Agriculture as Part of Africa’s Structural Transformation

Carlos Lopes*

Abstract

One of the pillars and, indeed, driving force, of Africa’s structural transformation is agriculture. Evidence suggests that countries that have increased productivity across the globe benefited from economic growth sustained by agricultural transformation. Africans have an opportunity, now more than at any time before, to change their lives through increased agricultural productivity and enhanced agribusiness that connects smallholders to national, regional and global value chains. Food security has been given rightful prominence in the debate but cannot be a replacement for real transformation. It is important to renew the building blocks that are necessary for a deeper discussion of the connection to be made between agriculture and industrialisation. This paper proposes a six-point strategy to address major obstacles hampering African agricultural transformation.

Résumé

L’agriculture est l’un des piliers, voire le moteur de la transformation structurelle en Afrique. Il a été démontré que partout dans le monde, les pays qui ont augmenté leur productivité enregistrent une croissance économique durable appuyée par la transformation agricole. Plus que jamais, les africains ont maintenant l’opportunité d’améliorer leur existence à travers l’accroissement de la productivité agricole et le renforcement d’un type d’agrobusiness qui connecte les petits exploitants à la chaine de valeur au niveau national, régional et mondial. La sécurité alimentaire occupe une place importante dans le débat, mais ne peut pas se substituer à une transformation réelle. Il est important de renouveler les prémices d’un débat plus profond sur la connexion qui doit être établie entre l’agriculture et l’industrialisation. Cet article propose une stratégie à six points pour confronter les obstacles importants qui freinent la transformation agricole de l’Afrique.

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Introduction

Agriculture drove economic growth in countries across the globe for centuries. Agriculture has played an important role in the economic transformation and industrialisation of economies in Europe, America and Asia. In this respect, the most prominent stylised fact of modern development is the secular decline in the share of agriculture in gross domestic product (GDP), with the consequent increase in the combined shares of industry and services in the structure of successfully transformed economies.

Accounting for almost 65 per cent of Africa’s employment and 75 per cent of its domestic trade, agriculture is likely to continue to influence the continent’s economic growth for years to come (ECA 2013, 2014). Smallholder farmers will be the backbone of that effort. Emerging markets, either in or outside Africa, hold the promise of greater profits for smallholder farmers. Feeding the rapidly growing urban population and middle class will generate higher demand for quality agricultural and food processed products. Value added onto farmers’ outputs has the potential to increase income for years.

A key first step in transforming African agriculture is to increase productivity coming from commercial rather than subsistence activity. Most smallholder farmers in Africa are neither productive nor profitable. There are two significant reasons why they remain trapped in a cycle of subsistence. First, their outputs are too low in quantity as well as quality terms to generate marketable surpluses because for the most part, they lack access to modern technology and production-enhancing inputs. Second, farmers are disconnected from output markets. Poor infrastructure makes linkages between farm-level production and downstream activities, such as processing and marketing, almost impossible (AUC and ECA 2009).

Given that approximately 65 per cent of Africans rely on agriculture as their primary source of livelihood, and despite the wide variety of crops, animals and farm practices across the continent (ECA 2013a), it is no surprise that Africa has the lowest levels of agricultural productivity in the world. While land productivity in India has grown from 0.95 tons per hectare to 2.53 tons per hectare over the past fifty years, Africa’s land productivity is stuck at 1.5 tons per hectare. This is in spite of agricultural land being three to six times more available in Africa when compared with countries like China and India which, despite having much lower agricultural land available per capita, at 0.6 hectare for China or 0.3 hectare for India, have successfully managed to secure food for their ‘bottom billion’.

Africa, though with immense natural resources, is the world’s most food insecure region. Around 227 million people, or one out of every five people,
in Africa are chronically food insecure. In fact, compared to the rest of the world, while Africa hosts around 15 per cent of the world’s population, it is home to close to a third of those affected by hunger on our planet. In the midst of these challenges however, there is no doubt that agriculture in Africa has also had some success stories.

The interventions of the Ghana government to introduce mechanised farming systems and make block farming a reality for small-scale farmers has successfully turned the country into an established food basket. In Uganda, the production of fish has dramatically increased by 35 per cent over the last decade, resulting in aquaculture production rising from 285 metric tons in 1999 to over 100,000 metric tons nowadays. Egypt’s rice yield today stands at 9 metric tons per hectare, making this the best rice output performance in the world. Its rice production was expected to reach around 7.5 million tons in 2014 with earnings of about half a billion dollars. Water harvesting in Tanzania has been successfully scaled-up in the lowlands, where seasonal rainfall can be as much as 600 to 900 mm, improving the Majaluba rain-fed rice farms. With the help of low cost individual pump schemes, Nigerian farmers have turned to small-scale irrigation, using shallow groundwater recharged by the river and lifting it by shaduf or calabash in the dry season to grow vegetables for city dwellers.

