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CHALLENGES FACING AFRICAN COUNTRIES:
ARE THEY CAUSED ONLY BY COMMODITY PRICE VOLATILITY?

by
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Implications for Agricultural Trade and Policies”*

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Abstract

Africa contains some of the world's poorest people. It is also the region with the slowest economic and agricultural sector growth in the past half-century. Its governments have intervened in sectoral and macroeconomic policies, and they have been very slow in adopting market reforms. The agricultural sector is very important to many African countries since it is the largest contributor to employment, food, incomes, foreign exchange, tax revenues and critical linkages to other sectors of the economy. That the sector is faced with internal structural bottlenecks that have stifled agricultural productivity is well understood. Yet, African countries are also faced with the direct and indirect impacts of both internal and external shocks. These have exposed many poor Africans, especially the rural subsistent farmers, to persistent hunger and malnutrition that would require long-term strategies to mitigate. Recent food and oil price shocks have also threatened food security in all countries, but in particular the fragile and low-income food-deficit countries in Sub-Saharan Africa. Compounding concerns in Africa is the failure to achieve global agricultural market reforms last July during the Doha Development Round of the WTO. The recent global financial crisis is also expected to have significant contagion effects on investment in African agriculture. Therefore, the challenges posed by exposure to external shocks cannot be ignored, and they require a combination of short and long-term responses.

The main thrust of this paper is that recent concerns about the volatility of commodity prices aside, many African countries are faced with endemic structural and policy challenges in ensuring MDG-related food security and poverty alleviation. Second, it reveals that many African countries, especially the fragile and low income ones, have become highly dependent on agricultural imports. Third, it analyzes recent African economic performance and identifies the challenges in growing the agricultural sector. Finally, the paper provides policy recommendations for sustaining agricultural sector growth as the primary means in achieving food security and economic development.

Key Words: price volatility, agricultural trade liberalization, food security, poverty alleviation.

JEL Classification: F10, F13, O55, Q17, Q18

1.0 Introduction

Africa contains some of the world's poorest people. It is also the region with the slowest economic and agricultural sector growth in the past half-century. Generally, in the past African governments have intervened in sectoral and macroeconomic policies, and they have been very slow in adopting market reforms. Until the decade of the 1980s when many African countries undertook structural adjustment programs (SAPs) under the aegis of the World Bank and International Monetary Fund (IMF), the interventionist policies and slow reforms had served to dampen the effects of market incentives in catalyzing economic growth.

The agricultural sector is very important to many African countries since it is the largest contributor to employment, food, incomes, foreign exchange, tax revenues and critical linkages to other sectors of the economy. That the sector is faced with internal structural bottlenecks that have stifled agricultural productivity is well understood. Yet, African countries also face the direct and indirect impacts of both internal and external shocks. These have exposed many poor Africans, especially the rural subsistent farmers, to persistent hunger and malnutrition that would require long-term strategies to mitigate. For example, millions of Africans have experienced food emergencies stemming from droughts, floods and civil strife that have called for emergency food aid and agricultural sector assistance. Much of the humanitarian assistance has been channeled through the United Nations World Food Program (WFP), which has spent considerable amount of its total investment since its establishment on Africa (see for example Tsimpo and Wodon,

2008). Therefore, many fragile¹ and low-income food-deficit countries (LIFDCs) in Sub-Saharan Africa (SSA) have become considerably external aid-dependent.

Rising global prices may have different pass-through effects on domestic prices based on the domestic market structure, import trade regimes and government price controls. However, the recent food and oil price shocks have further threatened food security in African countries where food imports have been rising faster than exports, especially in leading to various short-term policy reactions that may have exacerbated the market situation for food. In the past few years, high agricultural commodity prices converged with rapid increases in oil price (see Figure 1), although they did not necessarily lead to the same magnitude of price increases for the agricultural commodities of importance to many SSA countries (see Figure 2). On the other hand, it is believed that they may have potentially contributed to exacerbating existing food insecurity for many vulnerable, fragile and LIFDCs (World Bank, 2008b).

Compounding concerns about external shocks on African economies is the failure to achieve global agricultural market reforms last July 2008 during the Doha Development Round (DDR) talks of the WTO. There is consensus that global trade liberalization should lead to stable increases in world commodity prices (Ivanic and Martin, 2008). Trade liberalization is expected to result in the removal of subsidies that keep world prices of agricultural commodities low and trade volumes high. These subsidies are potentially harmful to the agricultural exporters from land-rich developing

¹ Definitions of fragile states differ widely and tend to be subjective based on controversies over the concepts of stability, governance and democratization. For donors, such as the World Bank, fragile states are characterized by weak state policies and institutions, and the risk of conflict and instability, scoring 3.2 or less on the Country Policy and Institutional Assessment (CPIA). This involves about 30 countries, although 21 African countries fall under the World Bank classification of low-income countries under stress (LICUS).

countries, including some in SSA. Accordingly, global agricultural trade liberalization aspects of the Doha Development Round (DDR), has been advertised to governments of poor countries as a forum to help reduce industrial country subsidies and import tariffs, to improve market access, rationalize commodity prices, and to galvanize trade as an engine of economic development.

Whereas the DDR set an ambitious timetable for completing talks and the culmination of agreement by January 2005, many so-called deadlines have passed without consensus and agreement, including the WTO Ministerial Meeting at Cancun in September 2003 that ended in acrimony, and the Ministerial Meeting in Hong Kong, China, in December 2005 during which an agreement on the modalities of negotiations could not be reached². In July 2008, talks on agriculture came to a screeching halt once again when the U.S. could not see eye to eye with India and China on certain details surrounding the Special Agricultural Safeguard Mechanism (SSM) to ensure protection for poor farmers.

Africa's share of global trade is so small that its policies contribute fairly little to freer trade outcomes, calling for the multilateral agreement to lock in freer trade. However, African negotiators, by siding with the emerging economies in demanding the SSM, delayed or even prevented the emergence of a new WTO agreement, and Africa continued its role as the victim rather than perpetrator of international agricultural policy spillovers. According to Anderson and Masters (2009), multilateral reforms are expected to help African governments in deepening their own reforms, allowing them to make commitments and assemble coalitions that cannot otherwise be sustained. Therefore,

² During the Hong Kong Ministerial meeting, agricultural export subsidies were proposed to be abolished by 2013, with a "substantial part" to be scrapped before 2011.

progress in negotiating global trade liberalization at the WTO has served as the main driver of the agenda to achieve Africa's regional trade integration, and to consolidate gains from globalization in the way of income growth, poverty alleviation and economic development.

The recent global financial crisis and economic recession is also expected to have contagion effects on investment and growth in SSA agriculture. Already it is translating in lower demand for Africa's exports and has contributed to the sharp decline in commodity prices. In tandem, there is projected decline in financial flows into Africa, including foreign direct investment, aid and foreign remittances by nationals working abroad. Whereas major industrialized countries have passed stimulus packages pumping billions of dollars to jumpstart their economies by supporting struggling businesses and stimulate consumer demand for goods and services, African countries are lacking in such resources.

Africa also faces the major problem of meeting targets established to achieve the Millennium Development Goals (MDGs)³ by producing adequate employment and reducing poverty and hunger by 2015. According to Anderson and Masters (2008), the extent of poverty decline in SSA since 1981 has been disappointing relative to other developing country regions. The number of people in SSA living on less than \$1 a day (measured in 1993 purchasing power parity) grew from 168 million in 1981 to 252 million by 1993 and to 298 million by 2004. The authors claim that although the poor as

³ The Monterrey Consensus (MC) of 2002 and other United Nations and G8-led meetings such as the Millennium Summit in 2000 all have pledged commitments to make progress towards achieving the MDGs by 2015 in ending poverty, providing universal education, ensuring gender equality, providing adequate child and maternal health, combating HIV/AIDS, achieving environmental sustainability, and global partnership. The MC seeks to mobilize domestic and international financial resources, technical cooperation, international trade, debt relief and systemic approaches to achieve development.

a share of the population has declined over the past decade from a peak of 48 percent in 1996 to 41 percent in 2004; that is only marginally below the 42 percent level of 1981. Moreover, more than two-thirds of that recent decline in poverty incidence has been in rural areas, while the rest is explained by the movement of the rural poor to urban areas.

Furthermore, although economic growth rates in SSA have been fairly strong lately, overall growth rates since the early nineties have been modest (about 0.3 percent from 1990 through 2002 and 5 percent in 2003-2007) and appear inadequate in attaining the MDGs. Bourguignon *et al.* (2008), for example, link the MDGs to the pursuit of shared economic growth in Africa. According to the authors, this requires strengthening economic and political institutions, adopting good governance, rigorous macroeconomic management of resource flows (particularly foreign flows, possibly with foreign assistance to reduce vulnerability to sudden negative shocks), and creating a business-friendly investment climate. Crucial requirements include investments in infrastructure (roads, ports, power stations, etc.), and building management capacity both in the public and private sectors, especially linking agriculture to manufacturing. Therefore, the confluence of recent fuel, food and financial crisis, and economic recession may force many SSA governments to scale down their efforts to meet the MDGs.

The countries of Africa reveal considerable diversity in stages of economic development, resource endowments, specialization in trade, incidence of poverty, and political and social development. However, the kinds of policy choices made by governments in Africa have played an important role in the current state of their economy, and will be important in the way forward in facilitating structural changes, poverty alleviation and economic development. First, many countries adopted anti-

agricultural and anti-trade biases in the 1960s and 1970s. Second, although they undertook structural reforms in the 1980s and 1990s, many SSA countries have not sustained the pace, sequencing, and extent of policy changes. For many of these countries, policy transitions are still ongoing, while some (such as Zimbabwe) have experienced policy reversals. Therefore, they will require a combination of short and long-term policy responses, continued aid, and financing facilities from their development partners.

This paper provides an explanation about the causes and potential impacts of recent commodity price inflation on African countries. First, it makes the case that recent concerns about the volatility of commodity prices aside, many African countries are faced with endemic structural and policy challenges in ensuring MDG-related food security and poverty alleviation. Second, it reveals that many African countries, especially the fragile and low income ones, have become highly dependent on agricultural imports. Third, it analyzes recent African economic performance and identifies the challenges in growing the agricultural sector. Finally, the paper provides policy recommendations for specifically sustaining SSA's agricultural sector growth as the primary means in achieving economic development.

In the first section, broad perspectives on the recent global commodity price shocks are provided. Second, the process of international price transmissions and the potential policy distortions on African markets is presented. Third, the paper discusses recent African economic performance and the structural challenges, especially in the agricultural sector, and identifies recent initiatives aimed at expanding the sector's

growth. Finally, the paper draws implications for achieving food security and economic development.

