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REGIONALISM, FOOD SECURITY AND ECONOMIC DEVELOPMENT

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This paper offers a critical assessment of the potential of regional trade and integration in addressing the enduring challenge of food insecurity in Africa. Drawing on the literature, the paper argues that regionalism offers enormous opportunities and synergies for enhancing economic growth, food supply, and stability of food prices that cannot be easily addressed by individual countries when they operate in isolation from each other.

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REGIONALISM, FOOD SECURITY AND ECONOMIC DEVELOPMENT

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THE AFRICAN CAPACITY BUILDING FOUNDATION

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LIST OF ACRONYMS

ACBF	African Capacity Building Foundation
ACM	African Common Market
AEC	African Economic Community
AfDB	African Development Bank
AGRA	Alliance for a Green Revolution in Africa
AU	African Union
AUC	African Union Commission
CAADP	Comprehensive Africa Agricultural Development Program
CEMAC	Economic and Monetary Community of Central Africa
CEN-SAD	Community of Sahel-Saharan States
COMESA	Common Market for Eastern and Central Africa
EAC	East African Community
ECCAS	Economic Community of Central African States
ECDPM	European Centre for Development Policy Management
ECOWAP	Economic Community of West African States' Agricultural Policy
ECOWAS	Economic Community of West African States
EU	European Union
FAO	Food and Agricultural Organization
FAOSTAT	Statistics Division of the FAO
FTA	Free Trade Area
GIEWS	Global Information and Early Warning System
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
IFPRI	International Food Policy Research Institute
IGAD	Inter- Governmental Authority on Development
IITA	International Institute for Tropical Agriculture
MDGs	Millennium Development Goals
NEPAD	New Partnership for Africa's Development
NERICA	New Rice for Africa
OAU	Organization of African Unity
RECs	Regional Economic Communities
SACU	Southern Africa Customs Union
SADC	Southern African Development Community
SAPs	Structural Adjustment Programs
SSA	sub-Saharan Africa
UMA	Arab Maghreb Union
UNCTAD	United Nations Conference on Trade and Development
UNECA	United Nations Economic Commission for Africa
WAEMA (UEMOA)	West African Economic and Monetary Union
WARDA	West Africa Rice Development Association
WB	World Bank
WFP	World Food Programme
WTO	World Trade Organization
3ADI	Agriculture, Agribusiness and Agro-industries Initiative

ABSTRACT

It is remarkable that Africa, with enormous resource endowments and with more than 70 percent of the population engaged in agriculture, cannot feed itself. This background paper offers a critical assessment of the potential of regional trade and integration in addressing the enduring challenge of food insecurity in Africa. Drawing on the literature, the paper argues that regionalism offers enormous opportunities and synergies for enhancing economic growth, food supply, and stability of food prices that cannot be easily addressed by individual countries when they operate in isolation from each other.

To demonstrate the potential of regional integration for achieving food security in Africa, this paper starts by providing a conceptual framework that outlines the dimensions that link regional cooperation and food security. An overview of the key policy initiatives that are currently underway at enhancing integration at the continental level and in various regional blocs follows this introduction. The paper then progresses to a review of the extent of economic integration among African countries, with particular focus on the agriculture and food trade. It then presents a discussion on potential areas of integration followed by an examination of capacity issues that need policy attention in order to improve the potential of continental and regional integration in improving national and household food security among African countries.

Key words: Africa, economic development, food security, regionalism

1. INTRODUCTION

This paper provides an assessment of the potential of regional integration in addressing national and household food security and in enhancing economic development in Africa. The desire to integrate African economies at both the continental and regional level is not new. Indeed, it dates to the early independence of African states in the 1950s and 1960s with a series of continental and regional treaties, but it gained new momentum following the 1991 Abuja Treaty under which the African Economic Community (AEC) was formulated. The AEC's major aim was to provide a framework for the creation of an African Common Market (ACM) that builds on the successes of the eight pre-existing Regional Economic Communities (RECs). To enhance regional integration, the AEC framework stipulated the need for progressive coordination and harmonization of economic policy and trade throughout the African continent, with the total integration projected to occur by 2025. The desire for continental and regional integration is not only shared by African governments but also equally encouraged by key international development partners, such as the World Bank, Food and Agricultural Organization (FAO), and European Union (EU).