These successes are still, and sadly, not the average picture. We must admit we have to increase productivity. The majority of African farmers have not benefited from initiatives and programmes aimed at improving farming techniques, farm equipment, seeds, fertilizer, post-harvest technology, agricultural financing and so on.

The question is: why is it that minimal levels of success have been attained so far?

The simple response is that agriculture, the sector which seems to hold one of the key solutions for the continent’s transformation, has long been neglected and ill-guided. This is reflected by the fact that spending, either public expenditure or official development assistance (ODA), has largely been improperly allocated, not addressing fundamental agricultural needs. For example, in 2002, Africa received almost double the amount of ODA for agriculture, at US $713.6 million, than was given to the countries of eastern and South East Asia at US $479.8 million. This did not, however, translate into greater returns for the extra dollar. African countries’ expenditure on agriculture has always been – with few exceptions – less than the CAADP\(^1\) budgetary target of 10 per cent.

History tells us that nations that have succeeded in taking their people out of poverty have done it on the back of an agricultural revolution that
involved systematic improvements in production, storage, processing, distribution and use. Increase in agricultural productivity has, from the time of the European industrial revolution, contributed immensely to fast-tracking the structural transformation of their economies. Notable examples of the effect of the agricultural revolution on the economies of Brazil, India and China show how these countries used the surplus from increased agricultural productivity to fuel their growth models.

Africa’s agriculture has yet to be used as a true tool for transformation. Africa has within its reach the capacity, the people, resources and opportunities to lead the way on sustainable development. There are several prerequisites for a coherent policy drive towards a truly transformational agricultural sector.

Throughout, the present paper emphasizes agriculture as the main engine of sustained growth and that its successful transformation is imperative to achieve inclusive and sustained rural and overall economic transformation. In the words of Timmer (2005: 3):

‘No country has been able to sustain a rapid transition out of poverty without raising productivity in its agricultural sector... The process involves a successful structural transformation where agriculture, through higher productivity, provides food, labor, and even savings to the process of urbanisation and industrialisation’.

Therefore, successful agricultural transformation refers in this paper to a development in the agriculture sector that is associated with the occurrence of two simultaneous developments:

1. productivity (output per unit of input, variously defined) increases sustained over two to three decades at least; and
2. sustained income increases for the majority of farm/rural households.

Therefore, there is the need to search for evidence of the existence and extent of these two developments to gain a better understanding of Africa’s current agricultural transformation path.

Africa’s Performance

Agricultural transformation in Africa has accelerated remarkably since 1990 as indicated by underlining indicators, e.g. agricultural productivity, cereal yield and per capita agricultural income. Most countries doubled their average rates of transformation following the launch of CAADP (2003 and onwards). Specifically, Africa has, on average, witnessed an increase of agricultural productivity, measured as agricultural value-added per agricultural worker, of around 67 per cent during
the period 1990–2012. However, the overall performance marks significant variation among countries, both in terms of the level of productivity and pace of progress. As far as pace of growth is concerned, while some countries have succeeded in increasing productivity by a whopping 326 per cent (Nigeria), others have experienced a decline to the order of 45 per cent (Burundi). In general, out of the forty-eight African countries for which data is available, eighteen countries have managed to increase labour productivity by more than 50 per cent during the period 1990–2012, sixteen countries by 1 to 49.9 per cent, and fourteen countries have witnessed a decline of up to 45 per cent. However, it should be noted that African countries have, on average, witnessed a significant increase in labour productivity over the period 2003–2012 as compared to the earlier period with an annual average increase of around US $44 as opposed to a mere US $8 during 1990–2002 (Table 1).

Compared to some other regions of the world, Africa’s performance is fairly modest. East Asia and the Pacific (developing countries only), Latin America and the Caribbean (developing countries only), Europe, and China have experienced increases in labour productivity of 115 per cent, 72 per cent, 130 per cent and 133 per cent respectively during the same period of interest here. Overall progress masks significant variation across the main sub-regions in Africa. While North Africa’s average productivity grew by 64 per cent, the rest of Africa witnessed, on average, an acceleration of 52 per cent over 1990–2012.

