foundation (2018): 16.
- <sup>37</sup> *ibid*: 28.
- <sup>38</sup> *ibid*: 30.
- <sup>39</sup> *ibid*: 48.
- <sup>40</sup> *ibid*: 52.
- <sup>41</sup> *ibid*: 63.
- <sup>42</sup> *ibid*: 19.
- <sup>43</sup> The Economist (2019).
- <sup>44</sup> The Economist (2019). See also Ordu (2019).



---

<sup>45</sup> African Development Bank (2019): 32.

<sup>46</sup> Burite (2019).

<sup>47</sup> African Development Bank (2019): 32.

<sup>48</sup> *ibid*: 33.

<sup>49</sup> *ibid*: 33.

<sup>50</sup> *ibid*: 25.

<sup>51</sup> *ibid*: 25.

<sup>52</sup> *ibid*: 26.

<sup>53</sup> Humanitarian Foresight Think Thank 2017: 17.

<sup>54</sup> Ordu (2019).

<sup>55</sup> Cited in Ordu (2019).

# Bibliography

## A

Adegoke, Y. (2019) African Leadership University Has Raised \$30 Million To Help Reinvent Graduate Education. Quartz. Available at: <https://qz.com/africa/1515015/african-leadership-university-raises-30-million-series-b/> (Accessed 9 April 2019)

Adhikari, U., Nejadhashemi, P. & Woznicki, S. A. (2015) Climate Change and Eastern Africa: A Review of Impact on Major Crops. Food and Energy Security, 4(2): pp. 110-132

African Center for Economic Transformation (ACET) (2017) African Transformation Report 2017: Agriculture Powering Africa's Economic Transformation. Accra: ACET

African Development Bank (AfDB) (2019) East Africa Economic Outlook 2019. Abidjan: AfDB

African Export-Import Bank (2018) African Trade Report 2018. Cairo: African Export-Import Bank

African Union (AU) (2015) Agenda 2063: Framework Document. Available at: <http://www.un.org/en/africa/osaa/pdf/au/agenda2063-framework.pdf> (Accessed 23 February 2019)

African Union (AU) (2017) A Brief on The African Union Commodities Strategy and Industrialisation. Available at: [https://www.au.int/web/sites/default/files/pages/32143-file-plenary\\_1\\_-\\_brief\\_on\\_the\\_auc\\_commodities\\_strategy.pdf](https://www.au.int/web/sites/default/files/pages/32143-file-plenary_1_-_brief_on_the_auc_commodities_strategy.pdf) (Accessed 23 February 2019)

African Union Commission (AUC) & Organisation for Economic Co-Operation and Development (OECD) (2018) Africa's Development Dynamics 2018: Growth, Jobs and Inequalities. Addis Ababa: AUC & Paris: OECD Publishing

Akorede, S. (2018) Here are Three Ways Africa's Youth Are Defeating Corruption. World Economic Forum (WEF). Available at: <https://www.weforum.org/agenda/2018/11/here-are-three-ways-africas-youth-are-defeating-corruption/> (Accessed 23 February 2019)

Anonymous (2018) Tanzania: Everyone is Scared. African Arguments. Available at: <https://africanarguments.org/2018/03/02/tanzania-everyone-is-scared/> (Accessed 23 February 2019)

Antoninis, M. & Corcoran, B. (2019) This One Small Change Could Transform Education for Millions. World Economic Forum (WEF). Available at: <https://www.weforum.org/agenda/2019/01/this-one-small-change-could-transform-education/> (Accessed 23 February 2019)

Attridge, S. & Engen, L. (2019) Blended Finance in The Poorest Countries: The Need for A Better Approach. London: Overseas Development Institute

## B

Badiane, O., Odjo, S. & and Collins, J. (eds.) (2018) Africa Agriculture Trade Monitor Report 2018. Washington D.C.: International Food Policy Research Institute (IFPRI)

Bahar, D & Talvi, E. (2018) How Can Developing Countries Use Their Diaspora Capital? Global Views No. 11, Brookings