There are two main aspects to regionalism and food security: (a) the consequences of regional integration (and, especially, regional trade integration) for food security, and (b) the opportunities which exist to address food security issues within a regional framework (FAO 2003: 59).

In recent years, various national governments and international organizations, such as the FAO and EU, have started paying particular attention to the critical ways in which regional trade and integration can address food crises and enhance agricultural growth. This strong support for regionalism is due in part to the belief that “many of the critical elements of poverty reduction strategies and the promotion of food security have regional dimensions” (European Union 2000: 14). In fact, in its 2000 concept paper Food Security, the EU Commission identified several elements, including the following:

- establishing macro-economic reforms and promoting sustainable growth;
- reducing barriers to trade as a way of promoting integration of countries into the wider economy;
- assuring the availability of secure food supplies and managing shocks through increased regional trade;
- strengthening good governance through the promotion of political integration at the regional level;
- improving management of shared regional natural resources; and
- capturing economies of scale by creating regional capacity for research and human resource development (European Union 2000: 14–15).

Thus, in the thinking of the EU, the key links between regionalism and food security are as follows: (a) the way membership of the regional grouping helps to “lock in” and sustain macro-economic policy reforms, as well as to promote political cooperation in the region; (b) trade and market integration; and (c) regional cooperation through joint institutions in areas where there are clear spillovers or economies of scale (for a full discussions of these links, see European Union 2000 and FAO 2003).

For Africa, regionalism offers consequences and opportunities in alleviating food insecurity that are receiving critical attention because of the current widespread food insecurity and persistent threats of famine on the continent. Africa is currently leading world regions in terms of food insecurity, with recent estimates indicating that 30 percent of the population in sub-Saharan Africa is undernourished, the highest proportion of all the developing countries (FAO 2010). Recent assessments by the World Bank also show bleak performance of agriculture on the continent in a context where domestic food crop production has stagnated over the years, resulting in Africa’s being a net food importer.

In 1980, Africa had an almost balanced agricultural trade—both agricultural exports and imports were at about US\$ 14 billion—but by 2007, it had an agricultural trade deficit estimated at US\$ 22 billion (FAOSTAT 2011). For some oil- or mineral-rich countries, such as Botswana and Libya, or for some of the relatively more industrialized countries, like Mauritius, importing some types of food products (such as fruits and vegetables) seems more beneficial than producing these products at home, especially because they have enough foreign currency reserves to pay for the food import bills (Rakotoarisoa et al. 2011). However, for cash-strapped countries (for example, Burundi, Central African Republic, and Eritrea), persistent food import becomes a problem when the high and rising food import bills drain foreign exchange reserves or divert funds from other national development priorities. The problem is even bigger for countries where exports derive mainly from agriculture but the revenue from traditional exports, such as cocoa, coffee, and spices, are less certain and are at the mercy of volatile international market prices. FAO data show that in 2007, more than one-third (19 out of 53) of African countries had enough agricultural export revenue to pay for their food import bills, and the rest had to draw money from other resources or wait for food donations to ensure a stable food supply (Rakotoarisoa et al. 2011). In such countries as Burundi, Cape Verde, Comoros, Djibouti, Eritrea, The Gambia, São Tomé and Príncipe, and Somalia, the total export revenue of total merchandise (agriculture and non-agriculture) were far short of agricultural (including food) import bills.