African countries exhibit a wide variation in registered productivity levels ranging from as low as US $129 per worker in Burundi to as high as US $8155 per worker in Mauritius, as observed in 2012.4

Table 1: Agricultural Productivity (agriculture value-added per worker), 1990–2012

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<tbody>
<tr>
<td>Africa</td>
<td>1501.23</td>
<td>66.95</td>
<td>2.91</td>
<td>8.26</td>
<td>44.77</td>
</tr>
<tr>
<td>Africa excluding North Africa</td>
<td>774.35</td>
<td>52.09</td>
<td>2.26</td>
<td>4.27</td>
<td>20.36</td>
</tr>
<tr>
<td>North Africa</td>
<td>3419.86</td>
<td>64.07</td>
<td>2.79</td>
<td>18.17</td>
<td>75.63</td>
</tr>
<tr>
<td>World</td>
<td>1177.38</td>
<td>31.19</td>
<td>1.36</td>
<td>14.50</td>
<td>7.32</td>
</tr>
</tbody>
</table>

Source: Author’s Calculations, based on World Development Indicators (September 2014). Values are measured in constant 2005 US$. 
Reflecting the increase of agricultural productivity, cereal yield\(^5\) was, on average, consistently growing at an annual average rate of 1.17 per cent during the period 1990–2013 from 1,194kg per hectare to 1,531kg per hectare. Africa, in general, has been moving faster in 2003–2013, at an average annual change of 13 kg, compared to 11kg during 1990–2002. The progress registered in cereal yield in Africa since 1990 – 28 per cent – is, however, extremely modest compared to other regions.

Despite progress, Africa’s average cereal yield remains by far the lowest in the world representing 40 per cent of the world’s average cereal yield. It has slightly declined from 42 per cent since 1990. There is huge potential to at least double or even triple cereal yields.

As can be noted (Table 2), African countries vary significantly in cereal yield both in terms of progress and level. Progress achieved ranges between –70 per cent (São Tomé and Príncipe) to a spectacular 175 per cent (Côte d’Ivoire), with eight countries registering a growth of more than 101 per cent, ten countries experiencing a growth between 63 and 96 per cent through 1990–2013. As for the yield level, African countries could be classified into three categories. A category of premier achievers (twenty-two countries) with a yield level, mostly, well above Africa’s average yield. The second group of countries, which consists of twelve countries, registered a yield level that is lower than Africa’s average yield but above 1,000kg per hectare. The third group includes sixteen countries with an inferior yield level of less than 1,000kg per hectare. Interestingly, and sadly, those sixteen countries are among a list of eighteen countries with the world’s lowest cereals efficiency (with cereals yield of 1,000kg per hectare or less). It is well taken that no African country, with the exception of Egypt,\(^6\) has managed to post a cereal yield that is above or even equal to the world’s average. Côte d’Ivoire’s remarkable achievement should be highlighted. It has managed to boost its yield by a whopping 175 per cent through 1990 from a low of 1,112kg per hectare to around 3,054kg per hectare, posting Africa’s fourth highest cereal yield, only behind Egypt, South Africa and Mauritius. The high cereal yield in Côte d’Ivoire could be partially attributed to the significant improvement achieved in labour productivity, estimated at 47 per cent during 1990–2008. The high productivity realised in Côte d’Ivoire has contributed to boosting impressive growth in the production of major crops. Yam production increased by 124 per cent over 1990–2013. Cocoa and plantains have witnessed an increase of 104 and 33 per cent respectively, between 1990 and 2012 while cashew nut crops experienced a growth of 1,131 per cent over 1997–2012. Eleven African countries experienced a consistent decline in cereal yield through 1990–2013, a trend that certainly merits an in-depth analysis.
Table 2: Cereal Yield, 1990–2013

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<tbody>
<tr>
<td>Africa</td>
<td>1531.00</td>
<td>28.19</td>
<td>1.17</td>
<td>11.34</td>
<td>13.35</td>
</tr>
<tr>
<td>Africa excluding North Africa</td>
<td>1426.89</td>
<td>35.49</td>
<td>1.48</td>
<td>6.26</td>
<td>28.65</td>
</tr>
<tr>
<td>World</td>
<td>3850.52</td>
<td>34.28</td>
<td>1.43</td>
<td>15.90</td>
<td>67.11</td>
</tr>
</tbody>
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Source: Author’s Calculation, based on data from World Development Indicators (February 2015).

Reflecting on the sustained income dimension of agricultural transformation, the average value of ‘food production’ is used as a proxy for rural income. Africa as a whole has experienced a steadily increase of this average. Progress substantially accelerated after 2003 posting an average annual change of US $1.44 up from merely US $0.17 during the period 1990–2002. However, despite this encouraging progress, Africa fared low in terms of food production and income compared to other developing countries.