- Banga, K. & Willem te Velde, D. (2018) Digitalization and The Future of Africa. Supporting Economic Transformation (SET). Available at: <https://www.odi.org/publications/11073-digitalisation-and-future-manufacturing-africa> (Accessed 21 February 2019)
- Banks-Louie, S. (2018) In Kenya, Virtual Tax Services Improve Compliance, Boost Revenue. Forbes. Available at: <https://www.forbes.com/sites/oracle/2018/07/31/in-kenya-virtual-tax-services-improve-compliance-boost-revenue/#3e9f87db4b31> (Accessed 28 March 2019)
- Bastos de Morais, J.-C. (2017) Digital Technologies Can Deliver Better Healthcare to Sub-Saharan Africa. Here's How. Available at: <https://www.weforum.org/agenda/2017/10/digital-paths-for-better-healthcare-in-sub-saharan-africa/> (Accessed 23 February 2019)
- Bello-Schünemann, J., Cilliers, J., Donnenfeld, Z., Aucoin, C. & Porter, A. (2017) African Futures: Key Trends to 2035. Policy Brief, Institute for Security Studies
- Brent, W. & Sculley, A. (2019) Top Trends for Energy Access in 2019. Power For All. Available at: <https://www.powerforall.org/insights/top-trends-energy-access-2019> (Accessed: 19 February 2019)
- Bright, J. & Stein, S. (2018) African Experiments with Drone Technologies Could Leapfrog Decades of Infrastructure Neglect. TechCrunch. Available at: [https://techcrunch.com/2018/09/16/african-experiments-with-drone-technologies-could-leapfrog-decades-of-infrastructure-neglect/?guccounter=1&guce\\_referrer\\_us=aHR0cHM6Ly93d3cuZ29vZ2xlmNvbS8&guce\\_referrer\\_cs=Q30Al0cCPPQ1rP9h9BmBCA](https://techcrunch.com/2018/09/16/african-experiments-with-drone-technologies-could-leapfrog-decades-of-infrastructure-neglect/?guccounter=1&guce_referrer_us=aHR0cHM6Ly93d3cuZ29vZ2xlmNvbS8&guce_referrer_cs=Q30Al0cCPPQ1rP9h9BmBCA) (Accessed 6 April 2019)
- Brookings (2018) Foresight Africa: Top Priorities for the Continent in 2018. Washington D.C.: Brookings
- Brookings (2019) Foresight Africa: Top Priorities for the Continent in 2019. Washington D.C.: Brookings
- Bull, G. (2018) Financial Inclusion in 2018: Big Tech Hits Its Stride. The Consultative Group to Assist The Poor (CGAP). Available at: <https://www.cgap.org/blog/financial-inclusion-2018-bigtech-hits-its-stride> (Accessed: 9 January 2019)
- Burite, J. (2019) East African Community: The Trade Ties That Bind. The Africa Report. Available at: <https://www.theafricareport.com/9703/east-african-community-the-trade-ties-that-bind/> (Accessed 14 May 2019)

## C

- Carty, Tracy (2017) A Climate in Crisis: How Climate Change is Making Drought and Humanitarian Disaster Worse in East Africa. Oxfam. Available at: <https://policy-practice.oxfam.org.uk/publications/a-climate-in-crisis-how-climate-change-is-making-drought-and-humanitarian-disas-620263> (Accessed 20 February 2019)
- CB Insights (2017) Cultivating Ag Tech: Examining how The Agriculture Industry is Being Reshaped by Technology. Available at: [http://www.hyndes.com/uploads/9/2/0/6/9206450/cb-insights\\_cultivating-agtech.pdf](http://www.hyndes.com/uploads/9/2/0/6/9206450/cb-insights_cultivating-agtech.pdf) (Accessed: 18 December 2018)
- Cilliers, J. (2018) Violence in Africa: Trends, Drivers and Prospects to 2023. Pretoria: Institute for Security Studies (ISS)
- Connor, P. (2018) International Migration from Sub-Saharan Africa Has Grown Dramatically Since 2010. Pew Research Centre. Available at: <https://www.pewresearch.org/fact-tank/2018/02/28/international-migration-from-sub-saharan-africa-has-grown-dramatically-since-2010/> (Accessed 7 May 2019)
- Conroy-Krutz, J. & Sanny, J. (2019) Across Africa, Media Freedom is on The Defensive. Afrobarometer Policy Paper No. 56
- Convergence/Business and Sustainable Development Commission (BSDC) (2017) The State of Blended Finance. Available at: [https://assets.ctfassets.net/4cgqlwde6qy0/NGMz9keVI4ciWKisKcyUI/d280ecb68acd49976cc37cfe31ae7fe0/BSDC\\_and\\_Convergence\\_\\_The\\_State\\_of\\_Blended\\_Finance\\_July\\_2017.pdf](https://assets.ctfassets.net/4cgqlwde6qy0/NGMz9keVI4ciWKisKcyUI/d280ecb68acd49976cc37cfe31ae7fe0/BSDC_and_Convergence__The_State_of_Blended_Finance_July_2017.pdf) (Accessed 4 January 2019)

## D

Daniels, M. (2018) Population Mountains. The Pudding. Available at: [https://pudding.cool/2018/12/3d-cities-story/?utm\\_&&](https://pudding.cool/2018/12/3d-cities-story/?utm_&&) (Accessed: 6 March 2019)

Deichmann, U., Goyal, A. & Mishra, D. (2016) Will Digital Technologies Transform Agriculture in Developing Countries? Policy Research Working Paper 7669, World Bank

## E

Economist Intelligence Unit (EIU) (2017) East African Community's Trade Conundrum. Available at: <http://country.eiu.com/article.aspx?articleid=665893450> (Accessed: 14 May 2019)

Economist Intelligence Unit (EIU) (2019) Democracy Index 2018. Available at: <http://www.eiu.com/topic.aspx?topic=democracy-index> (Accessed: 29 January 2019)

El Messnaoui, A., Omowole, D., Mrewa, L., Fe Silvosa, R. (2018) A Political Economy Analysis of Devolution in Kenya. Nairobi: Institute of Economic Affairs

Ellis, M., McMillan, M. & Silver, J. (2018) Employment and Productivity Growth in Tanzania's Service Sector. In: Newfarmer, R. S., Page, J. & Tarp, F. (eds.) Industries without Smokestacks: Industrialisation in Africa Reconsidered. Oxford: Oxford University Press

European Political Strategy Centre at the European Commission (EPSC) (2017) 10 Trends Shaping Migration. Available at: [https://ec.europa.eu/epsc/publications/other-publications/10-trends-shaping-migration\\_en](https://ec.europa.eu/epsc/publications/other-publications/10-trends-shaping-migration_en) (Accessed 7 May 2019)