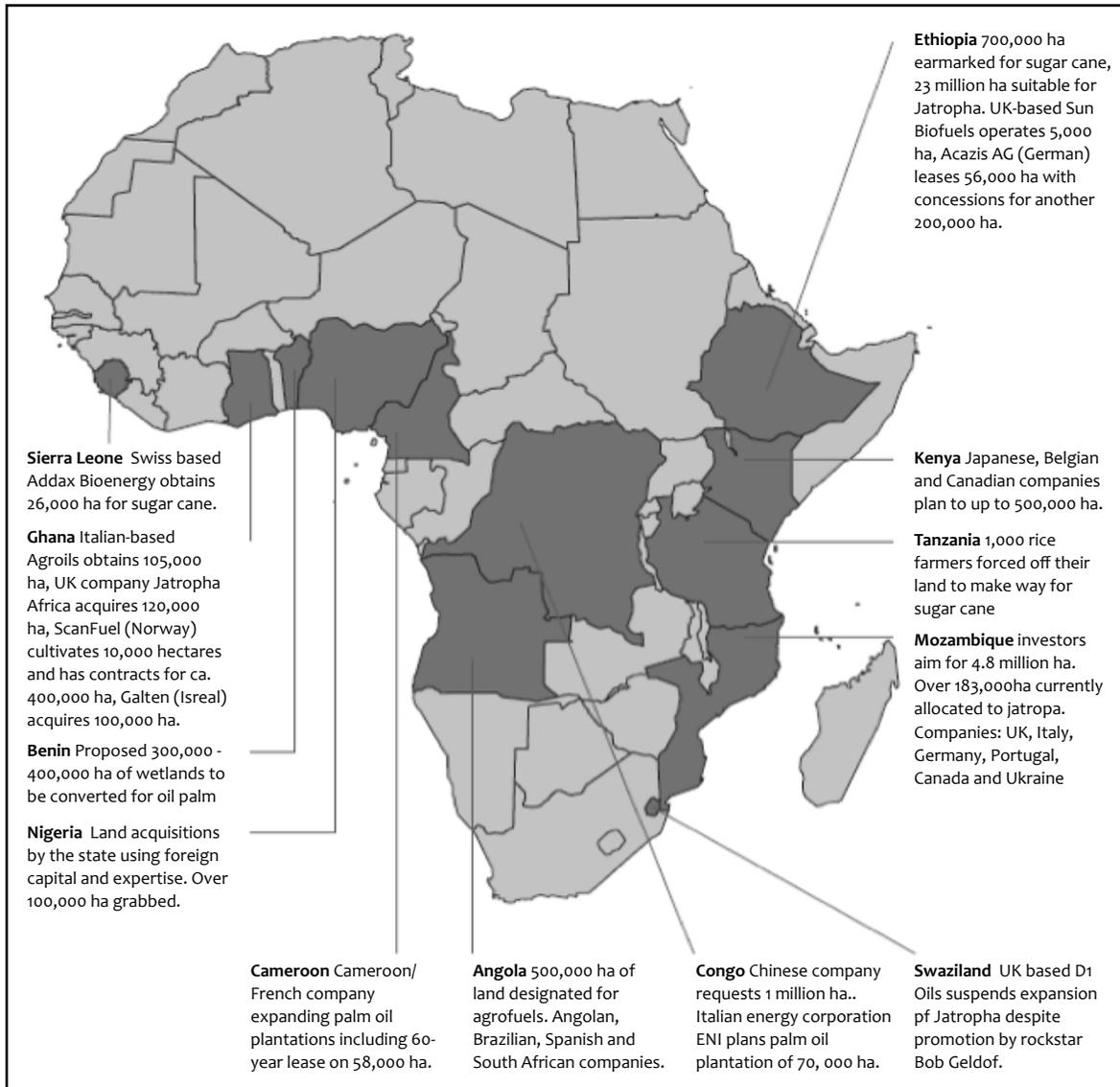
Various studies (Omamo et al. 2006; Diao et al. 2008) have documented the causes of the persistent growth in net agricultural and food imports in Africa and have cited a host of explanations, such as low agriculture productivity; poor agricultural and trade infrastructure; low internal and external trade capacity; low investment in agricultural resources (human, natural, financial, equipment); domestic and foreign policy distortions; high population growth; and political instability and civil unrest. Other frequently cited factors include the lack of improved agriculture technologies; recurring droughts; land shortages; and pests and diseases. Also compounding the food security problem is the issue of post-harvest food losses. Such losses are indicative of Africa’s poorly functioning and inefficient food systems emanating from inefficient post-harvest handling practices; inadequate storage; filth and contamination; and infestation by micro-organisms, insects, rodents, and other pests.

