# Africa Is Rising: Is Agriculture Rising?

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### Abstract

This paper highlights the narrative of Africa Rising. It indicates that indeed Africa as well as agriculture are rising. Since 2000, Sub-Saharan Gross Domestic Product has been growing at an average rate of 5% per annum. Agriculture has been growing at an average rate of 3.5% p.a, well above the 2.7% population growth. Evidence shows that this economic and agricultural growth have lead to improvements in the lives of the African people. Real income per person has increased by more than 30% since 2000, and the poverty rate has declined from 57% in 1990 to 43% in 2012. SSA's rapid growth over the past decade and a half has been driven by high global commodity prices, increased foreign direct investments, improved economic governance, and growing domestic demand due to increasing population, spiraling urbanization, expanding labour force and rising middle class. The interesting question is how the Africa rising narrative can be sustained into the future. The paper indicates that the answer lies in the economic and agricultural transformation of Africa. The Africa Progress Report (2014) describes a strategy for economic transformation, while the Comprehensive African Agricultural Development Programme (CAADP) provides a policy framework for agricultural transformation. The paper highlights three examples of frameworks from the author's point of view on how Africa could create such economic and agricultural transformation. The first is based on the author's published Mukhebi Theory of Economic Development (MUTED), which provides the case for public goods that will provide the necessary physical and soft infrastructure (national and continental nervous system) for significantly enhanced intra Africa commerce and trade. The second is based on the author's published book My 50 Dreams, which provides an inexhaustible reservoir of knowledge for necessary technological development and innovation. The third is based on the author's project involvement is the Africa Centers of Excellence II (ACE II) Project initiated and supported by the World Bank, which provides a framework for universities in Africa to develop necessary high level human capital with mobility across the continent. The paper concludes that Africa and its agriculture are indeed rising despite the challenges. Economic and agricultural transformation is needed to sustain the narrative of Africa rising. MUTED, Dreams and the ACE Project are examples of frameworks of how Africa could sustain and enhance the narrative.

Key words: Africa; Rising; Economic Growth; Agriculture; Sub-Saharan Africa

### Introduction

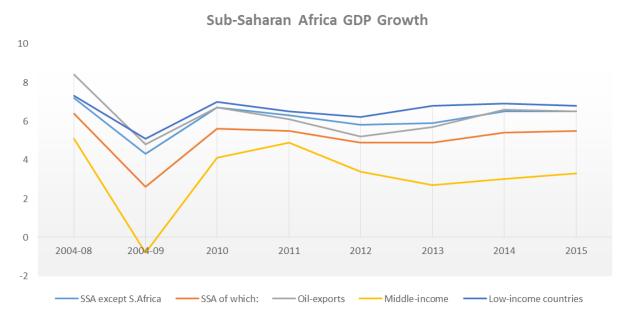
When I became a young professional Agricultural Economist in the 1970s and started participating in international conferences across the globe in Asia, Europe, the Americas and even within Africa itself, I heard of continuous negatives thrown at Africa: Africa is the worst or least or hopeless in this and that statistic, be it in Agriculture, Health, Education, Industry, Arts, etc., etc. If you cared to extrapolate Africa's condition into the future, in the fullness of time, it was as if Africa would be wiped off the face of the earth, become extinct. Instead, today, the narrative has suddenly changed, from the dooms day of the past years to one of rising star! Listen to this statistic doing the rounds in international conferences today: out of the ten fastest growing economies in the world, seven are in Africa! Wow! This is beautiful music in the ears of some of us who have been around for quite some time! In the fullness of time, the Africa's doom sayers have been proven wrong: Africa is not extinct; instead, it is rising: in agriculture, health, education, industry, infrastructure, and yes, in economic growth, albeit still with seemingly intractable challenges, such as in the area of governance. However, the author just loves the narrative of Africa rising: it is positive, it is hopeful, it is encouraging, it is energizing. And this is the story that we should tell to our children, and their children, to build upon and prosper, in this hostile and competitive world. There is hope; let's keep working, innovating, pushing the frontiers, banning tribalism, xenophobia and enhancing governance and integration. Kenya, and Africa, Woye!