## F

Famoroti, M. (2017) The Potential of Diaspora Bonds in Africa. Africa at the London School of Economics (LSE). Available at: <http://blogs.lse.ac.uk/africaatlse/2017/04/12/the-potential-of-diaspora-bonds-in-africa/> (Accessed: 25 January 2019)

Foreign Direct Investment Intelligence (2017) The Africa Investment Report 2017: Investing for Inclusive Growth

Freedom House (2019) Freedom in The World 2019: Democracy in Retreat. Washington D.C.: Freedom House

Future Climate for Africa (FCFA) (2016) Africa's Climate: Helping Decision-Makers Make Sense of Climate Information. Cape Town: FCFA

## G

Google.org (2018) Impact Challenge Kenya. Available at: <https://impactchallenge.withgoogle.com/kenya2018> (Accessed: 7 March 2019)

GSMA (2019) The Mobile Economy: Sub-Saharan Africa 2019. London: GSMA

## H

Hallward-Driemeier, M. & Nayyar, G. (2018) Trouble in the Making? The Future of Manufacturing-Led Development. Washington D.C.: World Bank

Hanley, M. (2019) Jack Ma Plans to Reform Globalization From The Bottom Up. Here's How. World Economic Forum (WEF). Available at: <https://www.weforum.org/agenda/2019/01/jack-mas-plans-to-reform-globalization-from-the-bottom-up-heres-how/> (Accessed 23 February 2019)

Hendriks, C. S. & Salehyan, I. (2012) Climate Change, Rainfall and Social Conflict in Africa. Journal of Peace Research, Vol. 49, No. 1



Humanitarian Foresight Think Tank (2017) East Africa and The Horn in 2022: An Outlook for Strategic Positioning in The Region. Paris: The French Institute for International and Strategic Affairs (IRIS)

## I

I-Dev International (2018) Kenya: The Race to Electrification Powered by The Sun. Available at: [https://idevinternational.com/en/sdm\\_downloads/kenya-race-electrification-powered-sun/](https://idevinternational.com/en/sdm_downloads/kenya-race-electrification-powered-sun/) (Accessed: 24 January 2019)

Institute for Security Studies (ISS) (2017) African Futures: Key Trends. Pretoria: ISS

International Crisis Group (2018) Al-Shabaab Five Years After Westgate: Still a Menace in East Africa. Africa Report No. 265

International Energy Agency (IEA) (2017) Energy Access Outlook 2017: From Poverty to Prosperity. Paris: IEA

International Labour Organisation (ILO) (2018) Global Wage Report 2018/19: What Lies Behind Gender Pay Gaps. Geneva: ILO

International Monetary Fund (IMF) (2015) Regional Economic Outlook. Sub-Saharan Africa: Dealing with The Gathering Clouds. Washington D.C.: IMF

International Monetary Fund (IMF) (2016) World Economic Outlook. Subdued Demand: Symptoms and Remedies. Washington D.C.: IMF

International Monetary Fund (IMF) (2019) Regional Economic Outlook. Sub-Saharan Africa: Recovery Amid Elevated Uncertainty. Washington D.C.: IMF

International Organisation for Migration (IOM) World Migration Report 2018. Geneva: IOM

International Telecommunications Union (2019) Bridging The Gender Divide. Available at: <https://www.itu.int/en/mediacentre/backrounders/Pages/bridging-the-gender-divide.aspx> (Accessed 30 July 2019)

## J

Jayne, T., Yeboah, F. K. & Henry, C. (2017) The Future of Work in African Agriculture: Trends and Drivers of Change. Research Department Working Paper No. 25, International Labour Office (ILO)

John, S. (2018) Blockchain Can Revolutionise the Energy Industry in Africa. World Economic Forum (WEF). Available at: <https://www.weforum.org/agenda/2018/11/blockchain-will-change-the-face-of-renewable-energy-in-africa-here-s-how/> (Accessed 23 February 2019)

John, T. (2018) How The US and Rwanda Have Fallen Out Over Second-Hand Clothes. BBC. Available at: <https://www.bbc.co.uk/news/world-africa-44252655> (Accessed: 26 March 2018)

Joint Research Centre at the European Commission (JRC) (2018) Many More To Come? Migration From and Within Africa. Luxembourg: Publications Office of the European Union (EU)

## K

Kaffenberger, M. & Totolo, E. (2018) A Digital Credit Revolution: Insights from Borrowers in Kenya and Tanzania. Washington D.C.: The Consultative Group to Assist The Poor (CGAP)

Kazeem, Y. (2018) The World's First Blockchain-Powered Elections Have Just Happened in Sierra Leone. World Economic Forum (WEF). Available at: <https://www.weforum.org/agenda/2018/03/the-world-s-first-blockchain-powered-elections-just-happened-in-sierra-leone/> (Accessed 23 February 2019)

Kharas, H. & Rogerson, A. (2017) Global Development Trends and Challenges: Horizon 2025 Revisited. London: Overseas Development Institute (ODI)

## L

La Rocque, M. (2018a) East Africa Tech Snapshot 2018: The Top 10 Tech Startups in East Africa. I-Dev International. Available at: <https://medium.com/i-dev-insights/east-africa-top-10-tech-startups-to-watch-d99cb9e3e2ba> (Accessed: 24 January 2019)