It is worth noting Malawi’s and Angola’s remarkable rise of cereal yield, 109 and 162 per cent respectively between 1990 and 2012. On the other hand, Côte d’Ivoire, Africa’s most aggressive performer in cereal yield improvement, with a total growth of 175 per cent over the same period, achieved a modest growth in average food value of 8 per cent. With this rapid return to agricultural success, a possible second agro-industrial miracle and industrial take-off after a decade-long electoral and political crisis, agri-business success in Côte d’Ivoire shows that successful agriculture transformation is possible in a small sized country context. For Côte d’Ivoire to succeed towards emerging status, it must also pay attention to productivity increases in its non-agriculture sector whose first entry points are scoring high in manufacturing, agro-industries and agri-business.
### Table 3: Average Value of Food Production, 1990–2012

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<tbody>
<tr>
<td>Africa</td>
<td>177</td>
<td>12</td>
<td>0.57</td>
<td>0.17</td>
<td>1.44</td>
</tr>
<tr>
<td>North Africa</td>
<td>245</td>
<td>41</td>
<td>1.94</td>
<td>2.50</td>
<td>3.44</td>
</tr>
<tr>
<td>Africa excluding North Africa</td>
<td>164</td>
<td>7</td>
<td>0.34</td>
<td>-0.25</td>
<td>1.22</td>
</tr>
<tr>
<td>World</td>
<td>303</td>
<td>26</td>
<td>1.25</td>
<td>2.08</td>
<td>3.78</td>
</tr>
</tbody>
</table>


**Modernizing Small-scale Agriculture**

Africa needs to innovate in terms of ideas, transformation models, new products and innovation platforms to meet the challenges of the best and compete successfully in all areas, including agriculture, by putting the last first through an effective reverse pyramid base strategy. Smallholders dependent on nature and weather can no longer feature as the main source of African agricultural output in the era of a knowledge-based world economy. Policymakers have facilitated political discussions but the reality is that subsistence farming on small land plots, still characterised by extremely low productivity and surpluses, is the dominant mode of agricultural production on the continent as compared to twenty-five years ago (ECA 2013a).

A major reason why agriculture in Africa has remained in subsistence form is that smallholders, who contribute around 80 per cent of Africa’s agricultural production, have been overlooked and marginalised in the process of value chain development. In order for the smallholder to grow, s/he will need to understand how s/he is interrelated to national, regional, continental and international consumers. To understand the global value chain of a product when it leaves the farm gate is one of the missing links. Consequently, the need to operate in the value chain as a partner and contributor is critical. The benefits for the farmer’s participation are not solely limited to increased productivity. The demand for products will generate,
at farm level, additional use of fertilisers, use of improved seeds and more appropriate, efficient and adapted agricultural practice and technologies. Thus the smallholder needs to be connected to the input markets. More importantly, smallholders suffer from marginalisation of inputs and value chain inclusion. This is compounded by the fact that agriculture itself is generally considered a non-profitable and risky sector at the smallholder level. Modernisation is perceived as matter for big entrepreneurs who have access to capital and financial institutions (ECA 2013; NEPAD 2013).

How then can the smallholder access financing? Most rural areas where smallholder farmers are located have no or limited networks of financial institutions. Even where these exist, smallholder farmers, with poor credit ratings and sometimes with no collateral like title deeds, cannot compete for financial resources and are excluded on technicalities. Commercial banks in Africa avoid agriculture based on the perceived risk. In addition, most commercial banks are normally located in the urban areas, making them not readily accessible to farmers. When they are in rural areas, it is to collect cash deposits and savings from farmers with little assistance or financial innovation opportunities.

Many African countries are now establishing ‘Agricultural Development Banks’ and setting out policies and strategies reinforced by agricultural finance products to assist smallholder farmers, especially women farmers, to facilitate their access to credit and finance for their activities and to include them in value chains. Financial services to smallholder farmers play a strong and pervasive role that affects not just the farmers, but the entire economy and society in general.

Wealth creation in Africa can grow roots in agriculture. Given that most smallholders in Africa are women, they are often barred from usual credit channels. They are left with micro-credit institutions or NGOs that do not have the financial depth to make agriculture an enabler of growth and a wealth creation opportunity. Access to credit puts smallholder farmers on the road to expansion and growth through more productive and efficient methods of production, harvest, storage and distribution. Access to readily affordable finance is one of the key factors contributing to the development of agriculture as experienced in other parts of the world. While a lot of progress has been made in easing access, smallholder farmers still have very limited access to appropriate financing. To advance the agenda of strengthening value chains for increased food production, it is a prerequisite to consider the role of women in farming. The key reasons need to be addressed for their limited access to credit revolve around the high risk rating of smallholder farming as an agricultural sector, added to inverse economies
of scale and related low profitability of lending to this market segment. Many instruments have been designed and customised to address this issue. In terms of products, both group and individual loans have been successfully used – with group loans reporting better loan portfolio quality than individual lending approaches in a number of countries in Africa. To achieve inclusive agriculture value chain financing there is a need to map successful smallholder financing schemes in the continent as a starting point to change the discourse of investment in agriculture (AUC and ECA 2009).

