

FOOD SECURITY AND AGRIBUSINESS IN AFRICA

Capacity imperatives, lessons and policies

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SYNOPSIS

To understand food security issues in Africa and the key capacity areas that will help improve food supply on the continent, AfCoP launched an online discussion to solicit the views of various experts. Participation in the discussion was low but the brief has been complemented by a secondary review of literature on the subject. Three questions that guided the discussion were: (a) what are the food/commodity gaps in your country/on the continent? (b) What needs to be done to fill this gap/what are the agribusiness opportunities? and (c) What appropriate policies are there to support agribusiness investments (country level/Africa-wide)? This brief focuses on capacity imperatives around the production of cereals on the continent. It notes that Africa has specific policies that seek to address funding for agriculture but countries have been slow providing room for the private sector to assist. In particular, investments are required in water harvesting, irrigation, improved seed varieties, and post harvesting technologies. These investments should be channeled within the existing national and regional instruments to contribute to Africa's food security.

Introduction

African leaders have committed to end hunger by the year 2025. The African Union's 2003 Comprehensive Africa Agriculture Development Programme (CAADP) requires governments to allocate about 10 percent of their national budgets toward agriculture. These investments into agriculture is aimed to address the food insecurity concerns on the African continent where only five African countries are considered food secure, 40-50% are moderately food secure, while about 45 % are moderate to severely insecure.¹ The imperative to address food supply on the continent is high due to Africa's increasing population (estimated to reach 40 billion by 2050). Given the trend of agriculture growth and innovation in Africa, which is

characterized by little grown cereal yields which is around 1.2 tonnes per hectare in the region as compared to an average of some 3 tonnes per hectare in developing world, Africa will be unable to feed its growing population (FAO 2009). To date, Burkina Faso, Ethiopia, Ghana, Guinea, Malawi, Mali, Niger and Senegal have met or exceeded CAADP's 10% target.²

Africa has an agriculture financing gap of US\$400 billion and relying on public funds alone will not be adequate.³ The private sector on the other hand can provide funding to bridge this gap through various agribusinesses. Agribusiness is a broad concept that refers to the different value chain actors who provide support to farmers in the form of inputs, processing facilities, access to markets – in short,

¹<http://www.resilience.org/stories/2013-09-26/africa-s-challenge-in-the-21st-century-food-security>

²<http://www.worldbank.org/en/news/feature/2013/10/13/increasing-public-investment-in-africa-s-agriculture>

³ <http://www.theeastafrikan.co.ke/news/Africa-urged-to-invest-to-ensure-food-security-/2558-3376622-61gio3z/index.htm>

they connect farmers to consumers. On the production side, there is potential to fund infrastructure and farm level technologies to improve productivity (for example for cereals from the current 1.2 tons to 5.5 tons per hectare), irrigation systems, and post-harvest techniques. On the side of processors, there are opportunities to add value to farm produce in order to increase returns to the farmers. Finally, the agro-processors can also link farmers to better markets and thereby maximizing on the farm level incomes.

However, there is need to reflect on the investment in agriculture, particularly when the funds are not emanating from the continent. A recent newspaper article argued that China's funding in the agricultural sector is meant to feed its own people in future and the skills being transferred are not necessarily in favor of locally consumed foods. The need for a food sufficient Africa is more imperative than ever but there are clearly some capacity gaps that need to be addressed. This online discussion was launched on the AfCoP website to gather expert knowledge on how best Africa could solve its food shortages and unpacking the role of agribusinesses in enhancing food security on the continent. Specifically, AfCoP members were invited to share their views on the capacity imperatives that are required for Africa to meet its food needs. The discussions were guided by the following three key questions:

- What are the food/commodity gaps in your country/on the continent?
- What needs to be done to fill this gap/what are the agribusiness opportunities?
- What appropriate policies are there to support agribusiness investments (country level/Africa-wide)?

What are the food gaps in Africa?

Maize and rice are the main staples consumed on the continent but their demand outstrips the production. An estimated 208 million people in Africa, for instance in the south of the Sahara depend on maize as a source of food. Maize consumption is high in Africa where the consumption ranges from 52

to 328 g/person/day (Ranum et al. 2014). While Africa consumes most maize per day, it is not one of the top five maize producers (USA, China, Brazil, Mexico and Indonesia) (Cairns et al. 2013). Rice is also another important food consumed on the continent due to increased urbanization, and changes in eating habits (Diagne et al. 2013). The increased demand for rice has not matched production and imports have filled this gap. Despite the increased demand for cereals in the near future, the production of major cereals is expected to decline by about 20% (Schlenker & Lobell 2010, p.10). It is further predicted that by the period 2046 to 2065 there will be a 20-40 percent decline in yields for maize, millet and groundnut within the sub-Saharan countries. Lack of appropriate investment in machinery, livestock, and land improvements that is necessary for increasing productivity will account for this major decline.