La Rocque, M. (2018b) East Africa Tech Snapshot 2018: Tech Disruption & Innovation on the Frontier: Key Sectors in East Africa to Watch. I-Dev International. Available at: <https://medium.com/i-dev-insights/driving-innovation-in-the-east-african-tech-sector-81745696db1f> (Accessed: 24 January 2019)

La Rocque, M. (2018c) East Africa Tech Snapshot 2018: Growing the East Africa Technology Ecosystem: Challenges & Opportunities. I-Dev International. Available at: <https://medium.com/i-dev-insights/growing-the-east-africa-technology-ecosystem-challenges-opportunities-3ec82fe5c880> (Accessed: 24 January 2019)

Lahaye, E., Abell, T. E., and Hoover, J. K. (2017) Vision of the Future: Financial Inclusion 2025. Washington D.C.: The Consultative Group to Assist The Poor (CGAP)

Lall, S. V., Vernon Henderson, J & Venables, A. J. (2017) Africa's Cities: Opening Doors to the World. Washington D.C.: World Bank

Latif Dahir, A. (2019) Kenya is Planning to Teach Chinese in its Elementary Schools. World Economic Forum (WEF). Available at: <https://www.weforum.org/agenda/2019/01/kenya-will-start-teaching-chinese-to-elementary-school-students-from-2020/> (Accessed 23 February 2019)

Lei Win, T. (2019) The Coffee Farmers Betting on Blockchain to Boost Business. Reuters. Available at: <https://www.reuters.com/article/us-ethiopia-coffee-blockchain/the-coffee-farmers-betting-on-blockchain-to-boost-business-idUSKCN1Q7039> (Accessed 23 February 2019)

Leke, A., Chironga, M. & Desvaux, G. (2018a) Africa's Overlooked Business Revolution. McKinsey. Available at: <https://www.mckinsey.com/featured-insights/middle-east-and-africa/africas-overlooked-business-revolution> (Accessed 18 February 2019)

Leke, A., Chironga, M. & Desvaux, G. (2018b) Rethinking The African Business Opportunity. McKinsey. Available at: <https://www.mckinsey.com/featured-insights/middle-east-and-africa/rethinking-the-african-business-opportunity?cid=africa-eml-alt-mip-mck-oth-1811&hlid=83b89f9b85a04e07aa41ee48c068ca42&hctky=10387119&hdpid=e60ac3d1-8317-4394-8256-d159448f111d> (Accessed 18 February 2019)

Logan, C. & Penar, P. (2019) Are Africans' Freedoms Slipping Away? Afrobarometer Policy Paper No. 55

## M

Mattern, M. (2018) Exploring Blockchain Applications to Agricultural Finance. Washington D.C.: The Consultative Group to Assist The Poor (CGAP)

Mattes, R. (2019) Democracy in Africa: Demand, Supply and The 'Dissatisfied Autocrat'. Afrobarometer Policy Paper No. 54

McKinsey & Company (2017) Dance of The Lions and Dragons: How Are Africa and China Engaging, and How Will The Partnership Evolve? Available at: <https://www.mckinsey.com/~media/McKinsey/Featured%20Insights/Middle%20East%20and%20Africa/The%20closest%20look%20yet%20at%20Chinese%20economic%20engagement%20in%20Africa/Dance-of-the-lions-and-dragons.ashx> (Accessed: 14 January 2019)

McKinsey & Company (2018): Nearshoring, Automation and Sustainability – Establishing A Demand-Focused Apparel Value Chain. Available at: [https://www.mckinsey.com/~media/mckinsey/industries/retail/our%20insights/is%20apparel%20manufacturing%20coming%20home/is-apparel-manufacturing-coming-home\\_vf.ashx](https://www.mckinsey.com/~media/mckinsey/industries/retail/our%20insights/is%20apparel%20manufacturing%20coming%20home/is-apparel-manufacturing-coming-home_vf.ashx) (Accessed 25 March 2019)

McKinsey Global Institute (MGI) (2016) Lions on The Move II: Realizing The Potential of Africa's Economies. Available at: [https://www.mckinsey.com/~media/McKinsey/Featured%20Insights/Middle%20East%20and%20Africa/Lions%20on%20the%20move%20Realizing%20the%20potential%20of%20Africas%20economies/MGI%20Lions%20on%20the%20Move%202\\_Technical%20appendix\\_September%202016.ashx](https://www.mckinsey.com/~media/McKinsey/Featured%20Insights/Middle%20East%20and%20Africa/Lions%20on%20the%20move%20Realizing%20the%20potential%20of%20Africas%20economies/MGI%20Lions%20on%20the%20Move%202_Technical%20appendix_September%202016.ashx) (Accessed: 18 February 2019)

McKinsey Global Institute (MGI) (2018) Outperformers: High-Growth Emerging Economies and The Companies that Propel Them. Available at: <https://www.mckinsey.com/~media/McKinsey/Featured%20Insights/Innovation/Outperformers%20High%20growth%20emerging%20economies%20and%20the%20companies%20that%20propel%20them/MGI-Outperformers-Full-report-Sep-2018.ashx> (Accessed: 4 January 2019)

Mold, A. (2018) The Consequences of Brexit for Africa: The Case of the East African Community. *Journal of African Trade* 5, pp. 1-17