2.0 Perspectives On the Global Commodity Prices

During spring 2008 as finance ministers gathered in Washington, D.C. to grapple with ongoing global financial crisis, *The Wall Street Journal* reported that the event was upstaged by concerns about food security⁴. Ostensibly, African countries such as Burkina Faso, Cameroon, Cote d'Ivoire, Egypt, Ethiopia, Madagascar, and Senegal experienced violent riots caused by food shortages; a major challenge to their governments. Surging commodity prices⁵ had pushed up global food prices in the past four years (see Figure 1), putting huge stress on some of the poorest and most vulnerable and fragile nations of the world, especially on the real incomes of poor households.

The World Bank's (2008a) report on rising food prices recounts, for example, that U.S. wheat export prices rose from \$375/ton in January to \$440/ton in March 2008, and Thai rice export prices increased from \$365/ton to \$562/ton during the same period⁶. This came on top of a 181 percent increase in global wheat prices over the 36 months leading up to February 2008, and an 83 percent increase in overall global food prices over the same period. These high food prices not only threatened access to food by the poor, but also access to health and education – basic preconditions for development – because of fiscal constraints faced by African governments.

⁴ The United Nations Food and Agriculture Organization (FAO, 2008) reported that of the 37 countries worldwide that are facing food crisis, 21 are in Africa.

⁵ Commodities which prices soared in late 2007 and early 2008 were cereals and oils, while sugar and meat prices appear not to have exceptionally risen, given recent trends. As can be gleaned from Figure 2, other agricultural commodities such as the tropical beverages, cocoa and coffee that are important to African countries, have not shown any marked price changes.

⁶ Both U.S. and Thailand are major grain exporters.

The oil price spikes from 2004 through mid-2008 (see Figure 2) are believed to have been driven by a combination of factors, but are mainly attributed to demand for oil by fast growing countries with energy intensive economies, such as China and India, that is beyond the limits of global capacity. In tandem, at least in part, rising food prices are believed to have been prompted by rich countries' (mainly U.S. and E.U.) policies⁷ wherein subsidies have been provided to farmers to produce crops such as corn and soybeans, pushing the substitution of corn-based ethanol and oil crops such as palm oil as bio-fuel (bio-diesel) for hydrocarbons instead of human consumption. In fact, according to the World Bank (2008b), over 528 pounds (about 240 kilograms) of corn is required to produce 26 gallons (about 100 liters) of ethanol necessary to fill the tank of a modern sports utility vehicle. Therefore, 50 million tons of the increase in global corn production of some 51 million tons from 2004 to 2007 went to bio-fuel use in the U.S. while global consumption for all other uses increased by 33 million tons, causing global stocks to fall by over 30 million tons. Increasing fuel costs also caused rapid increases in the prices of agricultural inputs such as fertilizers, pesticides and seeds, and contributed to spiraling transportation costs in moving food from sources of production to consumption points.

As the world's population has continued to grow, more and more people have moved into urban from rural areas, placing greater stress on food demand. The emerging middle class in developing countries (such as China, India and Brazil) that are experiencing recent economic growth are also increasingly demanding cereals and are diversifying their dietary patterns by consuming greater meat and dairy products than prior generations. For example, Von Braun (2007) noted that the real GDP in Asian

⁷ The U.S. has mandated using 28.4 billion liters of bio-fuels for transportation by 2012, whereas the E.U. has stipulated the goal of 5.75 percent of automobile fuel use from bio-fuels by 2010.

developing countries increased by 9 percent per year between 2004 and 2006. Africa has also experienced rapid economic growth of nearly 6 percent in the same period, and African countries have become increasingly food-import dependent. Feed grains are also being diverted to feeding livestock. Moreover, certain traditional grain exporting regions, such as Australia, have experienced poor harvests brought about by drought and crop failures that have created scarcity in global cereal supply. Speculation on financial derivative markets, based on agricultural commodities also became attractive and may have contributed to upward trending in prices.

It appears from Figure 1 that the main commodities which price indices rose from 2007 and early 2008 were vegetable oils, cereals and meat, while sugar prices do not appear to have risen by much. However, those prices seem to have began reverting back to near historical levels by the end of 2008. Nevertheless, in the wake of last year's rising commodity prices, some countries announced export bans and other trade restricting policies such as export taxes to control grains from being diverted out of the country so as to protect consumers. Others imposed higher import tariffs to protect their domestic producers from global exporters of grains. The hoarding (atomistic) behaviors of both private market participants and governments because of perceived uncertainties in ensuring continuous global supply of commodities must have fueled additional global demand that must have contributed to the commodity price spikes as well⁸.

Some have blamed the commodity price volatilities on macroeconomic factors, namely, the period of easy access to money in tandem with loose regulation of financial markets that resulted in the fast expansion of global financial liquidity, a weaker dollar,

⁸ A good case is the global rice market where despite adequate supply, uncoordinated government actions resulting for example from export bans, created short term hoarding panic and price spike until mid-2008.

and low interest rates. According to Abbott *et al.* (2008) and Mitchell (2008), the U.S. dollar depreciation has contributed about 20 percent to increases in food demand. Frankel (2008) also argues that low interest rates induced by monetary expansion, caused shifts in portfolios to commodities, discouraging stockholding and contributing to commodity price spikes. The author claims that this may explain why commodity prices came to a halt in the middle of the global financial crisis by mid-2008. Additionally, countries importing commodities from the U.S. that experienced appreciation of their currencies against the dollar realized cheaper imports and, thereby, caused their demand for commodities to grow; potentially contributing to altered patterns of trade.

Lastly, donor countries of the OECD, especially the U.S., appeared to have reduced funding in support of agricultural research and development in developing countries (including in SSA), and there is heightened concern about the potential threat of plant disease epidemic on agricultural yields, such as stem rust in wheat. The sum total of listed factors reinforces the risk and volatility that faced agricultural markets until the financial market reversals of early last year. Therefore, the volatility in internationally traded agricultural commodities must be a cause of concern for governments, institutions that govern global trade, producers, marketers, and consumers all over the world.

3.0 International Price Transmission in African Agricultural Markets

For many years, African governments have imposed various forms of taxation on agriculture. These taxes have been reduced, following reforms in the 198s and 1990s. In analyzing past and recent agricultural price policies, the political economy of government interventions in agriculture, and prospects for further policy reforms, Anderson and

Masters (2009) summarize lessons learned in 21 African country experiences.⁹ The lessons are as follows:

- *African governments have removed much of their earlier anti-farm and anti-trade policy biases.* African governments worsened policy biases against agriculture in the 1960s and 1970s through taxation of agricultural exports that contributed to market distortions. However, reforms undertaken in the 1980s and 1990s have reversed that trend, and average rates of agricultural taxation have reverted to or have been kept below the 1960s levels.
- *Substantial distortions remain and still impose a large tax burden on Africa's poor.* Measured in constant (2000) U.S. dollars, the transfers paid by farmers in the 21 countries studied peaked in the late 1970s at over \$10 billion a year, or \$134 for each farm worker. In 2000-04, the burden of taxation averaged \$6 billion per year, or \$41 for each farm worker. However, the amount is much larger than either public investment in or foreign aid to the sector.
- *African farmers have become less taxed in part because of the changing trade orientation of African agriculture.* Reduced taxation of the African farmers has occurred in part because of the decline in the share of output that is exportable and a corresponding rise in the share from import-competing agricultural industries.
- *Trade restrictions continue to be Africa's most important instruments of agricultural intervention.* Other interventions such as domestic taxes and subsidies on farm inputs and outputs and non-product-specific assistance are a small share of total distortions to farmer incentives in Africa.
- *Differences in the nominal rate of assistance (NRAs) and relative rate of assistance (RRAs) across commodities and countries are still substantial.* Dispersion rates, as measured by the standard deviation in NRAs and RRAs across commodities and countries, rose and then fell with the average degree of intervention in the decades of the 1960s and 1980s. Therefore, the authors suggest that any future movement toward more uniform rates within the farm sector and between countries within the region could yield substantial increases in efficiency of resource use.

A fundamental issue when analyzing the impact of the price boom and bust is the extent to which market prices in developing countries respond to changes in international food prices, since it helps explain to which degree consumers and producers are affected by international price volatilities, and in formulating policies to manage them (Sarris and

⁹ The case studies cover Egypt (North Africa), Ethiopia, Kenya, Sudan, Tanzania, and Uganda (East Africa), Madagascar, Mozambique, South Africa, Zambia, and Zimbabwe (Southern Africa), Cameroon, Cote d'Ivoire, Ghana, Nigeria, and Senegal (West Africa), and Benin, Burkina Faso, Chad, Mali, and Togo (West African cotton exporters).

Rapsomanikis, 2009). According to the authors, the “Law of One Price” suggests complete pass-through of international prices through trade and arbitrage to domestic markets while restoring market equilibrium. Poor international price transmission may be caused by trade distorting policies such as import tariffs, export taxes, etc., which transmit international prices to domestic markets in proportional terms, barring prohibitive tariffs or taxes. Sarris and Rapsomanikis (2009) argue that such high tariffs or taxes would render void opportunities for arbitrage, and would cause the international and domestic prices to move independently of each other; as though say an import or export ban were in effect. Certainly, in the wake of the commodity price spikes, many countries invoked import tariff reductions and export bans so as to protect consumers and vulnerable populations from the effects of high food costs.

Wodon and Zaman (2008) also suggest that in Africa, certain factors may dilute the impact of rising global prices on the local prices which farmers face. First, market intermediaries may keep a large share of the increase in consumer prices for themselves without paying farmers more for their crops. Second, poor physical connectivity in many countries contribute additionally to the poor transmission of global price changes to local producers (Benson, 2008). Third, the cost of inputs such as fertilizers rose as well during the period of oil price spikes which may have affected the farmers’ profit margins.

Moreover, at least in principle, for the net food-exporting country in Africa, the implementation of an export ban would likely bar the transmission of price signals from the international market, and even exert downward pressure on its domestic price level. Additionally, government interventions, such as food procurement or sales and inventory management, commonly practiced across Africa, may also hinder price transmission.

High transport costs also introduce large marketing margins to sellers, and insulate domestic markets from international price pass-through as well for resource-poor African countries. Such high transport costs in Africa are caused by poor transport and communication infrastructure that add to the woes in efficiently delivering goods from the border to consumption points. Such high transfer costs deter from achieving arbitrage conditions and can at best cause only partial adjustments by producers and consumers to world supply and demand. In fact, Sarris and Rapsomanikis (2009), after conducting various econometric analyses of selected African countries and regional cases concluded that overall world prices for staple products are transmitted only imperfectly within African countries in the short term. In other words, any world commodity shocks are likely to be felt in Africa with a lag.