Further gains in productivity cannot be achieved without increasing the agricultural income of smallholder farmers and creating rural off-farm employment opportunities (Tsakok 2011; Acemoglu et al. 2012). This would require linking smallholder farmers to each of the input and product markets. More importantly, smallholder farmers need to benefit from greater value addition to their products so they can break away while creating value and retaining much of the wealth created (AUC and ECA 2009; ECA 2013; Acemoglu et al. 2012).

**Food Security**

In Africa estimates show a dramatic increase of people experiencing chronic hunger over the period 1990-2007 and even more following the 2008–09 financial and economic crises (ECA 2013b). Political instability, wars, harsh weather and lack of incentives for agricultural transformation have played a major role in compounding food insecurity in Africa. Food and agricultural production and productivity have barely improved (except in few cases) and other critical elements such as inter-sectoral linkages and diversification in staple production are also lacking. Rapid population growth and climate change continue to negatively impact on food security and need to be factored into sustainable strategies and policies. The political and social uprisings in North Africa and West Africa have increased household food insecurity, displaced thousands of people and affected local economies. Frequent droughts in the Horn of Africa and the Sahel have persisted, leaving millions of people destitute.

Recent estimates of the Global Hunger Index (GHI), which is estimated for 122 countries, show that over the period 1990–2012, across regions and countries, GHI scores vary greatly with the highest GHI scores occurring in South Asia and sub-Saharan Africa. South Asia reduced its GHI score substantially between 1990 and 1996. Though sub-Saharan Africa made less progress than South Asia after 1990, it has caught up since the turn of the millennium. The GHI score for sub-Saharan Africa fell by 16 per cent, much less than in South Asia (26 per cent) and the Middle East and North Africa.
(35 per cent). Although thirty-one countries in Africa improved their GHI score during this period, only two countries in Africa – Ghana and Egypt – are ranked among the ten best performers. In terms of absolute progress, however, comparing the 1990 and the 2014 GHI, six of the world’s best ten performing countries, experiencing the biggest improvements in scores, are in sub-Saharan Africa. Yet, most of the world’s sixteen countries where the level of hunger is either ‘extremely alarming’ or ‘alarming’, in 2014 GHI scores, are in Africa south of the Sahara. With the exception of Iraq, all the countries in which the hunger situation worsened from the 1990 GHI to the 2014 GHI are in sub-Saharan Africa. Increased hunger since 1990 in some of these countries can be readily attributed to prolonged conflict and political instability (von Grebmer et al. 2014).

Available estimates show that about 25 per cent of Africa’s population, around 245 million persons, do not have sufficient access to food to meet their basic nutritional needs and about 30 to 40 per cent of children under the age of five suffer chronic malnutrition. Some countries in Africa have made real progress in the fight against hunger. However, challenges remain for the majority of countries, especially in East Africa, a sub-region that was host to 73 per cent of the estimated total number of hungry people in Africa over the period 2006–08. Any substantial progress in this sub-region and the Sahel would have an important impact on the containment of hunger in Africa.

Rapid population growth, compounded by a massive reflux of refugees, is another major aggravating factor of hunger in Africa. These factors conceal progress in achieving the World Food Summit (WFS) hunger reduction target in countries such as Rwanda, Ethiopia and Tanzania that had the largest and the fastest reductions in the proportion of under-nourishment.

By engaging in a coherent and strategic transformation policy, Africa can shift the debate to securing, for current and future generations, an African value chain connected to the global value chain (AUC and ECA 2009; AfDB, OECD and UNDP 2014). An important shift in the perception of agriculture is under way as a majority of African governments no longer understand agriculture as a way of life for farmers but as an economic activity with real and tangible benefits for the transformation of the country concerned (ECA 2014).

It may become clear for a significant number of African countries that agriculture can be a catalyst for economic transformation if it is to be empowered by enhancing each of the following:

- capital investment
- agricultural research and technology
• yield enhancing practices and technologies
• land and labour productivity
• market access and infrastructure.