Agronomic practices have remained unimproved among most of the small-scale farmers on the African continent (Tahirou et al. 2009:40, Fisher et al. 2015:2). For example, farmers have failed to integrate improved genetics, sustainable intensification, improved soil fertility management, water management and weed control practices to improve their farming techniques. Countries such as Burkina Faso, Cameroon, Cote d'Ivoire, D.R. Congo, Togo and Senegal have faced challenges in developing and testing new maize varieties and improved agronomic practices (Macauley, 2015).

The low level of mechanization in African agriculture, ploughing to harvesting, contributes to low yields per hectare. For instance, the number of tractors per 100 square kilometers in Nigeria is less than 10 in comparison to over 728 in the UK, 257 in the USA, 200 in India, 130 in Brazil, and 125 in the Philippines. In Tanzania, in the Lake Zone (the most productive), the method of ploughing was 88.5% by ox plough, 8.5% by hand hoe and only 3% by tractor (MAFC 2013). Rice production is also suffering due to lack of good quality seeds leading farmers to resort to recycled low yielding varieties. In addition, the manual post-harvest practices damage the rice

grains (IFPRI 2000). African rice farmers have little or no access to farm inputs such as fertilizers and seeds. On average, 13 kg of fertilizer are applied per hectare in Africa compared with about 100 kg in Asia and as against over 150 kg in developed countries. The utilization of improved seeds is low in Africa (10% in Nigeria, and 25% in East Africa compared to 60% in Asia) (Sims et. al 2016:6).

Despite the crop production challenges, yield losses cumulatively account for food shortages in Africa. For example, inappropriate post-harvest handling of grain leads to an estimated 20% avoidable losses in the postharvest stages (Mark et al. 2006). In addition, 8 - 26% of rice was lost in developing nations due to post-harvest problems and poor infrastructure (Kapuya et al. 2010). Kapuya et. al indicated that 94 - 96% of farmers stored rice paddy in bags which are prone to insect attacks and exacerbate post-harvest food losses.

What needs to be done to fill this food gap and what are the agribusiness opportunities?

Most countries of Africa South of the Sahara are dependent on rain fed agriculture and are vulnerable to rainfall variability. More than 90% of the food crops are rain fed and there is need to shift toward better management of rain-water, soil moisture, and supplemental irrigation in order to improve yields. Molden (2007) pointed out that, water management cuts the yield losses from dry spells, which claims one in every five harvests and could provide an immediate solution in reducing the cereal deficits. Apart from rain water harvesting there is a potential for irrigation development in Africa. Hussein (2004) noted that, irrigation can increase productivity of land and labor. Irrigation will also promote the intensification, increases opportunities for high value crops. Africa has a large untapped potential of irrigation. FAO (2005) reported that, only a small share of the potentially irrigable area of 39.4 million hectares has been developed in Africa South of the Sahara. Overall, 185 million ha of area is under cultivation in Africa, of which 6% is under irrigation.

Therefore, developing irrigation systems will offer opportunities to increase agricultural productivity.

Developing agricultural systems also requires expanding the capital base through investment from both the public and private sectors. Physical capital, such as roads, railways, bridges, and port facilities, will require large public sector investments. Capital that is farm-specific, such as machinery, irrigation systems, storage structures, barns, livestock, and orchards are predominantly private investments made by farmers. Other capital investments required to manufacture farm inputs and to transport and process farm commodities into food products such as fertilizers, seeds, feeds, and machinery are supplied primarily by agribusiness and food processing industries (Molden 2007:22). Therefore, while there is need for on farm investments, the public sector investments are still required in order to support the value chain. Agribusiness thus, can potentially mechanize and modernize farming systems while the government provides the adequate infrastructure required to access these farming areas. In addition, government regulation is also important in regulating the contracts between the agro-dealers and farmers to protect local interests.

Pre to post harvest food losses account for a significant loss in harvest in Africa and there is a need to invest in appropriate technologies for handling grains. For example, global losses and waste are estimated at roughly 30 percent for cereals, 40–50 percent for root crops, fruits and vegetables; 20 percent for oil seeds; and 30 percent for fish (FAO 2011a). Food losses translate into lower returns for farmers and higher prices for consumers, making it harder for farmers to earn enough money and consumers to afford enough food. Hence, there is need to invest in storage and cooling facilities and appropriate packaging that reduces losses.

What appropriate policies are there to support agribusiness investments in Africa particularly at country level?

Private-sector investment and involvement in strengthening all points of the agricultural value chain is crucial to achieving a sustainable boost to productivity. But the public sector is also crucial to create an enabling framework for the private sector to function, by adjusting policy and making public investment (OECD 2003). Public-Private Partnerships (PPPs) allow both sectors to cooperate, align their agendas and share the risks of investing in challenging environments to help develop an African agriculture food industry. Smith and Karuga (2004) noted that clear and accessible laws, regulations and policies contribute to creating a safe and reliable environment for agricultural investors.