The latest 2013 Global Hunger Index classifies hunger levels in Africa as either “serious” or “alarming.” Africa’s Sahel region and the Horn continue to remain “hunger problem zones,” with nearly 20 million people suffering from inadequate nutrition. These challenges explain in part why the United Nations’ Millennium Development Goals (MDGs) 2012 report identified Africa as “off-track” in its efforts to eradicate extreme poverty and hunger by 2015.

Notwithstanding the aforementioned factors, there is growing consensus that Africa’s persistent food security problem may also be linked to poorly-coordinated regional policies (FAO 2012). The problem of hunger is also linked to key contradictions in the global food system. On the one hand, there is the industrial food system, which is supplying heavily subsidized food to consumers all over the world. This model of world food supply has been detrimental to small-scale farming, especially in Africa (Akram-Lodhi 2013). On the other hand, there is emerging land grabbing in Africa, where farmlands are being diverted from the cultivation of staple foods to the production of biofuels and export-based crops (Cotula et al. 2009). Between 2008 and 2010 alone, African governments sold roughly 63 million hectares of farmlands to transnational corporations (Cotula 2012; see also figure 1). Key countries involved include Madagascar, Ghana, Ethiopia, Mali, Sudan, Nigeria, and Mozambique. These large-scale land acquisitions are having dramatic implications for smallholder land rights and food security (Madonti et al. 2011). In view of this, it has been contended that increased economic integration through harmonization of agricultural and economic policies among African states can lead to improved overall agriculture production and intra-regional food trade, thereby helping to achieve national and household food security. In its 2003 report, the FAO noted:

Food security will be affected by international trade in general and agricultural trade in particular. To the extent (a) that increased intra-regional trade fosters economic growth and increases employment prospects and the income-earning capacities of the poor, it will enhance access to food... Increased intra-regional agricultural trade could also promote food security in two further ways: (b) by augmenting domestic food supplies to meet consumption needs and (c) by reducing overall food supply variability (FAO 2003: 60).

Figure 1: Reported cases of large-scale land acquisitions in sub-Saharan Africa



Source: Friends of the Earth Europe (2010)

The aim of this paper is to provide a systematic assessment of the consequences and opportunities of regional integration for improving national and household food security in Africa.