Need for Agri-business

To create and sustain wealth and production in the long-term, Africa’s natural resources, including rich agricultural-related resources, should be transformed into higher forms of capital, preferably tradable industries (AUC and ECA 2014). This involves giving priority to economic development, expanding production and value addition, and responding to increased demand for more sophisticated consumption goods. There is a strong consensus that an expanding and prosperous productive economy is crucial to the structural transformation of African economies, and is the only sustainable pathway out of poverty and hunger. Making productive and valuable use of natural resources and upgrading primary products can help resolve some of the continent’s challenges, including poverty and food insecurity. This could inspire a virtuous circle of higher output through intensive technology and innovation, elevated national productivity, higher average incomes, and superior and inclusive prosperity.

Historically, the pathway out of poverty for most communities and countries has been through a sustained structural transformation process. This pathway involves higher labour productivity in the overall economy, convergence in labour productivity between agriculture and non-agriculture sectors, and realisation of intensive value addition activities. Indeed, high agricultural productivity is essential for economic transformation that is based on reducing the relative share of agricultural output and labour in favour of other productive sectors, including, chiefly, industrialisation (Tsakok 2011; ECA 2013; AUC and ECA 2014). It is well observed that countries with low agricultural productivity tend to be less industrialised, and, therefore, located at earlier stages on the development ladder. This could be attributed to the fact that agriculture is the main source of raw material (or surplus) needed for industrialisation, for labour to be relocated to other emerging economic activities, and for remittances to other productive activities. In addition, it is a major market for the outputs of other sectors.

Despite the widely recognised role agriculture could play in unlocking the continent’s true potential, by turning agriculture into a business, the sector has remained hampered by a number of well documented constraints and bottlenecks that must be overcome to get agri-business moving (ECA 2013; Brenton 2012; Deininger and Byerlee 2011; World Bank 2007, 2010).
Considering the wide diversity of the African agriculture context, it may help to mention the most identified categories of challenges faced by African agri-business operators before taking on specific constraints commonly reported within the value chains in selected fast transforming economies (Nigeria, Kenya, Côte d’Ivoire, Ghana, Senegal, Zambia, etc.) whose ongoing transformative agri-business experiences mirror much of what the rest of Africa must also overcome.

Based on the evidence, the categories of real or perceived problems affecting output as well as input markets across value chains include: lack of innovation; inadequate policy, legal and regulatory constraints; infrastructure and logistical bottlenecks; financial constraints; market access, information and knowledge limitations; quality standards and hygiene standards; production inputs; and scarcity of raw materials. These are a snapshot of a range of the well-known generic challenges and constraints encountered over time across systems and countries and that are still not well addressed to date.

The effects of the constraints are also well documented but too numerous to discuss in the context of this paper considering the diversity of situation when moving from one country to another, or from one commodity to another. A good case in point is the problems faced by the agri-business community in Nigeria. As can be noted in survey results carried out to identified perceived problems hindering the successful operation and efficient running of agri-business firms in Nigeria (Table 4), the range of difficulties include: low level of technology, low investment, high cost of production, macro-economic related problems, poor performing infrastructure, unpredictable government planning, poor access to markets, inadequate access to finance, weak legal systems and poor returns on investments. These hurdles translated into a myriad of inefficiencies and losses in Nigeria, including post-harvest losses which 3ADI (2010) estimated as high as 30 per cent for cereals, 50 per cent for roots and tuber, and up to 70 per cent for fruits and vegetables. Beyond the issue of economies of scale and means, which should not be overlooked, the agri-business challenges remain daunting when considered from the perspective of firm size. Table 5 shows the challenges and constraints industry captains lamented about in a survey carried in Ghana out in the first quarter of 2011 to gauge the business sentiment of CEOs from the Association of Ghana Industries. As can be learned from the cases of Nigeria and Ghana (Table 4 and Table 5), it appears clear that the true solutions to Africa’s agriculture and agri-business problems are well beyond the scale or means of a small country.
Table 4: Perceived Constraints Hindering Effectiveness of Agri-business Firms

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<tr>
<th>Perceived problem</th>
<th>% of sampled firms</th>
<th>Rank</th>
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<tbody>
<tr>
<td>Low level of technology</td>
<td>80</td>
<td>5</td>
</tr>
<tr>
<td>Low investment</td>
<td>88.3</td>
<td>4</td>
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<tr>
<td>High cost of production</td>
<td>100</td>
<td>1</td>
</tr>
<tr>
<td>Macroeconomic related</td>
<td>80</td>
<td>5</td>
</tr>
<tr>
<td>Unpredictable government planning</td>
<td>75</td>
<td>7</td>
</tr>
<tr>
<td>Lack of security</td>
<td>70</td>
<td>8</td>
</tr>
<tr>
<td>Poor access to market</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>Finance related</td>
<td>100</td>
<td>1</td>
</tr>
<tr>
<td>Weak legal system</td>
<td>30</td>
<td>10</td>
</tr>
<tr>
<td>Poor return on investment</td>
<td>60</td>
<td>9</td>
</tr>
</tbody>
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Source: Field Survey Data, Nigeria 2011.