The New Partnership for Africa's Development (NEPAD) Report (2007), the economic programme of the African Union (AU), officially established in 2001 recognized both the importance of agriculture for development and poverty reduction on the continent and the weaknesses of member countries' agricultural policies. NEPAD developed a special initiative, namely the Comprehensive Africa Agriculture Development Programme (CAADP) to improve agricultural policies on the continent. The ultimate goals are sustainable (agricultural) growth and poverty reduction. The benchmark analysis starts with a review of agricultural sector budgeting and performance. The report finds that the key CAADP targets have not yet been achieved. The Maputo Declaration was signed in 2003, and Ghana, Kenya and Uganda had already developed national development frameworks for poverty reduction and agricultural sector development. All the national strategies emphasized development of the agricultural sector and the agricultural sector strategies which stressed revitalization of the sector through creation of an enabling environment for private sector development. The Maputo target of allocating ten percent of the national budgets for agriculture remain at low levels in the three countries, although in recent years an increase could

be observed (to three percent in Uganda and to almost seven percent in Kenya in 2007). The CAADP report "CAADP at 10: Progress towards agricultural Prosperity" indicates that eight countries have surpassed the 10 percent agricultural growth target and 10 countries have surpassed 6 percent target of growth in agricultural production. This shows that CAADP to date has achieved a lot as far as agricultural growth is concerned (Kimenyi, Routman, Westbury, Omiti, & Akande, 2013)

The African Peer Review Mechanism (APRM) was established under NEPAD, likewise has the potential to have major impacts on agriculture. The APRM is not a sector initiative but one targeted on improving governance in general. Since agriculture is the largest sector in many of the African countries, the APRM should be concerned with agriculture in many ways (APRM Report 2004). The aim of the APRM is to promote good governance and help countries achieve the objectives of NEPAD through "constructive peer dialogue and persuasion" and information sharing. The objective of the APRM is the "the adoption of policies, standards and practices that lead to political stability, high economic growth, sustainable development and accelerated sub-regional and continental economic integration." At regional and continent level, there is support for developing comprehensive policies and also mechanisms for enhancing agricultural production.

The green revolution concept has been a success story in Asia and something to be adopted in African countries' agricultural productivity. Equity Bank in Kenya introduced mobile banking scheme extending its reach to villages and over 100 smallholders and farmers in the remote Siaya district. The Alliance for a Green Revolution in Africa (AGRA), the Equity Bank, the International Fund for Agricultural Development (IFAD) and the Kenya Ministry of Agriculture established a loan facility of USD 50 million (3 billion Kenyan shillings) to accelerate access to affordable financing for 2.5 million farmers and 15,000 agricultural value chain members such as rural input shops, fertilizers and seed wholesalers and

importers, grain traders, and food processors (AGRA and FDCF's website, Africa Renewal 2009). Smith and Karuga (2004) also noted that the agricultural policy in Kenya revolves around increasing productivity and income growth, especially for smallholders; enhanced food security and equity. The policy arena in Kenya still requires strong political commitment and good coordination across the various government bodies to design policies that will improve agricultural productivity.

In Zambia, while the Government of Zambia's annual spending on agriculture and rural development has exceeded the CAADP recommendation of 10%, over 70% of funds are allocated to subsidize inputs under the Farmer Input Support Program (FISP) and the purchase of maize at above market rates under the Food Reserve Agency. Thurlow et al (2010) further noted that the Zambia CAADP Compact was signed in January 2011, with the process now being taken forward under the umbrella of the Agriculture Chapter of the Sixth National Development Plan (SNDP) and Patriotic Front (PF) Manifesto of the current government. The case of Zambia shows that there is political will to support small scale farmers and agriculture albeit there is need to relook at a diversified form of support that will help to quickly bridge the commodity gaps. Zambia has recently been a net exporter of maize and supplied the bulk of the maize to Zimbabwe during the 2015-2016 agricultural season.

The Reserve Bank of Zimbabwe (RBZ) has been a front runner in sourcing funds inputs and mechanization equipment through various programmes over the past decade. The national level policies have also been changing to ensure food self-sufficiency. For example, interventionist policies between 2000 and 2008 were defined by the reconstitution of the Grain Marketing Act through the Grain Marketing (Controlled Products) Notice, which made private in grain trade illegal, leading to the suspension of the operations of the Zimbabwe Agricultural Commodity Exchange (Kapuya et. al 2010). In 2007, with technical assistance from the Food and Agriculture Organization (FAO), the

Ministry of Agriculture drafted the Nyanga Documents which promoted agricultural growth and productivity, to ensure food security through the generation of income and employment. It also emphasized improved provision, through public-private entities, of financial, marketing, research and extension services; and strengthening of agricultural institutions to deliver advice and services to farmers sustainably (Ministry of Agriculture Report 2009). The policy was never adopted and currently the country remains a net importer of maize.

Conclusion and Recommendations

Food security remains a major concern on the continent. Using both the regional and national policies, there is scope for the agribusiness sector to support agriculture on the continent. Africa's agriculture remains heavily non-mechanized and the most productive land is not under irrigation. There is also an urgent need for large scale investment in mechanizing farm level production and improve post-harvesting technologies. While there is progress at national level, the investment should be scaled out in a comprehensive manner and ensure that countries become self-sufficient and not remain net importers as in the case of Zimbabwe. The task at hand requires collaboration of both public and private investors and pooling together the financial resources to achieve the 2025 commitment to end hunger on the African continent.

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