Additionally, real international commodity prices have declined since the 1950s¹⁰ and have held fairly steadily from 1980 through the mid-1990s, with the trend line indicating steady, even if occasional slightly fluctuating patterns. Therefore, despite recent price spikes, real prices of cereals, in particular, were lower in 2008 than previous peaks during the food crisis of the mid-1970s to 1980; although prices have recently fallen rather precipitously to near historical trend levels.

Two factors tend to explain agricultural market price instability. They are the variability of production and the level of end of previous stocks. The more variable is agricultural production over time, the greater would be the expectation of price variability and volatility. Likewise, the smaller the end of period stocks, the more any market shocks will create price variability and volatility. As this paper illustrates later, the

¹⁰ In support of the Prebisch-Singer hypothesis, Kellard and Wohar (2006) have confirmed that for certain primary commodities, such as cotton, rice, wheat, sugar, etc., there was a decline in their relative price for more than 50% of the time period from 1900 to 1998. Generally, price increases are only quite recent.

agricultural sector in many African countries have not benefited from investment, resulting in lower production and higher import dependency. For the more fragile and LIFDCs, food deficits are a troubling concern.

Sarris (2007) also argues that declining terms of trade for agricultural commodities are due to faster rates of TFP growth for agricultural relative to non-agricultural products. According to the author, generally because of globalization, the gains from agricultural research can quickly be transferred internationally by way of TFP growth. Therefore, the incidence of productivity advances are largely passed on to consumers through lower prices with very little going to producers. But that is only half the story. However, TFP growth for African agriculture has been much smaller compared to the developed and other developing countries. Moreover, the SSA region did not benefit from the agricultural innovations associated with the Green Revolution of the 1950s. Therefore, for the region, as illustrated in Figures 3 and 4, and Table 6, agricultural commodity yields have generally stagnated (especially in SSA LDCs for wheat and rice). Therefore, many SSA countries, especially the LIFDCs, have become more dependent on food imports.

Another factor that is likely to explain commodity price volatility is a country's policy actions and reactions to external shocks. The FAO (2008b) provides a survey of government actions in 77 developing countries during 2007-08. Africa appears to be the region with the fewest additional policy responses. However, as Sarris and Rapsomanikis (2009) suggest, discrete and largely unexpected actions are taken by African marketing boards that create market uncertainties and therefore weaken incentives for private sector actors to engage in trade. The presence of marketing boards and private firms tend to

give rise to a dual marketing system that often increases the fragility of the market. The lack of trust and poor coordination between both public and private actors often lead to food deficits and high domestic price changes.

The above analysis implies that for SSA, food commodity markets are likely to remain volatile until agricultural productivity increases, stocks are replenished, petroleum prices stabilize, and the current financial crisis ebbs. This calls for greater investment in innovative processes to boost the agricultural sector's productivity.

4.0 Recent African Economic Performance and Projected Challenges

Despite the upturn in economic growth since 2000, Africa remains the lagging region with respect to both income and non-income MDGs. Compared to other regions of the world, for decades Africa has generally been characterized by low economic growth. Moreover, Africa is still far from reaching its targeted goal of an annual growth rate above 7 percent a year so as to achieve economic convergence with other developing countries and to maintain similar quality of life.

Perusing Figure 2, the recent fortuitous increases in oil and precious metals were not matched by the same levels of price increases of Africa's major agricultural exports. Moreover, prices for all commodities have since mid-2008 given way to rapid declines and are set to manifest in export revenue shortfalls for exporters of oil, metal and other agricultural commodities¹¹. It is clear that losses in export revenue will grow and will have dire impacts on the external current accounts and fiscal revenues of many African countries. Firstly, as the direct result of a combination of the recent global financial crisis and the commodity price declines, African exports are expected to face a contracting market in 2009 and 2010. Data from the African Development Bank (2009b) reveal that

¹¹ These are made up of mainly exportable cash crops such as cocoa, coffee, etc.

trade revenue in Africa is projected to decline by \$251.2 billion in 2009 from an expected level of \$634.6 billion, and also by an additional \$277.3 billion in 2010 from an expected level of \$692 billion. Secondly, weaker trade performance will translate into shrinking foreign exchange reserves. Thirdly, the decline in export-oriented activities such as mining, tourism, agriculture, textile and manufacturing sectors due mainly to falling prices and lesser foreign demand, will compound losses in export revenues. This will seriously exacerbate the ability of many African countries to guarantee their import cover.

The African Development Bank's projections from the *African Development Outlook* (2009) delineates that after recording a 4.8 percent growth from 2000 through 2004, African economies recorded a robust overall real GDP growth rate of 6.1 percent in 2007, having grown from 6.0 percent in 2006 and 5.7 percent in 2005 (see Table 1). This growth was fueled largely by global demand and high commodity prices, consolidation of macroeconomic stability and improving macroeconomic management, increased oil production in certain countries, increased capital flows and debt relief. All African sub-regions experienced robust positive growth, although oil-exporting countries grew at a higher rate than oil-importing countries. Global economic growth, on the other hand, slowed from 3.9 percent in 2006 to 3.7 percent in 2007 in large part because of high oil prices and turbulence in financial markets. Economic growth in developing countries minimally declined from 7 percent to 6.9 percent for the same periods. However, the downward trending of commodity prices since mid-2008 is projected to reverse Africa's growth rate in 2009 to 2.8 percent; down from 5.7 percent in 2008, while oil-exporting

and oil-importing countries' growth rates are projected to fall by 4.2 and 1.3 percentage points respectively to 2.4 and 3.3 percent.

Africa's macroeconomic balances are also expected to deteriorate as a result of the financial crisis. Table 2 shows Africa's external current account (including grants) as a percentage of GDP. From 2000 through 2004, the external account grew positively but marginally for the whole African region. With the exception of North Africa that experienced 5.6 percent growth in the external current account, the rest of the African regions experienced negative growth. The negative growth rates continued through 2008 for the Eastern and Southern regions of Africa. Central Africa experienced positive growth in current account in 2006 and 2008, whereas West Africa saw negative current account growth in 2007. However, with the exception of North Africa, the whole African region is projected to face 3.8 and 3.6 percent deficits in 2009 and 2010, respectively, from the overall current account surplus of 3.5 percent of GDP in 2008. Additionally, Table 3 reveals that all sub-regions and Africa overall, experienced negative fiscal balances from 2000 through 2004. However, Africa will face declining budgets from a surplus of 2.3 percent of GDP in 2008 to a projected deficit of 5.4 percent of GDP in 2009. In particular, the budgetary deficits for oil-exporting countries are forecasted to reach 7.7 percent of GDP in 2009, down from a surplus of 5.1 percent in 2008.

The gains in African economic growth in the past few years were led by 13 oil-exporting countries which registered average fiscal surplus of 7.3 percent in 2005, 8.6 percent in 2006 and 4 percent of GDP in 2007. On the other hand, oil-importing countries in Africa saw their average budget deficits increasing slightly from -1.7 percent of GDP in 2005 to -0.5 percent in 2007; although deficits declined to -2 percent in 2008.

The countries facing the largest budget deficits are more likely to be fragile in that they are prone to the combination of internal shocks such as irregular weather and political conflicts, and external shocks such as the recent commodity price volatilities.

In part because of the limited linkages of the export sectors in Africa to the rest of the economy, job losses in the export sectors are expected to be transmitted to the general economy via losses in incomes. According to the African Development Bank (2009a), in low-income and fragile states, the ability of governments to respond to crisis is severely constrained by the erosion of their fiscal space as revenues fall¹². In these vulnerable countries, development targets will definitely be set back as they are threatened by potential decreases in government expenditures and unsustainable macroeconomic imbalances. From the foregoing analysis, even higher-income African countries would be faced with risky fiscal space should the financial crisis take root much longer.

World trade has increased by about 25 percent since the inception of the WTO in 1995, stemming from the greater integration of global markets. But Africa's share of world trade is only about 2.8 percent, having fallen from 10 percent in the early 1960s. Additionally, intra-regional trade is quite modest, and it is estimated at just 8.3 percent of Africa's exports and 9.3 percent of imports¹³ (African Development Bank, 2009b). Low intra-African trade results from the lack of diversity in production and poor infrastructure that constrain movements of goods and services in Africa. Individual country markets in Africa are small and coupled with low intra-regional trade they constrain the ability of

¹² In their hierarchy of the most vulnerable based on high poverty and weak macroeconomic balances or fiscal space, the African Development Bank (2009) lists Burundi, Eritrea, Niger, Senegal, Sudan and Togo.

¹³ Intra-regional trade as measured here includes only formal or documented trade between African countries. However, it is important to note that informal cross-border trade occurs in Africa, especially where people of similar tribes are found across border areas or where goods of common interest have historically been traded among people.

African firms from “learning-by-doing” in gaining the necessary experiences to sustain inherent risks, and to enable them to effectively compete in more sophisticated global markets. Moreover, despite the recent improvements in the enabling environment in conducting business on the continent, there is growing fear that the recent global financial crisis may stymie inflows of foreign financial capital to catalyze productive investments. The recent increase in protectionist measures in response to the global financial crisis has also heightened the fear that African countries will continue to face barriers in gaining access to international markets. The general consensus is that the region has failed to take advantage of rapid developments in information and communication technology, the liberalization of financial markets, and the global factor movements necessary to spur production and trade. Therefore, beyond the current financial crisis, comprehensive and deep regional trade integration¹⁴ is perceived as a critical driver in ensuring Africa’s economic growth.

The openness indicator of Africa, measured by the sum total of exports and imports as a ratio of GDP, increased from 60.8 percent in 2000 to 75.2 percent in 2007 (Kaberuka, 2008). This implies that African countries have increased their commercial contacts with the rest of the world. Africa has also recently been the beneficiary of South-South trade and capital inflows. In particular, African exports to China are reported to have quadrupled between 2000 and 2005 to \$19.5 billion, and African countries have continued to be flooded with imports of manufactured goods from Asian countries. Additionally, foreign direct investment (FDI) is recorded to have increased

¹⁴ In Africa alone, there are at present nearly 30 different sub-regional trade agreements organized under regional economic communities (RECs) with many countries holding multiple memberships.

from 5 percent in 1990 to 17 percent in 2005, originating mainly from Asia¹⁵ (*Economic Report on Africa*, 2008). Of course, it is expected that African exports would proceed on a path of secular decline stemming from lower commodity prices that began in mid-2008 and the indirect effects of the recent global financial crisis.