Table 5: Challenges and Constraints Faced by Size of Business (including agri-business)

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<thead>
<tr>
<th>Size</th>
<th>Challenges</th>
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<td></td>
<td>1st</td>
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<tr>
<td>SMEs</td>
<td>Access to credit</td>
</tr>
<tr>
<td>Large</td>
<td>High utility prices</td>
</tr>
<tr>
<td>African Giants</td>
<td>High utility prices</td>
</tr>
</tbody>
</table>


Imperatives for Agriculture’s Transformation

Africa was importing 87 per cent of its food items from non-African countries as of 2012 whereas developing Asian economies import 34 per cent of agricultural raw materials from their region and the proportion for European countries stands at 63 per cent. The 87 per cent figure is in contradiction with the potential of the African continent (AUC and ECA 2014).

Labour Dynamics and Urbanization

Historically, successful economic development has been stimulated and sustained by rising productivity of agricultural labour. As evidence
suggests, agricultural labour productivity plays a key role within wider economic transformation processes. Therefore, agricultural revolutions that enhance agricultural labour productivity in poor agrarian economies can contribute significantly to economic transformation through playing multiple foundational roles in wider development processes. Increased labour productivity leads to improving food availability per unit of labour. This first reduces the cost and, consequently, the price of food relative to agricultural workers’ incomes, which in turn increases agricultural workers’ budget surpluses and hence increases their real incomes. This, then, stimulates demand for non-food goods and services; and concurrently releases agricultural labour from agricultural production to production of non-agricultural production, spurring economic growth and development. Later on, industrial, service and knowledge revolutions would build on the increase in supply and demand for non-food goods and services to reduce the prices of goods and services through lowering labour costs and benefiting from economies of scale. It is, therefore, to be expected that the potential benefits from increased agricultural labour productivity would then drop. This is associated with increasing the relative importance of industrial, service and knowledge revolutions in raising the productivity of an increasing volume of labour involved in the production of non-agricultural goods and services, which is responsible for a rising share of consumer expenditures, the ultimate goal of economic transformation.

As regards urbanisation, in 1980 around 28 per cent of Africans lived in cities as compared to around 40 per cent in 2010. It is even projected that 50 per cent of Africa’s population will live in cities by 2030. This phenomenon which, theoretically, reduces the burden on agriculture to support livelihood of millions of rural dwellers, will increase the pressure on agriculture to meet growing food consumption, associated with a dramatic change in patterns. On the other hand, urbanisation should contribute to increasing demand, investment and productivity, with workers moving from historically low productive agriculture into what are widely perceived as high productive urban jobs. Shifts from rural to urban employment was found to contribute around 20 to 50 per cent of productivity growth in a number of countries, depending on the level of productivity achieved in both agricultural and non-agricultural sectors.

Urbanisation, if coupled with the construction of more infrastructure such as roads, water and sewage systems, is vital to absorb the additional 600 million people set to enter Africa’s labour force by 2040, which would be more than in both China and India. The impact of an expanding labour force on GDP in Africa is tremendous generating an increase of around 75
per cent of GDP per capita over the last 25 years, compared to 25 per cent which came from higher labour productivity associated with urban jobs. The challenge is this regard is for Africa to ensure that urbanisation is not coupled with just creating slums, and to provide young generations with the skills required to turn the anticipated large work force into a major engine for development.

The Way Forward

African economic growth has in the past been substantially fuelled by primary commodity exports with the direct result of de-industrialisation. Contemporary history has shown that the growth pattern of other developing regions, especially Asia, has been driven by manufacturing. The consequences of counting on a commodity-driven growth path are numerous, including resource curse risks, deterioration of secular terms of trade, Dutch Disease, and poor backward and forward linkages to the domestic economy narrowing the potential of value addition.

These consequences can be evaded by adopting an agri-business growth strategy, which fits both the resource endowment of most African economies and the conditions surrounding the overwhelming majority of the poor who live in rural areas and depend on agriculture for their livelihoods. Agri-business is substantially labour-intensive in terms of creating jobs and generating value-added; in addition, it strengthens forward and backward linkages.