Moran, C. (2018) Growth: It's Complicated. Rethinking Economics. Available at: [http://www.rethinkeconomics.org/journal/growth-its-complicated/?utm\\_source=Rethinking+Economics&utm\\_campaign=e981356d1d-EMAIL\\_CAMPAIGN\\_2018\\_07\\_09\\_02\\_24\\_COPY\\_01&utm\\_medium=email&utm\\_term=0\\_a563078058-e981356d1d-165373775](http://www.rethinkeconomics.org/journal/growth-its-complicated/?utm_source=Rethinking+Economics&utm_campaign=e981356d1d-EMAIL_CAMPAIGN_2018_07_09_02_24_COPY_01&utm_medium=email&utm_term=0_a563078058-e981356d1d-165373775) (Accessed: 15 February 2019)

Mukhala, E., Maingi, N. W. & Ngaina, J. N. (2017) A Synthesis of the Impact of Climate Change on Agricultural Production Systems in the East African Community Region. Working Paper No. 26, The Kenya Institute for Public Policy Research and Analysis (KIPPRA)

Mutyaba, M. (2018) Bobi Wine: Why The Ugandan Regime Is So Rattled by The Popular Musician. *African Arguments*. Available at: <https://africanarguments.org/2018/08/20/bobi-wine-why-the-ugandan-regime-is-so-rattled-by-the-popular-musician/> (Accessed 23 February 2019)

## N

Ndumi Ngumbi, E. (2018) African Agriculture Has a Lot to Gain From Increased Access to Big Data. World Economic Forum (WEF). Available at: <https://www.weforum.org/agenda/2018/08/african-agriculture-has-a-lot-to-gain-from-increased-access-to-big-data/> (Accessed 23 February 2019)

Ndung'u, N. (2018) Next Steps for The Digital Revolution in Africa: Inclusive Growth and Job Creation Lessons from Kenya. Working Paper 20, Africa Growth Initiative, Brookings

Nedelkoska, L. & Quintini, G. (2018) Automation, Skills Use and Training. Organisation for Economic Co-operation and Development (OECD) Social, Employment and Migration Working Papers, No. 202. Paris: OECD.

News 24 (2017) Journalists 'Suffocating' in Magafuli's Tanzania. Available at: [https://www.news24.com/Africa/News/journalists-suffocating-in-magafulis-tanzania-20170503?utm\\_source=Media+Review+for+May+3%2C+2017&utm\\_campaign=D-MR-+EN-+5%2F3%2F2017&utm\\_medium=email](https://www.news24.com/Africa/News/journalists-suffocating-in-magafulis-tanzania-20170503?utm_source=Media+Review+for+May+3%2C+2017&utm_campaign=D-MR-+EN-+5%2F3%2F2017&utm_medium=email) (Accessed 8 March 2019)

Ng'wanakilala, F. (2019) Tanzania MPs Grant Government Sweeping Powers Over Political Parties. Reuters. Available at: <https://www.reuters.com/article/us-tanzania-politics/tanzania-mps-grant-government-sweeping-powers-over-political-parties-idUSKCN1PO0IA> (Accessed 23 February 2019)

Ng'weno, A. & Porteous, D. (2018) Let's Be Real: The Informal Sector and The Gig Economy are The Future, and The Present, of Work in Africa. Washington D.C.: Center for Global Development (CGD)

Ngui, D. & Kimuyu, P. (2018) Prospects for Information and Communications Technology-Enabled Services in Kenya: The Case of the Mobile Money Transfer Industry. In: Newfarmer, R. S., Page, J. & Tarp, F. (eds.) *Industries without Smokestacks: Industrialisation in Africa Reconsidered*. Oxford: Oxford University Press

Nsehe, M. (2018) Kenyan Startup Twiga Foods Raises \$10 Million. *Forbes*. Available at: <https://www.forbes.com/sites/mfonobongnsehe/2018/11/16/kenyan-startup-twiga-foods-raises-10-million/#17261b421395> (Accessed 5 April 2019)

Nyabola, N. (2018) #FreeBobiWinie and Today's Pan-Africanism For The Digital Age. *African Arguments*. Available at: <https://africanarguments.org/2018/08/23/freebobiwine-today-pan-africanism-digital-age/> (Accessed 23 February 2018)

## O

Odhiambo, M. (2018) Kenya: Only Civil Society Can Stop Elites Changing The Constitution. African Arguments. Available at: <https://africanarguments.org/2018/07/16/kenya-constitution-civil-society-stop-elites/> (Accessed 23 February 2019)

Ogola, G. (2018) How New Media Platforms Have Become Powerful Across Africa. News 24. Available at: <https://www.news24.com/Africa/News/how-new-media-platforms-have-become-powerful-across-africa-20181210> (Accessed 13 May 2019)

Omidyar Network (2018) Ten Trends to Watch in 2018 & Beyond. Available at: [http://www.omidyar.com/sites/default/files/file\\_archive/10%20Trends%20to%20Watch%20in%202018%20&%20Beyond\\_Omidyar%20Network.pdf](http://www.omidyar.com/sites/default/files/file_archive/10%20Trends%20to%20Watch%20in%202018%20&%20Beyond_Omidyar%20Network.pdf) (Accessed: 11 December 2018)