Until mid-2008, high oil prices had imposed inflationary pressures¹⁶ in both African oil-exporting and oil-importing countries. According to the *Economic Report on Africa* (2008), the rate of inflation was higher than that in Latin America and the Caribbean, East and South Asia, and the average recorded for all developing countries. Specifically, about 60 percent of African countries registered inflation rates of about 5 percent or higher in 2007, up from 52 percent of African countries in 2006. Aside from Central Africa where inflation rates were low, all other African sub-regions registered relatively high inflation rates in 2007. Until the most recent global downturn, such inflationary pressures were a key concern for poor landlocked and food deficit African countries since it had impacts on the price of basic food items stemming from high transportation and other logistical costs. The combination of lower economic activity, and oil and food prices are expected to conspire in keeping inflation lower in 2009 than in 2008 (see Table 4).

5.0 African Agriculture Faces Challenges

For many countries in SSA, agriculture has been very important in providing secured jobs, food, foreign exchange, and even linkages from the rural sector to other sectors of the economy through diversified economic activities that are expected to keep the population out of poverty. The agriculture sector represents 34 percent of Africa's

¹⁵ Asian FDI flows are mainly from China, India and the Gulf States.

¹⁶ Inflation was contained around about 7 percent and registered for the past five years.

GDP and accounts for 40 percent of its export earnings (World Bank, 2008b). However, agriculture's contribution to GDP in Africa tends to be diverse; ranging from a high of more than 32 percent in West Africa to 8.7 percent for Southern Africa in 2006. Led by North Africa with 7 percent growth, agriculture in general recorded a 5 percent growth rate in Africa through 2006 (*Economic Report on Africa*, 2008). With 60 percent of SSA's workforce employed in agriculture and more than 80 percent of the region's poorest households depending directly or indirectly on farming for their livelihoods (Anderson and Masters, 2009; Chen and Ravallion, 2007; World Bank, 2008c), agricultural and trade policies remain key influences on the pace and direction of change in Africa. In 2006, SSA accounted for just 4 percent of global agricultural GDP, 12 percent of the world's farmers, 16 percent of agricultural land, and 28 percent of those living on less than \$1 a day (World Bank, 2008c).

The performance of the agricultural sector in Africa has received attention following the recent commodity price volatilities. Many African countries, especially the low-income food-deficit (LIFDC) ones, were caught unprepared to manage the looming challenges associated with the commodity price volatilities of the past few years. In particular, Ivanic and Martin (2008) estimate that price spikes between 2005 and the first half of 2008 raised the number of poor people by more than 100 million in countries that were net-importers of food. Consequently, many governments and analysts have called for improved international market mechanisms to prevent and/or manage such sudden food price surges. More recently, however, the global financial crisis has coincided with highly reduced commodity prices. These price volatilities by themselves, pose major

concerns for vulnerable LIFDCs in SSA in terms of their ability to achieve food security, overcome poverty, and sustain development.

Many of the LIFDCs also meet the World Bank's definition of LICUS. However, a major difficulty in analyzing these fragile countries is because of data paucity, especially for those countries with poor governance and institutions. Alinovi and Russo (2009) have documented that the population of LICUS is fragile and mainly rural; ranging from 40 percent rural in Congo to 91 percent in Burundi (see Table 5). A good number of fragile African states also have undernourishment levels of 39 percent or higher, reaching 76 percent in the Democratic Republic of Congo (DRC). Nevertheless, the authors also note that some LICUS report relatively low levels of undernourishment, probably because (i) those countries have been only recently classified a fragile state, having had a relatively solid economy, so food insecurity is still transient (for example Nigeria); and (ii) the country's food balance sheet is of poor quality.

Table 5 also reveals that more than 60 percent of the population of all non-oil producing African LICUS lives in rural areas and depends on the rural sector for employment and income. These non-oil producing countries depend on agriculture and related production, with more than 20 percent of their GDP stemming from agricultural value added activities. Djibouti, Eritrea, and Zimbabwe appear to be exceptions; but this result may depend on the quality of their national statistics.

Alinovi and Russo (2009) also state that the large majority of SSA countries affected by food crises are fragile states. Indeed, 14 out of the 20 SSA countries that have experienced one or more food crises requiring external assistance are fragile states (FAO-GIEWS). It is important to note furthermore that in most cases (about 12

countries) food crises have been a permanent fixture (of at least 4 crises in the period of 2004-2008). In the absence of adequate government structures, these fragile countries have been supported by humanitarian aid and responses aimed at protecting human lives. Since 1997, of the \$39.7 billion requested through the consolidated appeal process (CAP), \$36.5 billion (about 91 percent) went to humanitarian emergencies (Development Initiatives, 2008). OCHA data for the 21 African LICUS also confirm considerable increase in the levels of humanitarian assistance, indicating that a number of the countries have experienced an increased number of emergencies in the period 2000-2009 (Alinovi and Russo, 2009).

An additional observation by the authors is that although agriculture is the main means of food and revenue generation, it has received relatively few investments. The authors' analysis of development aid in the 21 SSA LICUS reveals that the total development assistance going to those countries remains limited (about \$2.9 billion in the period 2000-2004 according to FAOSTAT) when compared to other SSA countries and relative to the level of humanitarian aid they received in the same period (about \$6.37 billion) or about 220 percent of development aid. On the other hand, assistance to agriculture represented less than 20 percent of total aid with lower percentages in those countries affected by conflicts. For example, in the DRC agriculture assistance was less than 6 percent of total aid.

Recognizing that only 4 percent of current total Official Development Assistance (ODA) destined for SSA goes to agriculture and the U.S. Agency for International Development (USAID) has cut its agricultural assistance to SSA by 75 percent in the past two decades, in his testimony to the Senate Foreign Relations Committee on March 24,

2009 former U.S. Agriculture Secretary Dan Glickman and his associates from the Independent Leaders Group on Global Agricultural Development¹⁷ called on the U.S. government to allocate at least \$340 million in 2010 and more thereafter toward infrastructure, agricultural research and education in poor countries. He also endorsed a bill co-authored by Senators Lugar and Casey, the Global Food Security Act, which aims to update the Foreign Assistance Act of 1961 by allocating about \$10 billion over five years to promote food security and improve responses to food crises. \$1.5 billion of the funds will go to Higher Education Collaboration for Technology, Agriculture, Research, and Extension (HECTARE). According to data presented by the Group, U.S. ODA to African nations has declined by 85 percent in real dollars since 1988.

To mobilize European research in support of development policies, the European Commission's Development Group has also launched discussions, workshops and conferences, led by the European University Institute (EUI), to draft the first European Report on Development (ERD) by October 2009. The first report will focus on the complex and multidimensional issue of fragility and approaches to tackling it, with a specific focus on the African continent. The issue of how to respond to fragile African countries is very high on the European political agenda. The choice of this theme also builds on the report by Bourguignon *et al* (2008) that recommends, *inter alia*, that "fragility needs to be tackled if progress on the [MDGs] is to be achieved. This will require sustained engagement and new, imaginative use of combined political, technical, financial and sometimes military resources, engaging with governments but also civil society and non-state actors. Multilateral approaches are necessary."

¹⁷ The Group is author of The Chicago Initiative on Global Agricultural Development, "Renewing American Leadership in the Fight against Global Hunger and Poverty."

The foregoing analysis serves to illustrate the dire paradigm of African agriculture. Whereas agriculture is the sector of comparative advantage and can help sustain development even in the most fragile African countries, on the other hand, the agricultural sector has not been supported by the current aid architecture because it does not fit the humanitarian focus of development assistance. The crises in the African agricultural sector and rural livelihoods result from the vulnerability and fragility of LICUS, and they are also a factor contributing to the further deterioration of the LICUS countries and their agricultural sector; resulting in a vicious cycle of humanitarian crises (Alinovi and Russo, 2009).

5.1 African Food Import-Dependency and Food Insecurity are Growing

The agricultural sector continues to be the source of foreign exchange earnings for many African countries. However, there is diversity in the agricultural sector's contribution to total exports, ranging from about 80 percent for Burundi, to less than 1 percent for Gabon and Equatorial Guinea¹⁸. The shares of agricultural exports in total merchandise exports have declined to date to about half their shares in 1970. FAO data also show that for the period between 2002 and 2004, the share of the four most important commodities in agricultural exports for most countries ranged from nearly 50 percent in Niger to 100 percent in Equatorial Guinea. Additionally, the share of the four most important commodities in merchandise exports ranged from 0 percent in Angola and Equatorial Guinea to 82.3 percent in Guinea Bissau.

The World Bank (2007) indicates that after so many years of decline, African agricultural production reached 6 percent in 2006. Per capita food production has also recovered from its secular decline during the preceding two decades. Furthermore,

¹⁸ Gabon and Equatorial Guinea are oil exporting countries.

Badiane (2008) reports that agricultural TFP has shown a similar reversal in growing by 50 percent since the late 1980s. The author also notes that the economic and agricultural growth recovery in Africa may not just have been accelerating, but it is spreading to more countries. As evidence, the author offers that in 2001-2003, only Mali, Mozambique, Namibia, and Sudan (among the SSA LDCs) exceeded the target agricultural growth rate of 6 percent set by the New Partnership for African Development (NEPAD) in a 2002 Comprehensive Africa Agricultural Development Program (CAADP). However, by 2003-05 the number of countries exceeding the target growth rate had grown to include Angola, Burkina Faso, Democratic Republic of Congo, Eritrea, Ethiopia, Gambia, Guinea-Bissau, Nigeria, and Senegal with several countries close in tow. In fact, between 2003 and 2005, 13 countries in SSA achieved annual agricultural growth rates greater than 5 percent. This has been remarkable news indeed.

Table 6 also reveals that production of important African commodities grew on average by 1.8 percent in 2006; exhibiting varied levels of growth rates across the principal African regions. For example, North Africa experienced positive commodity growth of 4.3 percent in 2006, especially fueled by bumper growth in wheat, barley and olive. East Africa also benefited from a positive commodity growth of 1.7 percent, driven by wheat, animal products, green coffee, and cocoa beans. Southern Africa registered commodity growth of 3.6 percent, with gains from bananas, dates, wheat, rice, cassava, fruits and vegetables, animal products, and cocoa beans. However, West Africa registered negative overall commodities growth of 3.8 percent in 2006, largely from export crops such as green coffee, cocoa beans, cottonseed, and food staples such as rice and cassava. But positive growth was registered in West Africa for wheat, groundnuts,

animal products, and barley. In addition, Central Africa experienced negative commodities growth in 2006, driven mainly by crops such as groundnuts, cottonseeds, dates, cocoa beans, green coffee, oil seeds, and rice. In fact, both West and Central Africa experienced negative growth in commodities linked to food security such as rice, cassava and bananas. Overall, exportable commodities, such as coffee and cocoa, registered positive but low growth in Africa.