The need for agri-business development rather than agriculture-led development is real. This should entail a paradigm shift from a supply to a demand-driven market, in which the agri-business value chain, covering agriculture, industry and services, plays an essential role (Yumkella et al. 2011).

A ‘6 R’ strategy could be proposed for a real transformation:

First the need to re-emphasise strategies and policies aimed at structural agricultural transformation. Taking into account an integrated approach encompassing economic, social and environmental dimensions we need to focus on food, land, water, forests security, bio-energy resources, urban-rural as well as forward and backward linkages between agriculture and other evolving sectors of African economies. This is how to make agri-business a major goal.

Second, the need to reduce the vulnerability of millions of African small-scale farmers and consumers to high, volatile prices while increasing the resilience to shocks. The misconception of food security as a replacement for poverty reduction must be debunked. Food security should be approached economically and not as a poverty reduction programme.
Third, while recognising that Africa’s industrialisation must be commodity-based the case needs to be made to redirect concerns to address global climate change. Value addition should take place close to where the resources are, thereby reducing large carbon footprints that come with transporting commodities over wide distances for processing. We must become price makers and not price takers, particularly when we have a controlling size, setting commodity trends. The proposed deal between cocoa processors Cargill and Archer Daniels Midlands, if it goes through, will see the two companies controlling up to 60 per cent of the total world trade in cocoa, when it is Africa that produces it.

Fourth, the call for the redefinition of industrial policy to avoid a blueprint approach, where this is a set of predefined interventions. This must instead be embedded in the private sector and must generate processes and procedures based on an understanding and addressing the ever-changing needs of industry, learning instead of copying from the import substitution of Latin America and export-driven parts of Asia. Africa’s industrialisation should be an industrialisation driven from its assets, commodities and African growing market, maximising links with the agricultural sector.

Fifth, retaining the opportunities presented to Africa for green growth. These offer an array of investment opportunities. Africa must see itself as a key player for solving climate change issues, rather than as a victim. With the largest reservoir of unused arable land, it is the natural leader in a food insufficient world. Not being locked into any technology preferences allows the leapfrogging to green and clean energy, boosted by the best potential in this area in the world.

And finally, Africa must remain firm against unfair trade policies and protocols. For example, agricultural subsidies in developed countries continue to distort international commodity markets and lead to dumping, depressing prices and therefore making agriculture unprofitable for African smallholder farmers.

This ‘Year of Agriculture and Food Security’ provides an opportunity for Africa to take the lead in multilateral negotiations on agriculture, with a key focus on access to international markets, export competition such as the use of export subsidies and removal of domestic support and subsidies in developed countries. The Bali WTO agreement demonstrated the strength displayed by India, with a smaller economy than Africa. The lesson is obvious.
Notes

1. The Comprehensive Africa Agriculture Development Programme is an initiative of the African Union approved in Maputo in 2003, which is an integral part of the New Partnership for Africa's Development (NEPAD). For more information see http://caadp.net/.

2. This definition and the approach applied in this paper is presented in Tsakok 2011.

3. The paper goes even further to advocate for agri-business and agro-industry based development as a transformational development framework for agricultural and rural transformation.


5. Cereal yield, measured as kilogrammes per hectare (Kg/ha) of harvested land, includes wheat, rice, maize, barley, oats, rye, millet, sorghum, buckwheat and mixed grains.

6. Egypt's yield is almost double the world's average cereal yield, estimated at 7,200kg/hectare in 2013.

7. The total value of annual food production, as estimated by FAO and published by FAOSTAT in International Dollars (I$) divided by the total population.

8. The GHI is a widely used indicator to measure hunger and consequently food insecurity. It combines three equally weighted indicators in one index number: (a) proportion of people who are undernourished; (b) prevalence of underweight children under five; and (c) the mortality rate of under-fives.

References


AUC and ECA, 2014, Synthesis Paper on the Theme of Agriculture and Food Security: ‘Transforming Africa’s Agriculture for Shared Prosperity and Improved Livelihoods through Harnessing Opportunities for Inclusive Growth and Sustainable Development’ prepared for Assembly of the Africa Union, 33rd ordinary session, Head of States and Governments Summit.


ECA, 2013a, ‘Rethinking Agricultural and Rural Transformation in Africa. Challenges, Opportunities and Strategic Policy Options’.


–––––, 2013c, ‘Eradication of Food Insecurity in UEMOA: Drivers, Challenges, and the Way Forward’.


–––––, 2014b, ‘The Role of Agriculture, Agribusiness and Value Chains in the Transformation’


Yumkella, P.M. et al. (2011) Agribusiness for Africa’s Prosperity, UNIDO.