# The Africa Rising Narrative

The *Africa Rising* is a term coined to describe the rapid economic growth in Sub-Saharan Africa (SSA) since 2000 and the belief in the inevitability of further rapid development on the continent. The narrative of Africa Rising has been told by global as well as African leading newspapers and magazines since 2000. The term is widely used and was the title of a 2014 conference held in Mozambique by the International Monetary Fund. Both *The Economist* and *Time* magazines have devoted front-pages to the Africa Rising narrative on several occasions (Economist, 2011, 2013, 2015). It has been highlighted at African conferences and Heads of State Summits. Most recently it was highlighted at the World Economic Forum in June 2016 and at the African Union Heads of State Summit in July 2016, both conferences held in Kigali Rwanda.

SSA has experienced remarkable economic growth over the past 16 years. Its annual Gross Domestic Product (GDP) growth has accelerated from an average of 2 percent in the 1990s to 5 percent since 2000 (Figure 1; Africa Progress Report 2014; IMF, 2014). Real income per person has increased by more than 30%, whereas in the previous 20 years it shrank by nearly 10%. SSA is the region of the world with the highest economic growth rate. During the period 2011-2015, seven out of the ten fastest growing countries in the world were in Africa (Table 1). Economic growth has accelerated since 2000 across the continent in 27 of its 30 largest economies. Indeed, countries with and without significant resource exports had similar GDP growth rates (Acha Leke et. al. 2010).

Figure 1.



Source: IMF World Economic and Financial Surveys, April 2014

Table 1. World's Ten Fastest Growing Economies, 2011 - 2015

Country	Annual GDP Growth, %
China	9.5
India	8.2
Ethiopia	8.1
Mozambique	7.7
Tanzania	7.2
Vietnam	7.2
Congo	7.0
Ghana	7.0
Zambia	6.9
Nigeria	6.8

Source: The Economist (2015)

### **Drivers of SSA's Growth**

SSA's rapid growth over the past decade and a half has been driven by high global commodity prices, increased foreign direct investments, improved economic governance and growing domestic demand (Africa Progress Report 2014, Acha Leke et. al. 2010).

Soaring prices for oil, minerals and other commodities have helped lift GDP since 2000 (Acha Leke et. al. 2010). Oil rose from less than \$20 a barrel in 1999 to more than \$145 in 2008. Prices for minerals, grain, and

other raw materials also soared on rising global demand. These resources accounted for about a third of the GDP growth in 2005 (Figure 2).

Internal structural changes and improved governance in many countries have spurred the broader domestic economy, and accounted for two-thirds of the GDP growth. Sectors that contributed most significantly to growth include wholesale and retail, transportation, telecommunications, and manufacturing (Figure 2). The key reasons behind this growth surge included government actions to end armed conflicts, improve macroeconomic conditions, and undertake microeconomic reforms to create a better business climate (August, 2013). Several countries halted their deadly hostilities, creating the political stability necessary to restart economic growth. Many governments reduced the average inflation rate from 22 percent in the 1990s to 8 percent after 2000. They trimmed their foreign debt by one-quarter and shrunk their budget deficits by two-thirds. Further, many governments increasingly adopted policies to energize markets. They privatized state-owned enterprises, increased the openness of trade, lowered corporate taxes, strengthened regulatory and legal systems, and provided critical physical and social infrastructure.

The improved structural changes and improved governance have attracted an inflow of foreign direct investments (FDI) into SSA. FDI has gone from \$15 billion in 2002 to \$37 billion in 2006 and \$46 billion in 2012 (August, 2013).