Ordu, A. U. (2019) Headwinds Toward East African Regional Integration: Will This Time Be Different? Brookings. Available at: <https://www.brookings.edu/blog/africa-in-focus/2019/04/22/headwinds-towards-east-african-regional-integration-will-this-time-be-different/> (Accessed 14 May 2019)

Organisation for Economic Co-operation and Development (OECD) (2017) Social Protection in East Africa: Harnessing the Future. Paris: OECD Publishing

Organisation for Economic Co-operation and Development (OECD) (2018) OECD Science, Technology and Innovation Outlook 2018: Adapting to Technological and Societal Disruption. Paris: OECD Publishing

Oxford Internet Institute (2018) Mapping Broadband Affordability in 2016. Available at: <https://geonet.oii.ox.ac.uk/blog/mapping-broadband-affordability-in-2016/> (Accessed: 30 July 2019)

## P

Pathways for Prosperity Commission (2018) Charting Pathways for Inclusive Growth: From Paralysis to Preparation. Available at: <https://pathwayscommission.bsg.ox.ac.uk/sites/default/files/2018-11/inclusive-growth-report.pdf> (Accessed: 17 December 2018)

Pew Research Center (2018) At Least a Million Sub-Saharan Africans Moved to Europe Since 2010. Available at: <https://www.pewglobal.org/2018/03/22/at-least-a-million-sub-saharan-africans-moved-to-europe-since-2010/> (Accessed 7 May 2019)

Porteous, D. & Ng'weno, A. (2019) What Will The Rise of Online Shopping in Africa Mean for Jobs? World Economic Forum (WEF). Available at: <https://www.weforum.org/agenda/2019/02/here-s-how-digital-commerce-could-drive-employment-in-africa/> (Accessed 23 February 2019)

Portland Communications (2018) How Africa Tweets 2018. Available at: <https://portland-communications.com/pdf/How-Africa-Tweets-2018.pdf> (Accessed 13 May 2019)

## R

Rigaud, K., de Sherbinin, A., Jones, B., Bergmann, J., Clement, V., Ober, K., Schewe, J., Adamo, S., McCusker, B., Heuser, S. & Midgley, A. (2018) Groundswell: Preparing For Internal Climate Migration. Washington, D.C.: World Bank

Rodrik, D. (2016) Premature Deindustrialisation. *Journal of Economic Growth*, 21(1): pp. 1-33

Rodrik, D (2018) New Technologies, Global Value Chains, and The Developing Economies. Pathways for Prosperity Commission Background Paper Series No. 1. Oxford: United Kingdom



## S

Sayinzoga, K. (2019) Digitalization, Technological Convergence and Inclusive & Sustainable Development: How To Facilitate Transformation. The Case of Rwanda. Available at: <https://cdn.enterprise-development.org/wp-content/uploads/AM-Thematic-Day-Kampeta-Sayinzoga-13June2019.pdf> (Accessed 30 July 2019)

Schaeffer, M., Baarsch, F., Adams, S., de Bruin, K., de Marez, L., Freitas, S., Hof, A. (et al.) (2013) Africa's Adaptation Gap: Climate Change Impacts, Adaptation Challenges and Costs for Africa. Geneva: United Nations Environment Programme (UN EP)

Schneidman, W. & Wiegert, J. (2018) Competing in Africa: China, The European Union and The United States. Brookings. Available at: <https://www.brookings.edu/blog/africa-in-focus/2018/04/16/competing-in-africa-china-the-european-union-and-the-united-states/> (Accessed 18 February 2019)

Sibanda, L.M., Mwamakamba, S. N., Mentz, M., Mithunzi, T. (eds.) (2017) Policies and Practices for Climate-Smart Agriculture in Sub-Saharan Africa: A Comparative Assessment of Challenges and Opportunities across 15 Countries. Pretoria: Food, Agriculture and Natural Resource Policy Analysis Network (FANRPAN)

Siegele, L. (2019) The World in 2019: Closing The 'Digital Divide' in 2019. The Economist. Available at: <https://worldin2019.economist.com/digitaldivide> (Accessed: 4 January 2019)

Signé, L. (2018) The Potential of Manufacturing and Industrialisation in Africa: Trends, Opportunities and Strategies. Washington D.C.: Brookings

Stiglitz, J. (2015) The Great Divide: Unequal Societies and What We Can Do About Them. New York: W.W. Norton and Company

Supporting Economic Transformation (SET) (2018) Five Policy Priorities to Facilitate East African Trade and Investment. Available at: <https://set.odi.org/eabc-trade-investment/> (Accessed 29 July 2019)

## T

Temin, J. (2017) The Alarming Decline of Democracy in East Africa. Foreign Affairs. Available at: <https://www.foreignaffairs.com/articles/east-africa/2017-11-27/alarming-decline-democracy-east-africa> (Accessed 22 February 2019)

Temin, J. & Summers, D. (2018) Democratic Governance in Africa: Three Key Trends. Freedom House. Available at: <https://freedomhouse.org/blog/democratic-governance-africa-three-key-trends> (Accessed 14 May 2019)

The East African (2016) Why Investors in Oil and Gas Are Moving Capital Out of East Africa. Available at: <https://www.theeastafrican.co.ke/business/Why-oil-and-gas-investors-are-moving-capital-out-of-East-Africa/2560-3368286-scl1elhz/index.html> (Accessed 4 March 2019)