Panagariya (2004) has predicted that net agricultural (food) importers in Africa were poised to suffer static balance of payments losses from negative terms of trade effects as world prices began to rise (and that many low-income countries that receive preferential access to developed country markets will see their competitive advantage from preferences reduced during multilateral talks). Certainly, despite the recent positive story about African agricultural sector growth prospects, many African countries have become increasingly net food-importing countries of food such as cereals, livestock, dairy products, and fruits and vegetables. Gleaning from FAO data, import bills of cereals for African countries have increased steadily from 2003/04. Cereal import bills in LIFDCs in the African region, in particular, have been one of the largest among all LIFDCs; although they are forecast to decline in 2008/2009 after reaching more than double the value in 2005/06 to nearly an estimated value of \$19 billion during 2007/08 (see Table 7). This rapid increase in import bills, compounded further by higher energy prices, must have placed a heavy financial burden on several LIFDCs through 2008.

Table 8 provides a glimpse of the magnitude of the food import bills facing African countries in 2004 when commodity prices began rising. All listed countries were faced with relatively higher import bills for cereals as compared to their exports revenues.

The two countries facing the largest cereal trade deficits of \$790 millions and \$340 millions, Nigeria and Sudan, respectively, are oil exporting countries; although both are classified as fragile states because of civil strife that could jeopardize their petroleum industries. However, they must have benefited from windfall gains in oil revenue from recent oil price surges in financing their import bills for food. Yet, many countries such as Senegal, Cote d'Ivoire, Zimbabwe, Kenya, Ethiopia, Ghana, Cameroon, and Mozambique are mainly dependent on agricultural production for their export revenues¹⁹. Therefore, in the absence of food aid and agricultural sector assistance, these countries were poised to face relatively high import bills that could weaken their current account balances. In particular, the FAO (2008a) reported that The Gambia, Liberia, Mauritania, Niger, and Zimbabwe were among the seven most vulnerable economies²⁰ with very high current account deficits, and predicted increases in their cereal import bills during fiscal 2008.

Furthermore, Sarris and Rapsomanikis (2009) provide projections of net imports pertaining to the LDCs of SSA based on the FAO COSIMO model. These FAO estimates are shown in Figures 3, 4 and 5. They delineate that LDCs in SSA are projected to become increasingly food deficit in wheat and rice. However, in coarse grains, including corn, millet and sorghum, SSA LDCs are expected to continue being self sufficient. This suggests that as SSA LDCs become more dependent on international markets for cereal consumption, they will also be increasingly exposed to the potential

¹⁹ Cote d'Ivoire, Cameroon, Ethiopia and Senegal experienced violent riots in 2008 caused by food shortages.

²⁰ Jordan and Republic of Moldova are the other two.

volatilities of the international market. This will render this group of countries²¹ increasingly vulnerable in achieving food security.

However, there may be a silver lining in this story. Badiane (2008) notes that among countries that have experienced longer periods of steady growth in agricultural productivity such as Ghana, Mozambique, and Uganda, the rate of poverty and the incidence of hunger have significantly fallen. As evidence, he offers for instance that the poverty headcount fell in Ghana from 52 to 28 percent between 1992 and 2006, and in Uganda, it fell from 56 to 31 percent during the same period. Therefore, these two countries were poised to achieve the poverty MDG. However, the combination of the current economic crisis, the potential declines in ODA, and any potential reversals in agricultural sector growth would not bode well for the two countries and many SSA countries in achieving the poverty and food security aspects of the MDGs.

Indeed, Wodon *et al.* (2008) from their simulation exercise suggest that the increase in the poverty headcount index following from a 50 percent increase in selected food prices varies from 1.8 percentage point in Ghana to 9.6 points in Senegal. Whereas in Ghana the staples included in the analysis account for 8 percent of total consumption, in Senegal, they account for 21 percent. Additionally, in Ghana poverty is lower in urban than in rural areas. Therefore, unlike Senegal, in Ghana only a small percentage of urban dwellers fall into poverty with the price shock. Moreover, in Senegal a large share of food consumption in the country is imported (see also Table 8). Therefore, rural households are not protected to the same extent from the price shock through food

²¹ The SSA LDCs are Angola, Benin, Burkina Faso, Burundi, Cape Verde, Central African Republic, Chad, Comoros, Democratic Republic of Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Rwanda, Sao Tome and Principe, Senegal, Sierra Leone, Somalia, Sudan, Tanzania, Togo, Uganda, and Zambia. Sixteen of these countries are also among the 21 SSA LICUS.

production for own-consumption. For SSA, with a population of about 800 million, an average 3.5 percent poverty impact from the recent commodity price increase imply that the food crisis could lead to an increase in poverty of close to 30 million additional persons. In addition, all households that are already poor will become even poorer.

5.2 Investment in the SSA Agricultural Sector is Important

From the foregoing, it is quite clear that in order to significantly reduce poverty and food insecurity, Africa would have to boost its investments in agriculture that has been lacking for about a half-century. First, between 1980 and 2005, the World Bank was the largest lender to SSA agriculture. However, African governments, facing fiscal austerity measures stemming from the World Bank's and IMF's sponsored SAPs in the 1980s, trimmed down significantly their budgets allocated to agriculture. At the same time, the message directed from Washington, DC to the African governments was not to choose sectoral winners. Second, even for those SSA countries that launched programs of reform to improve agricultural output in the 1970s and 1980s (such as Kenya, Nigeria and Zimbabwe), the reforms were episodic and funding was not sustained. Third, African countries have become too dependent on external food aid, and their governments appear not to realize the urgency of deepening their agriculture sector investment. Currently, Africa has 11 percent of the world's arable land and population (World Bank, 2008c). However, African agriculture has not lived up to its potential in providing adequate food production. Faced with stagnant production, African countries have been importing increasing amounts of food (such as wheat and rice) to satisfy their consumption (see Table 8, and Figures 3 and 4).

Generally, African agriculture is constrained by structural impediments characterized by the vagaries of climate and their consequent risks that deter from investment in the sector. The agricultural sector exhibits low productivity, limited access to agricultural technology and low human capacity to adopt innovations, limited use of irrigation²² and other inputs, slow levels of investments in rural infrastructure essential for reducing transaction costs in farming so as to increase the competitiveness in agricultural production, processing and trade, and institutional weaknesses in providing research, extension and ancillary services throughout the entire agricultural production and marketing chain. Gayi and Chereh-Robson (2009) also note that in general various characteristics such as geography, drought and aridity, poor quality of soil, plant pests and animal diseases, limited individual property rights, and poor adoption of productivity enhancing measures pose major impediments against investing in African agriculture. Therefore, African agriculture lags behind all other developing regions of the world, judging by all indicators of agricultural productivity and the use of modern inputs. However, Badiane (2008) reports that recent IFPRI research shows that total factor productivity (TFP) growth in SSA shifted from -2 percent between the 1960s and 1980s to 1.7 percent from 1985 to 2003 with efficiency gains contributing 90 percent and technical change contributing 10 percent. What accounts for such a low level of TFP?

According to the FAO (2004), although Africa has the largest agricultural area per capita in the developing world, it has the lowest irrigated area of about 3.7 percent, and fertilizer consumption of 12.6 kg/ha/arable land; much lower than the developing country average of 109 kg/ha/arable land. Additionally, only a quarter of the land in the total crop area is planted with modern crop varieties; although Asia adopted such modern

²² About 96 percent of arable land in SSA depends on rainfall.

varieties in the 1960s during the Green Revolution. Therefore, cereal yields for SSA farmers have stagnated since the 1970s and stands at about one-third of those in South Asia (World Bank, 2008c).

African countries cannot meet targets of the MDGs in producing adequate employment and reducing poverty and hunger by 2015 in the absence of additional TFP growth in agriculture. In a statement issued by the MDG Africa Steering Group at Sharm El-Sheik, Egypt on July 1, 2008 during the African Union Summit, it was recognized that at the mid-point in the global effort to achieve the MDGs, progress in many African countries was not on track. Therefore, the Group called on the G-8 to make good on its promise to assist Africa in speeding up poverty reduction on the continent by increasing official development assistance (ODA) to \$25 billion (in 2004 dollars) annually as promised during the G-8 meeting at Gleneagles. The statement noted furthermore, that rising food prices, record energy costs and climate change all threaten to reverse advances toward the MDGs. Among other recommendations, the Group called for targeted investments in agriculture to launch a green revolution in Africa (MDG Africa Steering Group Press Release, 2008).

The penultimate recommendation for investment in African agriculture is consistent with the action steps proposed by the NEPAD in the 2002 CAADP, aimed to achieve at least 6 percent agricultural growth by the year 2015 by improving agricultural investments up to \$251 billion. The CAADP is an agriculture-led development scheme aimed at cutting hunger, reducing poverty (about 70 percent of which exists in rural areas where subsistent farmers are mainly illiterate women), generating economic growth, reducing the burden of food imports, and opening avenues for the expansion of

agricultural exports. The CAADP has delineated four action steps to: (i) increase food supply, reduce hunger, and improve responses to food emergency crises; (ii) improve agriculture research, technology dissemination and adoption; (iii) extend the area under sustainable land management and reliable water control systems; and (iv) to improve rural infrastructure and trade related capacities for market access. The CAADP is conceived as a strategy to create regional value chains by linking agriculture to other sectors of the economy. The value chain is a continuum of forward and backward linkages among agribusiness, agro-processing (including ethanol and other industrial processes), soil management, using technology to develop high-yielding seed varieties, and fertilizer production and dissemination. Although the NEPAD called on African governments to provide half of the investment funds needed to implement the CAADP, to date that has not happened. Again, the current global financial crisis threatens Africa's ability to marshal the levels of investment funds necessary to deepen investment in African agriculture.

Recently, the Rockefeller Foundation which formed partnerships with governments in Asia and Latin America to undertake the Green Revolution in the 1960s, has developed a partnership with the Bill and Melinda Gates Foundation in establishing the Alliance for a Green Revolution in Africa (AGRA) in 2006, chaired by former UN Secretary General Kofi Annan. The goal of AGRA is to replicate the success of the Asian Green Revolution in SSA by following a similar approach namely: (i) to develop high yielding crops; (ii) to train experts in agriculture science; (iii) to increase government commitment and budgets to agriculture; and (iv) to develop agricultural markets. The hope is to raise the productivity of small subsistent farmers by breeding

higher yielding seed varieties that are adaptable to nutritious local soil conditions. The Program for Africa's Seed Systems (PASS) is financed by the Foundation with \$100 million. It also plans to establish a network of retail agro-dealers to market the seeds. Another agricultural marketing program is the "Purchase for Progress" in cooperation with the United Nation's WFP that would enable the WFP to purchase food produced by Africa's small farmers, ensuring continuous investment, a reasonable expectation of demand for the products, and predictable prices from the WFP. Should this program be successful, African small farmers will be able to sell quality food to the WFP for aid distribution. The revenues from realized sales would themselves serve as an incentive for the farmers to increase food production. AGRA is currently present in 13 SSA countries. The initiative was given an additional \$306 million commitment from Bill and Melinda Gates Foundation at the beginning of 2008. The Foundation also gave a grant of \$25 million to Cornell University aimed at fighting a deadly wheat disease called stem rust.