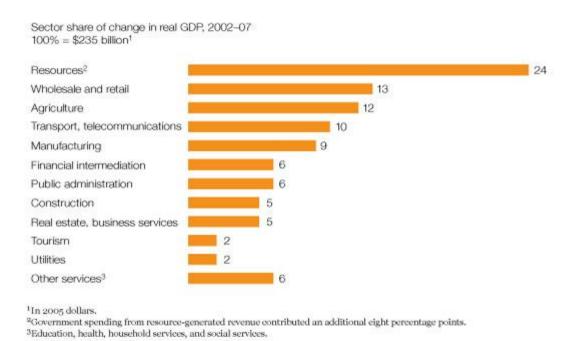


Figure 2. Africa's growth was widespread across sectors from 2002 to 2007

Source: Acha Leke et al, 2010

The structural changes have helped fuel an African productivity revolution by helping companies to achieve greater economies of scale, increase investment, and become more competitive. After declining through the

Source: McKinsey Global Institute analysis

1980s and 1990s, the continent's productivity started growing again in 2000, averaging 2.7 percent since that year. These productivity gains occurred across countries and sectors. (August, 2013)

Another driver of Africa's growth is the growing domestic demand for goods and services due to increasing population (2.7% p.a.), spiraling urbanization (4% p.a.), expanding labour force and rising middle class. In 1980, just 28 percent of Africans lived in cities. Today, 40 percent of the continent's one billion people do—a proportion roughly comparable to China's and larger than India's. By 2030, that share is projected to rise to 50 percent, and Africa's top 18 cities will have a combined spending power of \$1.3 trillion (August, 2013).

Urbanization is boosting productivity (which rises as workers move from agricultural work into urban jobs), demand, and investment. Companies achieve greater economies of scale by spreading their fixed costs over a larger customer base. And urbanization is spurring the construction of more roads, buildings, water systems, and similar projects. Since 2000, Africa's annual private infrastructure investments have tripled, averaging \$19 billion from 2006 to 2008.

Africa's labor force is expanding, in contrast to what's happening in much of the rest of the world. The continent has more than 500 million people of working age. By 2040, their number is projected to exceed 1.1 billion—more than in China or India—lifting GDP growth. Over the last 20 years, three-quarters of the continent's increase in GDP per capita came from an expanding workforce, the rest from higher labor productivity.

The African middle class has tripled in size over the past 14 years, and the expansion is continuing. Many Africans are joining the ranks of the world's consumers. In 2000, roughly 59 million households on the continent had \$5,000 or more in income—above which they start spending roughly half of it on nonfood items. By 2014, the number of such households was estimated to be 106 million. Africa already has more middle-class households (defined as those with incomes of \$20,000 or above) than India.

Economic growth acceleration has started to improve conditions for Africa's people by reducing the poverty rate. The share of the population living below the poverty line (\$1.90 per day) in the continent declined from 57 percent in 1990 to 43 percent in 2012 (World Bank). African lives have greatly improved over the past decade (August, 2013). August posits that the human development in sub-Saharan Africa has made huge leaps. Secondary-school enrolment grew by 48% between 2000 and 2008 after many states expanded their education programmes and scrapped school fees. Over the past decade malaria deaths in some of the worst-affected countries have declined by 30% and HIV infections by up to 74%. Life expectancy across Africa has increased by about 10% and stands at ....years, and child mortality rates in most countries have been falling steeply.

Many goods and services that used to be scarce, including telephones, are now widely available. Africa has three mobile phones for every four people, the same as India. By 2017 nearly 30% of households are

expected to have a television set, an almost fivefold increase over ten years. Nigeria produces more movies than America does. Film-makers, novelists, designers, musicians and artists thrive in a new climate of hope (August, 2013).