The East African (2018) African Commodity Strategy: Value Addition for Global Competitiveness. Available at: <https://www.theeastafrican.co.ke/Sponsored/African-Commodity-Strategy-Value-addition-/4358802-4729072-fwthqn/index.html> (Accessed 23 February 2019)

The East African (2019) A Month Later, Tanzania Bans Sugar Importation Again. Available at: <https://www.theeastafrican.co.ke/business/Tanzania-bans-sugar-importation-again/2560-4990814-3ftxqaz/index.html> (Accessed 26 March 2019)

The Economist (2018a) WhatsApp: Mark Zuckerberg's Other Headache. Available at: <https://www.economist.com/business/2018/01/27/whatsapp-mark-zuckerbergs-other-headache> (Accessed 13 May 2019)

The Economist (2018b) Tanzania's Rogue President. Available at: <https://www.economist.com/middle-east-and-africa/2018/03/15/tanzanias-rogue-president> (Accessed 10 April 2019)

The Economist (2018c) How African Governments Try To Control What Is Said Online. Available at: <https://www.economist.com/middle-east-and-africa/2018/04/19/how-african-governments-try-to-control-what-is-said-online> (Accessed 13 May 2019)

The Economist (2019) A Political Union for East Africa? Available at: <https://www.economist.com/middle-east-and-africa/2019/02/07/a-political-union-for-east-africa> (Accessed 13 May 2019)

The Guardian (2018) Social Media Use Taxed in Uganda to Tackle 'Gossip'. Available at: <https://www.theguardian.com/world/2018/jun/01/social-media-use-taxed-in-uganda-to-tackle-gossip> (Accessed 23 February 2019)

Titeca, K., Edmond, P. & Reuss, A. (2018) Generation Gap: What #FreeBobiWinie Tells Us About Ugandan Politics. African Arguments. Available at: <https://africanarguments.org/2018/08/23/generation-gap-freebobiwine-bobi-wine-uganda-politics/> (Accessed 23 February 2019)

## U

United Nations Conference on Trade and Development (UNCTAD) (2017) World Investment Report 2017: Investment and The Digital Economy. Geneva: UNCTAD

United Nations Department of Economic and Social Affairs (UNDESA) (2018) Accelerating SDG 7 Achievement: Policy Briefs in Support of The First SDG 7 Review at The UN High-Level Political Forum 2018. Available at: [https://sustainabledevelopment.un.org/content/documents/18041SDG7\\_Policy\\_Brief.pdf](https://sustainabledevelopment.un.org/content/documents/18041SDG7_Policy_Brief.pdf) (Accessed 19 February 2019)

United Nations Development Program (UNDP) (2017) Income Inequality Trends in Sub-Saharan Africa: Divergence, Determinants and Consequences. New York: UNDP

United Nations Economic Commission for Africa (UNECA)/African Climate Policy Centre (ACPC) (2014) Loss and Damage in Africa. Addis Ababa: UN ECA

United Nations & World Bank (2018) Pathways for Peace: Inclusive Approaches to Preventing Violent Conflict. Washington D.C.: World Bank

Urama, K. C. & Ozor, N. (2010) Impacts of Climate Change on Water Resources in Africa: The Role of Adaptation. African Technology Studies Network, 29: pp. 1-29

## V

von Soest, C. & De Juan, A. (2018) Dealing with New Security Threats in Africa. German Institute of Global and Area Studies (GIGA) Focus, Africa, Number 2

## W

Waiithaka et. al. (2013) East African Agriculture and Climate Change: A Comprehensive Analysis. Washington D.C.: International Food Policy Research Institute (IFPRI)

Watts, C. (2018) Advanced Persistent Manipulators and Social Media Nationalism: National Security in a World of Audiences. Hoover Working Group on National Security, Technology, and Law, Aegis Series Paper No. 1812

We Are Social (2019) Global Digital Yearbook 2019. Available at: <https://datareportal.com/library> (Accessed 23 February 2019)

Wee Tracker (2019) 2018 Annual Report: Decoding Venture Investments in Africa. Available at: <https://weetracker.com/2019/01/04/what-a-year-the-state-of-venture-capital-in-africa-2018/> (Accessed 19 February 2019)

Were, A. (2018) Debt Trap? Chinese Loans and Africa's Development Options. Policy Insights 66, South African Institute of International Affairs (SAIIA)

Wheeldon, S. (2016) 4 E's: Here Come The Utilities. Power For All. Available at: <https://www.powerforall.org/insights/dre-technologies/4-es-here-come-utilities> (Accessed: 19 February 2019)

World Bank (2018a) Poverty and Shared Prosperity 2018: Piecing Together the Poverty Puzzle. Washington D.C.: World Bank

World Bank (2018b) World Development Report 2018: Learning to Realize Education's Promise. Washington D.C.: World Bank

World Bank (2019) World Development Report 2019: The Changing Nature of Work. Washington D.C.: World Bank

World Economic Forum (WEF) (2018a) Regional Risks for Doing Business. Geneva: WEF

World Economic Forum (WEF) (2018b) The Global Competitiveness Report 2018. Geneva: WEF