2. CONCEPTUALIZING FOOD SECURITY

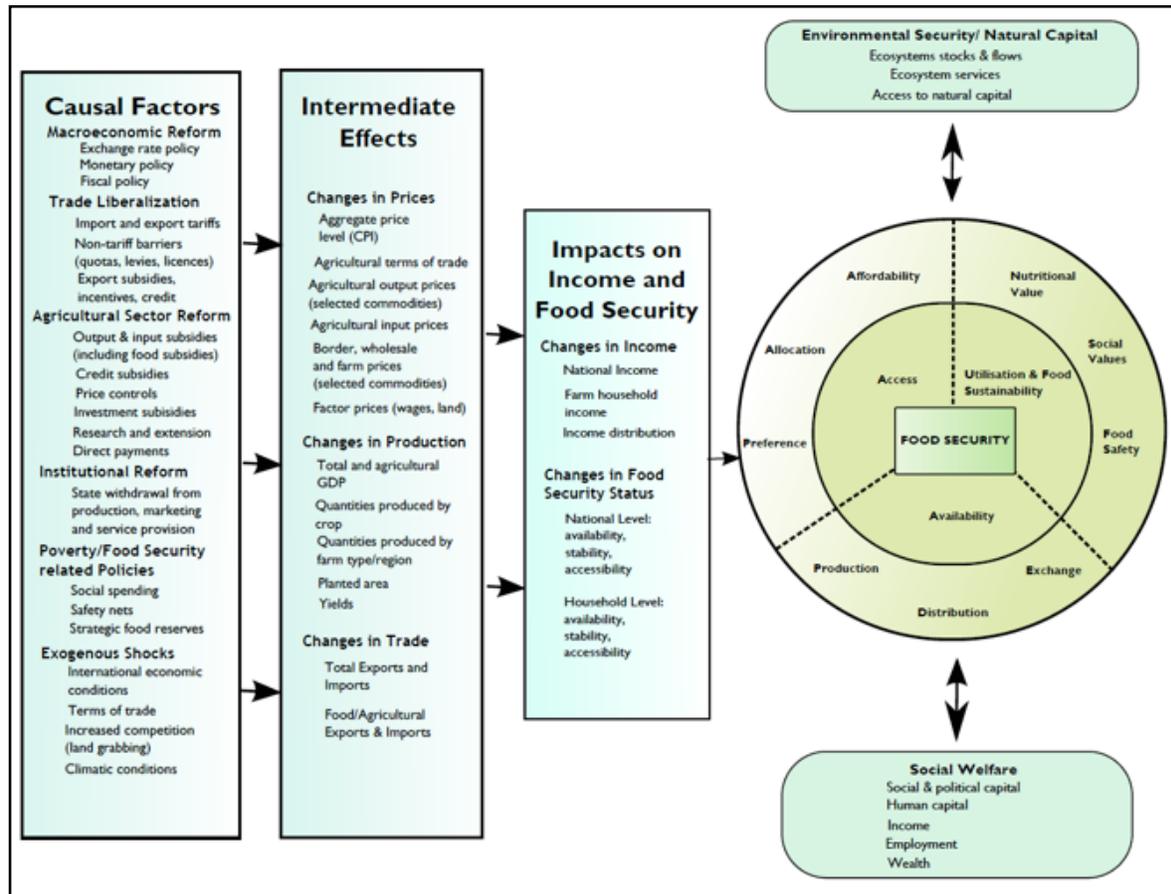
The concept of “food security” is relatively new. For instance, during the 1970s, when famine in the Sahel region affected more than 50 million people and left another 1 million dependent on food aid, the term was hardly used by African policy makers (deHaan et al. 1994). Food security refers to access to a quantity and quality of food sufficient for everyone to live a healthy and active life (FAO 1996). The definition of food security has, however, evolved considerably over the last few decades, shifting the emphasis from aggregate food availability at the national level to individual-focused approaches that emphasize food consumption patterns, preferences, and entitlements (Sen 1981; Maxwell 2001; FAO 2009).

Additionally, the question of food security transcends food sufficiency to include people’s rights to access adequate and nutritious food (De Schutter 2010). The rights-based approach draws attention especially to the most vulnerable and ensures that food security policies are non-discriminatory. It also supports basic human rights in that access to food is fundamental to enjoyment of other basic human rights, such as health. Defined as a human right, access to food entails that people become legal holders of the right to food and that the state and other relevant authorities have a correlative duty to respect, protect, and fulfill this right. Therefore, household food insecurity arising from policy failure or poor planning on the part of the state becomes a human rights violation for which governments should be held accountable. Furthermore, the FAO has recently introduced the concept “food sovereignty,” which reflects the larger concerns of social justice and more democratic control over national food policy. This approach privileges the right of people and local communities to control how and what food is produced and for whom (Desmarais 2007; Rosset 2008; Wittman 2009).

Food security is underpinned by food systems that include the set of activities involved in producing, processing, distributing, and consuming food (Ingram et al. 2005). These activities are linked to a range of ecological, historical, and political economic contexts (Bassett and Winter-Nelson 2010; Devereux and Maxwell 2001; Mkandawire and Aguda 2009). Thus, in order to assess the links between regional integration and food security, one fruitful approach is to conceptualize the individual dimensions of food security and the drivers that shape them. Adopting such a holistic approach has the value of moving discussions beyond the all-too-narrow production concerns and incorporating issues regarding access, equity, food safety, and environmental sustainability (Bassett and Winter-Nelson 2010; Devereux and Maxwell 2001).