### **Agriculture in SSA**

So then, Africa is rising: But is Agriculture also rising? Agriculture is the backbone of the economy in the majority of countries in Africa, and of the overall economic growth, essential for poverty reduction and food security. With the narrative of Africa rising, a new optimism has emerged about the prospects for Africa and African agriculture. Agriculture in sub-Saharan Africa has responded to a better macroeconomic environment, and improved price incentives brought about by reduced taxation of agriculture and higher global prices. The negative rate of protection for Africa as a whole improved from about minus 20 percent in 1975-79 to less than minus 10 percent in the first half of the present decade, and to near zero in 2005. Agricultural growth in SSA has been more than 3.5 percent, well above the 2 percent rate of population growth (FAO, 2009). Figure 1 above shows agricultural contribution to GDP growth has averaged 12% over the past decade and a half.

## The Challenges

Despite the apparent growth of SSA's agriculture, the sector has experienced a low level of productivity, which has exacerbated food insecurity and slowed poverty reduction. This is partly driven by skill constraints and the slow adoption of technology. Primarily this low productivity is the result of factors such as frequent droughts, rampant diseases (crop and livestock), unimproved crop varieties and livestock breeds, lack of access to quality seeds and fertilizers, slow development of input and output markets and associated market services, slow progress in regional integration, governance and institutional shortcomings, conflicts, HIV-AIDS and other human diseases, poor management of water resources and climate change.

# The Opportunities

Despite the seemingly insurmountable challenges, there is wide agreement that African agriculture has enormous potential for growth thanks to its abundant natural resources, namely land and water. Population growth, rapid urbanization and the rise of the middle class point to domestic and intra-African markets as the most promising areas for stimulating medium- to long-term agricultural growth. Several countries have opportunities for expansion into high-value labour-intensive products for both regional and international markets.

### The Strategy for Accelerated and Equitable Growth

Thus, there is evidence that both general GDP and Agricultural GDP are rising, though not in ways that seem sustainable and best benefit the whole populations of the African people. Critics of the narrative (e.g. Chelwa, 2015) point out that the advance has not done nearly as much as it should to improve the wellbeing of the African people - reduce poverty, hunger and child mortality, or to improve education. And that the GDP growth is failing to translate into job creation and the broad-based development needed to reduce high poverty and rising inequality rates in many countries on the continent. Currently there are signs that Africa's rise is beginning to slow down, to fade. There are significant bumps along the takeoff upwards: the African plane isn't over Mt. Kilimanjaro yet, but is still piercing through the clouds, often heavy clouds! So we must keep the safety belts on, until the fasten belts sign is switched off!

The interesting question therefore is: how do we sustain and enhance the Africa rising narrative in ways that improve the lives of all Africans? The answer lies in the economic and agricultural transformation of Africa. The Africa Progress Report 2014 describes a strategy for economic transformation, i.e. that the continent needs an economic transformation that taps into Africa's riches: its fertile land, abundant minerals, extensive fisheries and forests, and the energy and ingenuity of its people. The Comprehensive African Agricultural Development Programme (CAADP) provides a policy framework for Agricultural Transformation (http://www.nepad-caadp.net/). I feel no need to reherse these transformation strategies and policy here.

At this juncture allow me to provide three examples from my own two thoughts and from my one project involvement on how Africa could create such economic and agricultural transformation.

My two thoughts are the *Mukhebi Theory of Economic Development (MUTED)* (Mukhebi, 2016) and my book, *My 50 Dreams* (Mukhebi, 1999). My project involvement is the *Africa Centers of Excellence II (ACE II) Project* initiated and supported by the World Bank.

# **Mukhebi Theory of Economic Development**

In simple terms, MUTED is about prudent allocation of public resources:

- To provide public goods,
- Which attract private sector investments,
- Which generate jobs,
- Which put money into people's pockets,
- Which people use to afford the essentials of life: food, shelter, clothing, health, education, entertainment,
- Which drive away poverty, disease and ignorance,

- Which are the three evils that Kenya set out to fight and banish with its gained independence in 1963 from the British colonial domination and rule,
- Which Kenyans had believed were the causes of the three evils poverty, disease and ignorance.