World Economic Forum (WEF) (2018c) The Future of Jobs Report 2018. Geneva: WEF

# Photo Credits

Page 07 – Klaus Tan, Chuttersnap

Page 10 – Courtesy of Adidas

Page 12 – Sala Lewis, Verve, for the Textile Development Unit, Tanzania

Page 17 – Vklilov, Shutterstock

Page 25 – Roya Ann Miller

Page 26 – Eskinder Debebe for the United Nations

Page 29 – Patrick Kyle Hendry

Page 32 – Travelgram, Shutterstock

Page 38 – Neil Thomas for Gatsby

Page 38 – Sebastian Noethlichs

Page 43 – KDN759, Shutterstock

Page 49 – Hailey Tucker for One Acre Fund

Page 55 – Sala Lewis, Verve, for the Textile Development Unit, Tanzania

Page 61 – Ross Johnston, Newslane Media, for The Wood Foundation Africa

Page 64 – Hu Chen

Page 66 – Lidia Daskalova

Page 67 – Courtesy of Paul Kagame Flickr Account

Page 69 – Bennett Tobias

Page 83 – Bill Wegener

Page 86 – NESA by Makers, Unsplash

Page 91 – Courtesy of Paul Kagame Flickr Account

Page 96 – Angelo Moleele

Page 100 – Karen Foley Photography

Page 101 – Courtesy of Paul Kagame Flickr Account



# Contributors

## Interviewees & contributors:

Aggie Asiimwe Konde, Chief Executive Officer | Msingi East Africa

Owen Barder, Vice President and Director for Europe | Center for Global Development

Norbert Benker, Director of Institutional Support | Gatsby Africa

Christopher Cramer, Professor of Political Economy | SOAS, University of London

Ellen Dobbs, Senior International Programme Officer | Ashden

Mayada El-Zoghbi, Lead of Strategy, Research & Development Unit | The Consultative Group to Assist the Poor

James Foster, Strategy & Learning Director | Gatsby Africa

Louise Fox, Chief Economist | USAID

Linus Gitahi, Board Chair | Msingi East Africa

Justin Highstead, Executive Director | Gatsby Africa

Samuel Kareithi, Country Director for Kenya | Gatsby Africa

Kamau Kuria, Chief Executive Officer | Kenya Markets Trust

Diana Mulili, Director of Business Development & Innovation | Msingi East Africa

Duncan E Onyango, Regional Director/CEO East Africa | Acumen Fund

Lindsay Wallace, Director of Strategy and Learning | Mastercard Foundation

Charles Warria, Head of M&E, Policy, Research & Climate Change | Kenya Markets Trust

Dirk Willem te Velde, Principal Research Fellow and Head of the International Economic Development Group | Overseas Development Institute (ODI)

**Research lead & author:** Edwin Price

**Design lead:** Georgia Cockerill

**Editorial:** Georgie Duffin, David McNicoll

**Graph & figure design:** Studio Texture

# About the Project Sponsors



**Msingi** is a forward-thinking East African organisation focused on catalysing competitive industries of the future. Taking a regional approach to sectoral development, Msingi works across Kenya, Rwanda, Tanzania and Uganda. Msingi is currently working in the aquaculture and textiles & apparel sectors. Msingi aims to generate new jobs and boost incomes while fostering inclusive opportunities for future generations to improve their livelihoods. Msingi's systems model blends market facilitation tools with the ability to directly finance pioneering, strategically-important entrepreneurs. The aim is to enable industries to remain competitive in the long-term, protected against risk, and capable of developing new products and services.

[www.msingi.com](http://www.msingi.com) | [info@msingi.com](mailto:info@msingi.com)



**Kenya Markets Trust (KMT)** is a Kenyan not-for-profit organisation that specialises in market transformation. KMT works to stimulate inclusive and resilient growth that will lead to a step-change in the livelihoods of millions of Kenyans. KMT takes a long-term approach, staying true to its mission while adapting to the forces – such as climate change and emerging technologies – that are shaping the markets it operates within. Since 2012, KMT has created 230,000 new jobs and £165m additional income for Kenyans. The current portfolio comprises work in agricultural inputs, water and livestock.

[www.kenyamarkets.org](http://www.kenyamarkets.org) | [info@kenyamarkets.org](mailto:info@kenyamarkets.org)



**Gatsby** has worked to create jobs, raise incomes and build opportunities for people in Africa since 1985. Gatsby's mission is to accelerate inclusive and resilient economic growth in East Africa. Gatsby aims to achieve this by demonstrating how key sectors – such as commercial forestry in Tanzania – can be transformed. Gatsby funds and implements programmes that look to catalyse and influence large-scale and lasting change in priority sectors. Gatsby also builds and supports local organisations dedicated to sector transformation, while aiming to share learning with others – such as governments and donors – who are trying to catalyse economic growth.

[www.gatsby.org.uk/africa](http://www.gatsby.org.uk/africa) | [learning@gatsbyafrica.org.uk](mailto:learning@gatsbyafrica.org.uk)

CONNECT WITH US TO  
CONTINUE THE CONVERSATION

We are eager to hear from others to discuss the findings of this report, deepen our understanding, and help target our future research.

Our next report will focus on Kenya.

To get in touch and to keep up-to-date with Horizon's activities, please connect with us online:

@horizon\_ea

info@horizon-ea.com

www.horizon-ea.com

HORIZON  
EAST AFRICA

**MSINGI**  
BUILDING EAST AFRICA'S INDUSTRIES  
OF THE FUTURE

**KENYA  
MARKETS  
TRUST**  
Better Markets, Better Lives

 GATSBY  
AFRICA