Summary and Implications for Food Security and Economic Development

This paper suggests that the recent price volatility on global markets has negatively impacted agricultural dependent nations in Africa, especially the LIFDCs and fragile economies that have become increasingly dependent on food imports and food aid. Specifically, it focuses on understanding the causes of the food crisis, the price transmission effects given policy distortions in the African agricultural markets, the importance of agriculture to the economies of many African countries, the potential deleterious impacts of the food crisis on agricultural and food markets in Africa, and then proposes that it would be critical for African countries and their development partners to deepen investment in the agricultural sector to attain food security and alleviate poverty.

The main conclusion is that price volatility has potentially diverse effects on different African countries, depending on whether they are net food-exporters or net food- importers. In Africa, there are not many of the former but many of the latter. Therefore, the paper's focus has been mainly on the LIFDCs and fragile states since many have radically increased their dependence on food imports, have faced high food importing bills and have been subjected to macroeconomic vulnerability²³. Faced with resource scarcity, many lack the necessary financial investment and institutions to achieve sustainable levels of food production. This has dire implications on maintaining food security, proper nutrition, and in making progress toward achieving the poverty and food security aspects of the MDG. However, as the paper shows, the extent of these impacts depends on a country's resource endowment and other existing constraints facing the agricultural economy specifically, and the general economy. Many of the poor African countries lack the capacity and technical know-how to invest in the agricultural sector to the extent necessary to compete on the international market. Therefore, volatile prices have negative impacts on their foreign exchange earnings, incomes, and the general health and welfare of their people. When faced with fiscal constraints, many poor countries in Africa would have to cut down on programs that provide access to social safety nets and protection, unless the international community can come to their aid by providing assistance to accelerate investments in food production initiatives in those countries to prevent suffering due to hunger. Given the state of the current global financial crisis, this prospect appears quite grim.

²³ The FAO (2008) demonstrates correlation between macroeconomic vulnerability and food security, where countries facing vulnerable macroeconomic conditions also face acute undernourishment rates.

Moreover, many rural communities in countries where poor farmers reside would be most vulnerable without tangible opportunities for wage creation, capital inflows, and new income opportunities. Given the fiscal constraints facing their governments, the poor (both rural and urban) may be exposed to even less safety nets and protection, especially if commodity prices were to continue to rise further. Should that happen, then vulnerable SSA LDCs and fragile states would experience worsened dietary quality and nutrition. Additionally, the loss in purchasing power is expected to impact their ability to afford other goods and services, utility, sanitation, health and education that are important in achieving economic development. Therefore, the global community would need to undertake some form of emergency outreach in humanitarian assistance to food-insecure populations in these countries. Short term anti- poverty interventions must focus on the existing poor, especially the rural subsistent farmers. Evidence shows that over the short to medium run, those households adjust their production and consumption when faced with higher prices. Additionally, they smooth their consumption by increasing their labor supply, drawing down their savings, and disinvest in their livelihoods by eating their seed grain and selling their animals. Moreover, they tend not to have adequate access to credit, but rely on informal moneylenders who charge high interest rates (Wodon and Zaman, 2008).

To date, some countries have responded to the food crisis with various trade policy interventions, including export bans and export taxes, and tariff reductions and/or value added taxes on imports. With tariffs falling and the need for income support programs curtailed by high prices, one would think that the current food crisis would have bolstered the resolve of WTO members to successfully conclude the DDR talks on

agriculture. Unfortunately, the talks were unsuccessful. In any case, at least in principle without concessions to protect smallholder farmers in vulnerable countries, further trade liberalization is expected to lead to increased prices of agricultural commodities that would potentially add to current volatility on international commodity markets.

First, despite the difficulties presented by the recent economic crisis, one would have to hope that many African governments will continue to reduce taxation of agricultural exports, build well-functioning market institutions, deepen their investment in agriculture, rural infrastructure and other public goods, and provide market incentives for producers to respond and unleash faster economic growth. However, many African countries have not been able to sustain such growth paths beyond the periods of policy transitions. Therefore, it will be important for African governments to stay the course of reforms once they begin.

Second, the popular argument is made that the SAPs of the World Bank and IMF and other reforms undertaken by African countries to date have constrained the fiscal policy space of African governments which deters them from supporting agricultural production and trade through direct interventions, whereas governments in developed countries, such as the U.S. and E.U., continue to provide domestic support and export subsidies to their agricultural producers while paying lip service to abrogating those policies. In support of such argument, Africans cite the case example of Malawi, which ignored the advice of its creditors, including the World Bank, by undertaking a fertilizer subsidy program²⁴ to intensify production of maize so as to feed itself. According to African News Network (2008), although the subsidy could have created market

²⁴ The Agricultural Inputs Subsidy Programme (AISP) was introduced in 2004. It enables Malawi's smallholder farmers to receive coupons to buy 100 kilograms of fertilizer for around \$14, a quarter of the normal market price.

distortions and discouraged farmers from diversifying their maize enterprise, Malawi had no viable option against rapidly increasing maize prices and the need to achieve food security in the short term. Another reason is that as a land-locked country, Malawi faced pressure to grow its own food since imports were rendered more costly because of transportation and other logistical costs. Maize is the main staple for 90 percent of the population. In 2007, the scheme is estimated to have earned between \$100 million and \$160 million at a cost of \$74 million. In 2008, Malawi experienced even greater gains. Gross national harvest of maize was 3.6 million metric tons, whereas the national food requirement was 2.4 million metric tons. Therefore, Malawi realized a net production surplus in maize of 1.2 million metric tons in the 2008-09 harvesting season. In the long-run, however, the fear is that such farm support policies can become increasingly costly to the government.

Third, trade liberalization, especially the reduction of import tariffs, has bolstered major multi-national agribusinesses from developed countries in gaining a stronghold on developing country markets and dumping commodities, whereas neglect of domestic agricultural policy by net food-importing countries have increased their dependence on imported food. Therefore, many African countries face major negative balances in meeting their food import bills; a major constraint in affording investment funds to alleviate poverty. As noted by Murphy (2008), strengthening domestic production and building resilient local markets should provide the building blocks for larger national, regional and global markets.

Fourth, over the long haul, African countries would need to achieve and sustain greater agricultural productivity growth. However, a huge challenge facing many

countries is how to maintain low wages to ensure industrial growth while at the same time maintaining food security with cheap food. Yet, unless African countries can attain agricultural productivity increases they cannot provide the necessary incentives to their farmers to remain in agriculture, especially during periods when domestic production suffers negative shocks, and imports keep prices down. In line with the proposed CAADP “Green Revolution” initiative by NEPAD and AGRA, during the early stages of agricultural development, African governments and their development partners must intensify their investment in agricultural research and development, appropriate technological (including improved seed varieties) adoption, infrastructure development (especially rural roads and input and output supply networks, etc.), formal and informal credit schemes (at relatively low rates of interest to farmers), and provide quality education and extension to ensure agricultural sector growth and to ensure improved food availability and economic development. During the medium stages, we suggest emphasis on market development schemes that anticipate market failures.

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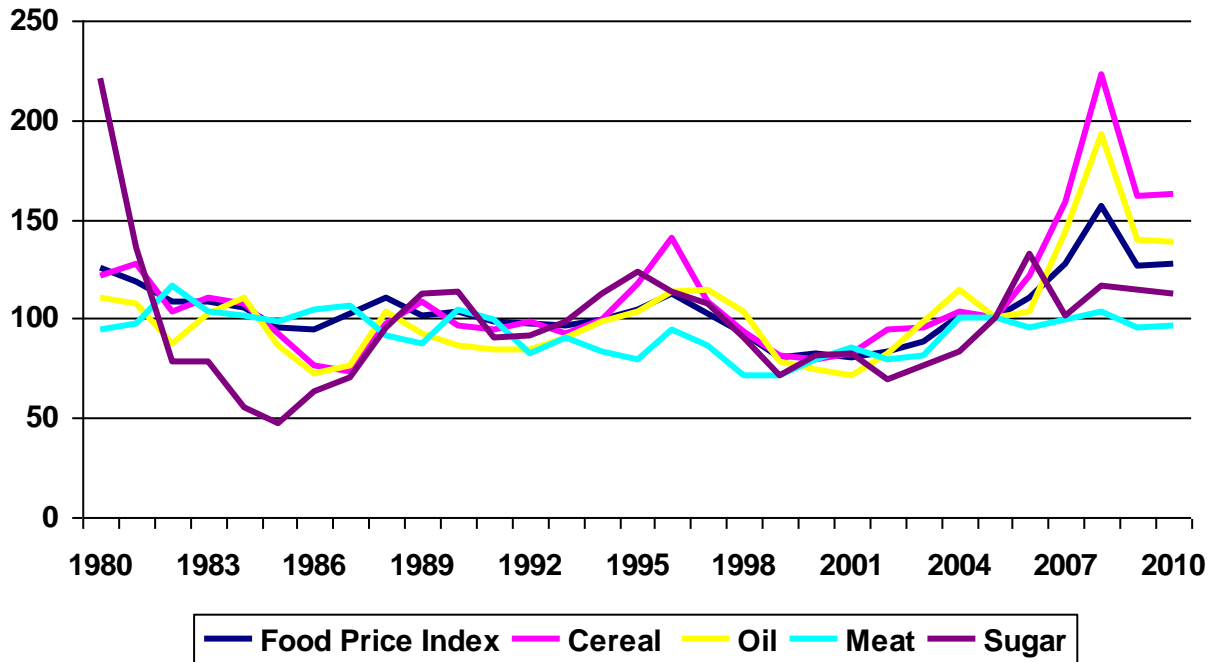
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Figure 1. Commodity Price Index for Food and Selected Commodity Groups (2005 = 100)



Source: International Monetary Fund (2009), World Economic Outlook Database, April

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Notes:

- **Commodity Food Price Index** includes cereal, vegetable oils, meat, seafood, sugar, bananas, and oranges price indices.
- **Commodity Cereals Price Index** includes wheat, maize (corn), rice, and barley.
- **Commodity Vegetable Oil Index** includes soybean, soybean meal, soybean oil, coconut oil, palm oil, sunflower oil, olive oil, fishmeal, and groundnut price indices.
- **Commodity Meat Price Index** includes beef, lamb, swine (pork), and poultry price indices
- **Commodity Sugar Index** includes European, free market, and U.S. price indices