MUTED states that every shilling spent on public and private sector investment creates wealth, which reduces poverty, ignorance, disease and corruption and enhances democracy. The theory is presented in eight postulates in generalized mathematical functions or model. The model can be used to derive, through econometric analysis, quantitative measures for policy analysis and prescription to address the evils of poverty, disease and ignorance.

MUTED has yet to be empirically tested. However, in Kenya, examples of public sector investments attracting private sector investments abound. For instance: the Mombasa to Nairobi-Kisumu-Malaba railway and highway (Figure 3) at the advent of the 19<sup>th</sup> century and resultant developments of towns, commerce, industry and agriculture along these transport routes; the recent Thika Super Highway and the subsequent phenomenal growth of estates and businesses such as shopping malls, supermarkets and petrol stations along the highway; the almost complete 526 kilometer Isiolo-Marille-Marsabit-Moyale Highway and the subsequent mushrooming of businesses where it passes, and has increased trade between Kenya and Ethiopia (Daily Nation, August 4th 2016), and the devolution of government to counties which has spurred unparalleled growth of businesses in county capital towns across the country. In this regard, the current construction of the Mombasa-Nairobi Standard Gage Railway (SGR) and its subsequent extension to Uganda, and the Lamu Port-South Sudan-Ethiopia (Lapset) railway are right investments that will spur similar economic developments along them.

Legend
Public Goods
Railway
Highways
Power lines
Fiber optic cable
Water line

LAPPSET

Police & military stations Universities & polytechnics Hospitals & market centers

NAKODOK

NAKODOK

NAKODOK

NAMABA

THARON

Maraial

Marabit

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Figure 3. Republic of Kenya old Mombasa – Malaba Railway and Highway and the Planned Lamu Port-South Sudan- Ethiopia Railway and Highway

MUTED is relevant for Africa. The development of East-West (Mombasa – Dakar), North-South (Cairo-Cape Town) and a cobweb of inter-connective hard and soft (or physical and social) infrastructure across Africa (Figure 4) would spur Africa's economic and agricultural transformation. Railways, highways, power lines, water pipes and cyber optic cables connecting African capitals would open up the continent for significantly enhanced intra Africa commerce, trade and transformation, and hasten Africa's socio-economic and political integration.

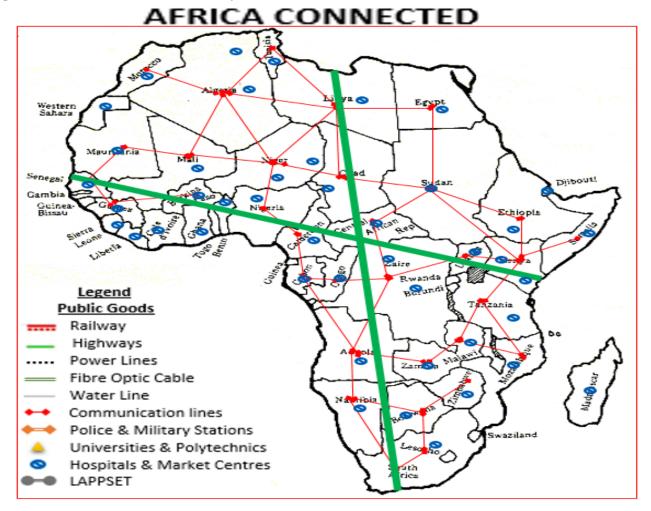


Figure 4. Africa Connected with Physical and Social Infrastructure

### My 50 Dreams

My 50 Dreams (Mukhebi, 1999) is a book published in 1999 by the Standard Textbooks Graphics and Publisher's in Nairobi. It is a record of the author's some 50 dreams recorded between July 1994 and January1996. The author indicates that he dreams in very fascinating and sometimes frightening ways. His dreams often raise a number of puzzling questions in his mind, foremost among which is: *What do dreams mean?* His readings about dreams have revealed that everybody dreams every day when in sleep, although not everybody remembers all their dreams. Further, he has learned that dreams serve very useful functions to individuals as well as to communities. Among the most interesting functions are that dreams can be a source of scientific discovery, innovation and artistic expression, and when studied and interpreted, can help individuals as well as communities to understand better themselves and their environments and cope better with the challenges or exploit the opportunities of their daily lives. He therefore poses the question: *If everybody dreams each day and if dreams are so useful, why is so little or no attention given to the teaching and study of dreams?* A dream that has not been interpreted is like a letter that has not been opened (Taylor, 1983). The author says that the motivation for writing the book is to stimulate a professional interest in the study of what he calls *dreamnology* — Oneirology.

Examples of scientific discoveries and artistic expressions from dreams (Taylor, 1983) include:

**Descartes** first formulated the basic philosophical stance of *Rational Empiricism*, which undergirds the entire development of modern science as a result of a vivid dream experience.

**Friedrich Auguste Kekule von Stradonitz**, an organic chemist, was inspired to understand and formulate the *molecular structure of benzine* as ring-shaped as a result of dreaming of a snake biting its tail.

**Albert Einstein**, when asked when and where the idea of the *Theory of Relativity* had first occurred to him, replied that he could not trace the earliest intimations back any further than a dream he had had in adolescence. He recounted that in his dream he was riding on a sled. As the sled accelerated, going faster and faster until it approached the speed of light, the stars began to distort into amazing patterns and colours, dazzling him with the beauty and power of their transformation. He concluded by saying that in many ways, his entire scientific career could be seen as an extended meditation of that dream.

**Mendelejeff** dreaming the structure of the *Periodic Table of Elements* appearing in the shape of chamber music;

**Niels Boh** dreaming of a pleasant day at the races and realizing that the marked lanes on a race track within which the horses are required to run were analogies of the fixed and specific orbits that electrons are required to follow in their circulation around atomic nuclei, leading to his formulation of the *Quantum Theory* and subsequent winning of the Nobel Prize;

**Elias Howe** inventing the *sewing machine* in 1844 from a nightmare dream. In the dream, Howe was fleeing from hunters through an African forest. Despite his frantic efforts, he was unable to escape. They captured him, bound him, and took him back to the village where they tossed him into a huge pot of water to cook him alive. As the water began to bubble up around him, his bonds loosened and he was able to free his hands. He attempted to climb out of the pot, but each time he clambered up over the edge, the hunters would reach over the flames and poke him back into the cauldron with sharp spears that had holes in the points. When he woke up from the dream, in a state of agitation, he suddenly realized: *Holes in the points*! And so he went on to invent a machine that would poke the thread down through layers of cloth (with needles with holes at the end), wrap it around another thread, and pull it back up again, all very rapidly and efficiently.

Slater (1995, p. 43 - 44) states that some celebrated authors have attributed some of their major creative works to the inspiration of dreams:

**Robert Louis Stevenson** believed dreams to be the source of much of his best writing and specifically mentioned the development of *Dr. Jekyll and Mr. Hyde* in that connection.

**Samuel Taylor Coleridge**, having fallen asleep while reading the exploits of Kublan Khan, the Mogul conqueror, reported that he woke to write down the fully developed poem "Kubla Khan" which had been produced in his dream.

**Jack Nicklaus**, the championship golfer, is said to have found a clue in his dreams, which improved his golf score by ten strokes overnight! Slater says that all of this supports the view that some dreams, at least, convey meaning that is appropriate, significant and beneficial to one's life and is beyond coincidence.

The author hopes that the record of his dreams in *My 50 Dreams* can serve as specimens for study and interpretation, and that will interest others to record, study and interpret their dreams. The author believes that Africans could generate discoveries and innovations that offer solutions to African problems from Oneirology: dreams are an inexhaustible reservoir of knowledge for necessary technological and socio-economic development.