Figure 2. Sub-Saharan Africa: Commodity Prices

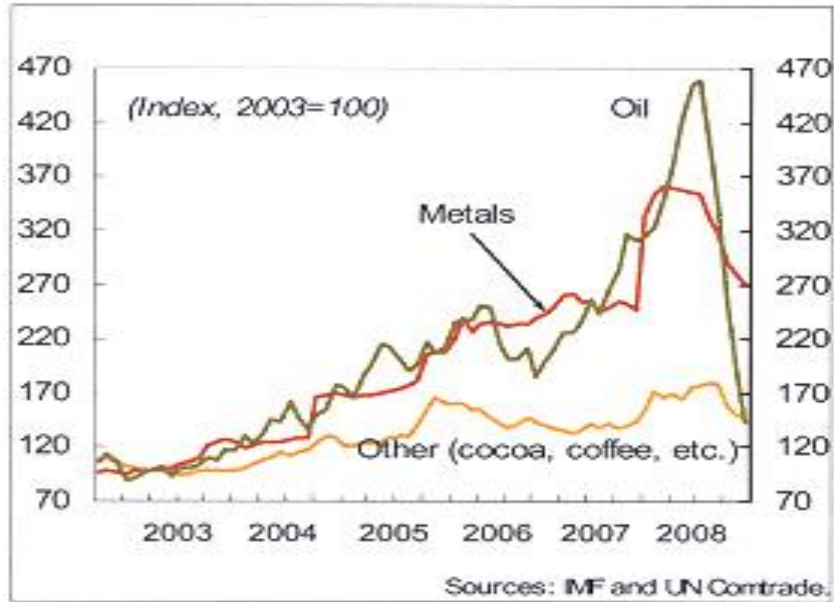


Table 1: Africa's Real GDP Growth (%)

	2000-04	2005	2006	2007	2008(e)	2009(p)	2010(p)
Central	5.7	5.3	3.4	4.0	5.0	2.8	3.6
East	4.9	7.1	7.6	8.8	7.3	5.5	5.7
North	4.1	4.9	5.6	5.3	5.8	3.3	4.1
South	4.1	6.3	6.8	7.0	5.2	0.2	4.6
West	7.1	5.7	5.1	5.4	5.4	4.2	4.6
Africa	4.8	5.7	6.0	6.1	5.7	2.8	4.5
<i>Memorandum items</i>							
<i>North Africa (including Sudan)</i>	4.2	5.0	6.1	5.7	6.0	3.5	4.2
<i>Sub-Saharan Africa</i>	5.2	6.2	5.9	6.4	5.5	2.4	4.7
<i>Oil-exporting countries</i>	5.4	6.3	6.1	6.8	6.6	2.4	4.5
<i>Oil importing countries</i>	4.1	5.0	5.8	5.4	4.6	3.3	4.5

Source: African Economic Outlook 2009 (*preliminary estimates*), AfDB, 2009

Note: (e) denotes an estimate and (p) a projection

Table 2: Africa's External Current Account, including grants (% GDP)

	2000-04	2005	2006	2007	2008(e)	2009(p)	2010(p)
Central	-4.1	-0.8	1.9	-0.5	11.2	-4.6	-2.4
East	-5.5	-6.7	-9.3	-9.3	-6.2	-7.5	-8.1
North	5.6	12.6	15.2	12.9	12.0	2.9	2.8
South	-1.1	-1.8	-1.1	-3.3	-2.0	-6.8	-7.4
West	-2.4	2.6	4.4	-0.2	0.4	-8.3	-6.8
Africa	0.6	3.5	4.8	2.4	3.5	-3.8	-3.6
<i>Memorandum items</i>							
<i>North Africa (including Sudan)</i>	4.5	10.6	12.4	10.3	10.5	1.3	0.9
<i>Sub-Saharan Africa</i>	-2.0	-0.7	0.4	-2.3	-0.4	-6.8	-6.4
<i>Oil-exporting countries</i>	3.0	10.6	13.1	8.9	9.8	-3.9	-2.9
<i>Oil importing countries</i>	-1.6	-3.4	-4.0	-4.9	-5.3	-3.5	-4.7

Source: African Economic Outlook 2009 (*preliminary estimates*), AfDB, 2009

Note: (e) denotes an estimate and (p) a projection

Table 3: Africa's Overall Fiscal Balance, including grants (% GDP)

	2000-04	2005	2006	2007	2008(e)	2009(p)	2010(p)
Central	2.0	6.9	17.5	7.4	13.3	4.0	4.8
East	-2.2	-2.0	-3.9	-3.6	-2.3	-4.8	-5.2
North	-1.1	4.5	6.4	3.5	2.9	-6.1	-5.8
South	-2.5	0.4	3.2	2.3	1.9	-4.6	-3.6
West	-0.5	5.2	6.4	-0.4	-0.2	-8.8	-9.4
Africa	-1.4	2.8	5.0	1.9	2.3	-5.4	-5.1
<i>Memorandum items</i>							
<i>North Africa (including Sudan)</i>	-1.0	3.9	5.5	2.7	2.7	-6.6	-6.3
<i>Sub-Saharan Africa</i>	-1.7	2.1	4.7	1.4	1.8	-4.9	-4.7
<i>Oil-exporting countries</i>	0.3	7.3	8.6	4.0	5.1	-7.7	-7.4
<i>Oil importing countries</i>	-2.9	-1.7	1.1	-0.5	-2.0	-2.8	-2.5

Source: African Economic Outlook 2009 (*preliminary estimates*), AfDB, 2009

Note: (e) denotes an estimate and (p) a projection

Table 4: Africa's Consumer Prices (Inflation in %)

	2000-04	2005	2006	2007	2008(e)	2009(p)	2010(p)
Central	15.8	5.4	6.3	2.9	8.8	7.2	6.5
East	5.9	7.3	12.0	10.1	17.8	10.2	8.0
North	2.6	4.7	3.6	6.8	8.1	7.6	5.2
South	13.8	6.6	7.4	9.8	13.2	9.0	7.9
West	10.3	14.0	7.4	5.4	10.6	8.6	8.2
Africa	7.9	7.1	6.4	7.5	11.1	8.5	6.9
<i>Memorandum items</i>							
<i>North Africa (including Sudan)</i>	2.9	4.8	4.5	7.0	8.6	7.7	5.4
<i>Sub-Saharan Africa</i>	11.6	8.8	7.7	7.9	12.9	9.0	7.9
<i>Oil-exporting countries</i>	9.8	8.5	5.9	7.2	10.0	9.1	7.1
<i>Oil importing countries</i>	6.0	5.6	7.0	8.0	12.3	7.7	6.6

Source: African Economic Outlook 2009 (*preliminary estimates*), AfDB, 2009

Note: (e) denotes an estimate and (p) a projection

Table 5: Low-Income Countries under Stress (LICUS) in Africa

Country	Rural Population (% of total)	Undernourishment 2003 – 2005 (% of population)	Agriculture value added (% GDP)
Burundi	91%	62%	39%
Eritrea	81%	68%	16%
Chad	75%	39%	29%
Comoros	72%	Na	51%
Guinea-Bissau	70%	Na	59%
DRC	69%	76%	49%
Guinea	68%	18%	20%
Somalia	65%	Na	Na
Zimbabwe	65%	40%	17%
Sierra Leone	64%	48%	47%
Central African Republic	62%	42%	56%
Togo	61%	Na	41%
*Sudan	61%	Na	37%
*Equatorial Guinea	61%	Na	5%
*Nigeria	55%	9%	40%
Côte d'Ivoire	54%	15%	24%
*Angola	48%	45%	8%
*Sao Tome and Principe	43%	Na	20%
*Liberia	43%	47%	70%
*Congo	40%	22%	6%
Djibouti	15%	Na	4%

*Countries dependent on extracting oil.

Source: World Development Indicators, 2002-2005; FAO, 2008

Table 6. Commodities Production Growth Rates in Africa, 2006

	Central Africa	East Africa	North Africa	West Africa	Southern Africa	Total Africa
Commodities	-1.3	1.7	4.3	-3.8	3.6	1.8
Crops	-3.6	2.2	7.2	-7.0	5.2	1.5
Wheat	0.0	16.7	22.4	8.4	6.9	20.0
Barley	0.0	2.9	51.9	4.1	0.0	33.7
Rice	-1.6	1.9	5.8	-14.3	8.7	5.0
Oil Seeds	-5.6	0.4	7.4	0.4	-1.9	-0.6
Olive	0.0	0.0	20.5	0.0	0.0	20.5
Groundnuts	-25.4	-1.3	-0.3	10.0	1.3	0.7
Fruits and Vegetables	1.2	0.3	1.5	-0.3	4.3	2.3
Cassava	1.9	-0.9	0.0	-0.8	8.4	3.9
Citrus Fruit	-0.5	0.0	0.0	0.0	-6.2	-5.7
Date	-7.6	-91.4	-1.7	0.0	11.4	-2.0
Bananas	-0.6	-1.0	1.1	-0.8	14.8	1.1
Animals Products	-0.6	8.5	0.7	2.8	2.6	3.1
Others	-17.7	6.5	3.6	-14.0	-2.4	-2.0
Cocoa Beans	-7.4	6.3	0.0	-9.6	4.4	3.6
Coffee, Green	-7.1	23.0	0.0	-30.1	-18.7	4.0
Cottonseed	-25.0	-8.9	2.8	-11.2	-5.8	-6.8

Source: United Nations Food and Agriculture Organization. 2007. FAOSTAT

Table 7. Cereal Import Bill in Low-Income Food-Deficit Countries (LIFDCs) By Region and Type (US\$ million)

	2003/04	2004/05	2005/06	2006/07	2007/08 Estimate	2008/09 Forecast
LIFDC	14 687	17 903	16 739	23 512	38 107	27 997
Africa	7 052	8 362	8 285	10 421	18 895	13 040
Asia	6 986	8 869	7 768	12 177	17 606	13 800
Latin America and Caribbean	381	407	441	587	997	685
Oceania	76	78	79	93	173	123
Europe	193	187	167	235	435	349
Wheat	8 550	10 670	10 166	13 542	22 869	17 269
Coarse grains	2 512	2 730	2 415	3 644	4 826	4 539
Rice	3 625	4 504	4 158	6 326	10 411	6 188