### **ACE II Project**

The ACE II Project is the World Bank initiated and supported *Eastern and Southern Africa Higher Education Centers of Excellence II Project*. The development objective of the project is to strengthen selected universities in the eastern and southern Africa region to deliver quality post-graduate education and build collaborative research capacity in regional priority areas such as food security, oil & gas, railways, and Science, Technology, Engineering and Mathematics (STEM). There are 24 competitively selected Africa Centers of Excellence (ACEs) in the project across 8 countries in the region, namely Ethiopia, Kenya, Malawi, Mozambique, Rwanda, Tanzania, Uganda and Zambia.

The Africa Center of Excellence in Sustainable Use of Insects as Food and Feeds (INSEFOODS) based at the Jaramogi Oginga Odinga University of Science and Technology (JOOUST) is one of the 24 centers under the ACE II Project, and one of the three centers approved in Kenya, the other two being one at Egerton University and the other at Moi University. The author is involved with the ACE-INSEFOODS as the Director. The overall objective of the ACE-INSEFOODS is to achieve long-term food and nutritional security (a regional priority area) by using insects as a cost-effective, reliable and sustainable source of high quality protein and other nutrients for food and feeds. To achieve this objective, INSEFOODS' strategy is to develop and offer high quality regional and internationally accredited masters and doctoral degree and short courses programs in food security with insects for food and feeds as the entry point. The educational programs will involve teaching, research, product development and commercialization, and student and staff exchanges in different disciplines related to insects as food and feeds across Africa.

The ACE II Project was approved recently (May 2016) by the World Bank Board and final preparations are in progress to launch the centers at the various universities. The World Bank is undertaking a similar project, the ACE I Project that was launched in 2013 in the central and western Africa region, involving 19 universities across seven countries. Experiences from the ACE I project have been applied to improve the

design of the ACE II Project. The motive behind the ACE I & II Projects is that to sustain SSA's high growth and transform the continent's economy to be globally competitive, SSA requires higher order skills in Science, Technology, Engineering and Mathematics (STEM). However, the required human capital, especially at the higher level, is insufficient across the continent.

The ACE I & II Projects are adopting a regional approach to higher education in Africa as the best way to build and sustain excellence in higher education in Africa to develop the high level human capital required to sustain and enhance the Africa rising narrative. A regional approach would offer the benefits of economies of scale in offering higher education in specialized fields, and of production of regional public goods in terms of human capital and research and innovation outputs for improvement of livelihoods.

The ACE I & II Project beneficiaries include (a) Students in participating universities and their partner institutions across Africa who will benefit from high quality education and training in regional priority areas; (b) Employers in targeted sectors/industries who will have greater access to high quality/skilled personnel, results of applied research, and scientific knowledge for productivity improvement; as well as knowledge partners (including companies, governmental or non-governmental organizations) who will use research produced by the ACEs; (c) Faculty and staff in the ACEs who will benefit from improved teaching and research conditions and professional development opportunities; and (d) Regional institutions such as EAC, SADC and ECOWAS who will benefit from improved capacity of the ACEs.

The regional design of the ACE Project should be adopted by African countries to develop universities into centers of excellence, developing high level human capital and academic public goods across Africa. With regionally accredited curricula in specialized priority areas, the graduates and products of such centers will enjoy mobility across the continent.

#### Conclusion

Africa and its agriculture are indeed rising despite the challenges. Economic and agricultural transformation is needed to sustain the narrative of Africa rising. MUTED, Dreams and the ACE Project are examples of frameworks of how Africa could sustain and enhance the narrative. MUTED provides the case for public goods that will provide the necessary physical and soft infrastructure (national and continental nervous system) for significantly enhanced intra Africa commerce, trade and transformation, and hasten Africa's socio-economic and political integration; Dreams provide an inexhaustible reservoir of knowledge for necessary technological development and innovation; and the ACE Project provides a framework for universities in Africa to develop necessary high level human capital with mobility across the continent.

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