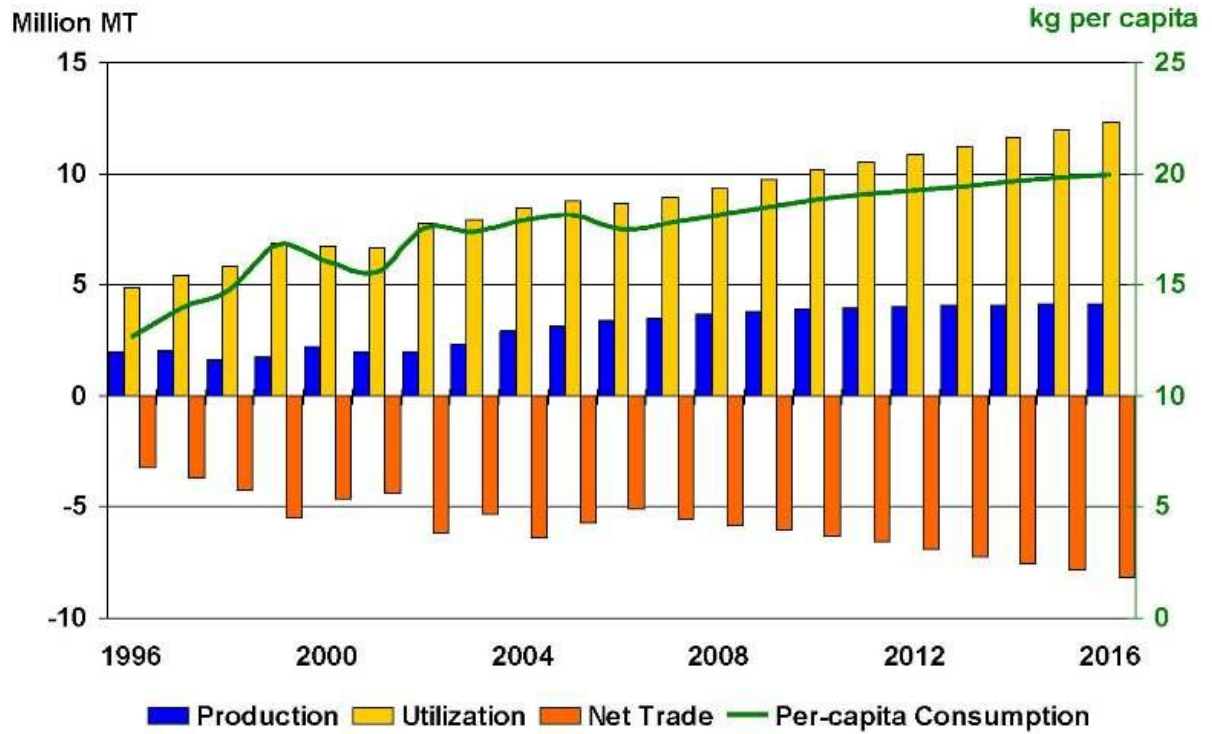
Source: FAO (2009), "Low-Income Food-Deficit Countries Food Situation Overview."
<http://www.fao.org/docrep/010/ai465e/ai465e07.htm>

Table 8. Import and Export of Cereals in Selected African Countries (2004)

Countries	(US\$ '000)		
	Import	Export	Balance of Trade
Angola	176,379	340	-176,039
Benin	139,528	6	-139,522
Burkina Faso	47,626	5,215	-42,411
Burundi	22,437	87	-22,350
Cameroon	161,134	48	-161,086
Congo	40,095	5,420	-34,675
Congo, Democratic Rep of	72,408	1,598	-70,810
Côte d'Ivoire	282,132	2,574	-279,558
Eritrea	91,386	19	-91,367
Ethiopia	187,665	2,396	-185,269
Gabon	44,190	237	-43,953
Gambia	22,970	20	-22,950
Ghana	181,568	308	-181,260
Guinea	49,806	615	-49,191
Kenya	193,254	4,020	-189,234
Lesotho	3,500	104	-3,396
Liberia	36,700	788	-35,912
Malawi	8,213	2,006	-6,207
Mozambique	152,708	2,735	-149,973
Nigeria	789,853	227	-789,626
Rwanda	9,982	295	-9,687
Senegal	340,700	23,299	-317,401
Sudan	342,391	2,093	-340,298
Togo	21,630	8,681	-12,949
Uganda	112,397	14,457	-97,940
Zimbabwe	200,332	99	-200,233

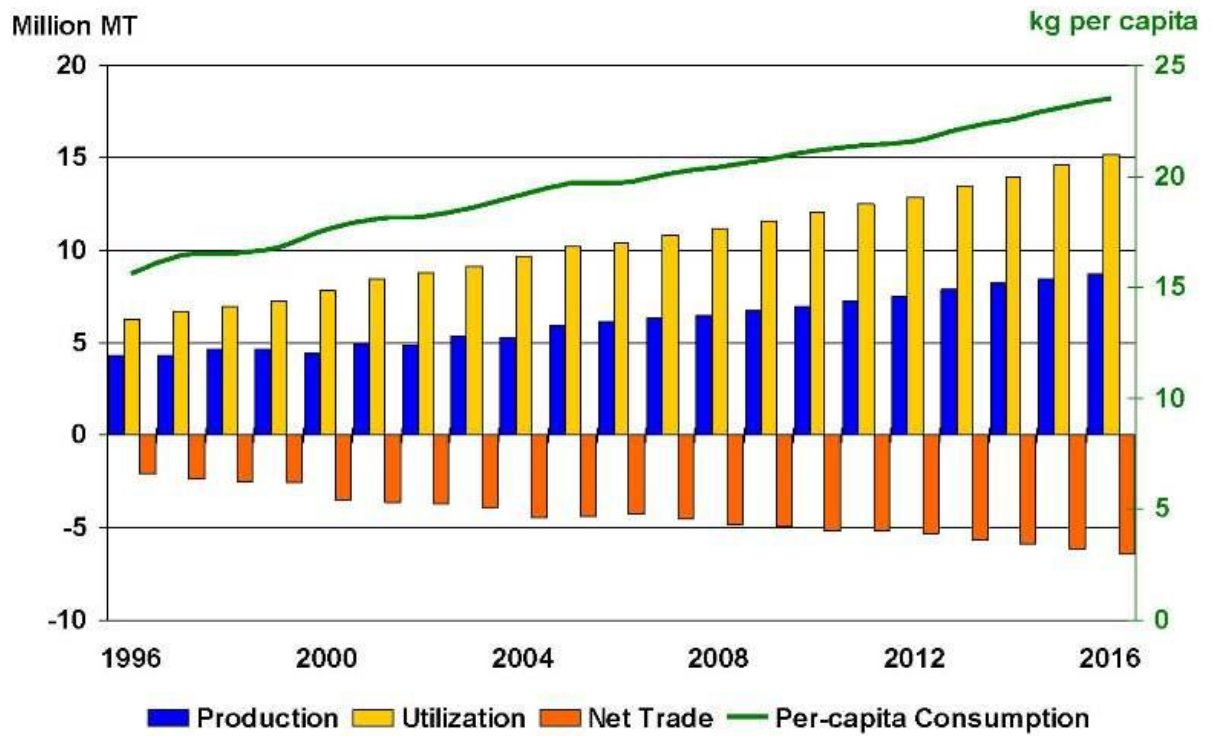
Source: FAO (2006), *Food Situation*

Figure 3. Wheat Production, Utilization, Net-Trade and Per-capita Food Use of Sub-Sahara African LDCs



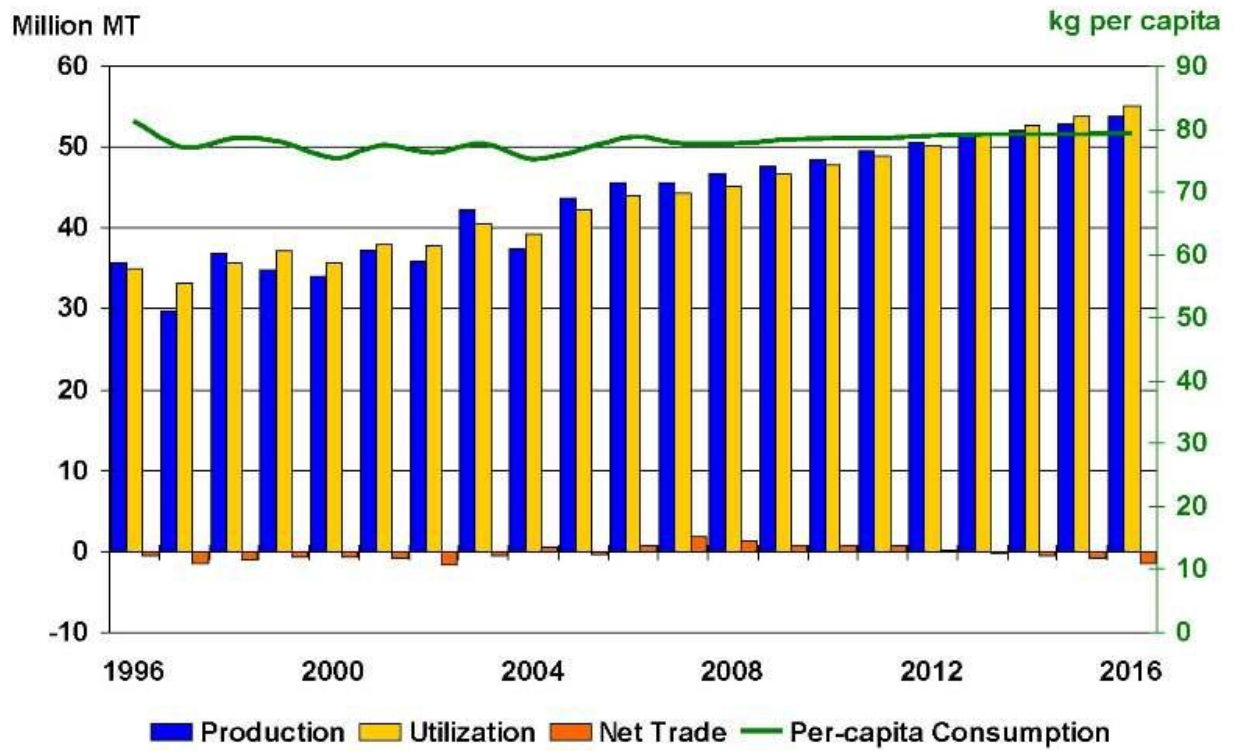
Source: FAO (as it appears in Sarris (2007))

Figure 4. Rice Production, Utilization, Net-Trade and Per-capita Food Use of Sub-Saharan African LDC



Source: FAO (as it appears in Sarris (2007))

Figure 5. Coarse Grain Production, Utilization, Net-Trade and Per-capita Food Use of Sub-Sahara African LDC



Source: FAO (as it appears in Sarris (2007))