There are three distinct elements of food security: food availability, food access, and food utilization and sustainability (Ingram et al. 2005). Availability refers to the adequacy of food supplies and accessibility and to the ease with which food supplies can be obtained by consumers. Availability relates to production, imports, and distribution, whereas accessibility pertains to market prices, incomes, and consumption patterns (de Haan et al. 1994). Food utilization relates to a range of activities, including proper food processing and storage and adequate knowledge about nutrition. It also encompasses aspects of hygiene and sanitation. Figure 2 illustrates these three features and shows how they are shaped by socio-ecological processes at a variety of geographical scales.

Figure 2: Food security conceptual framework



Source: Synthesized from FAO (2003); Ericksen (2008); Ford (2009)

The first subsystem in figure 2 is the actual three-component food security subsystem (circle). The second component encompasses a feedback relationship between the food security subsystem and the human (social welfare) dimension. This component also includes another feedback relationship between the food security subsystem and the ecological (ecosystems, environment) dimension. The third component focuses on broader (macro-level) forces that impinge on the food security subsystem. This component includes distal factors whose effects manifest over longer temporal scales, operating via an intervening set of factors, which in turn directly influence the food security subsystem.

When set in this context, there are several important dimensions through which regional integration can contribute to national and household food security. In general, any country is faced with a choice between two strategies in terms of meeting its food needs. The first strategy relates to what is known as “food self-sufficiency.” This means meeting a country’s food needs by mobilizing the resource supply base of the country. The second strategy is known as “food self-reliance.” This means that availability, and not the geographic origin of the food, is the most important strategy for food security. It relates to the ability of the domestic economy to command a level of food imports that corresponds to deficiencies in the domestic food

production. The current mood at the regional level in Africa is strongly in favor of the latter strategy. This is because the food self-reliance strategy embraces the economic principles of comparative advantage and economies of scale.

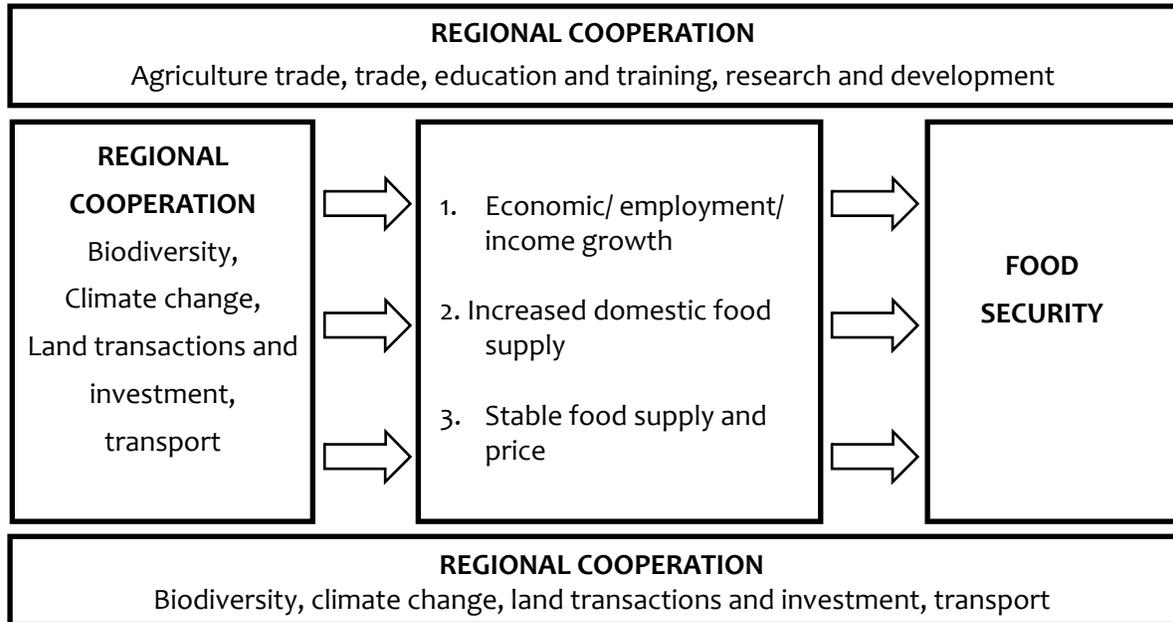
Existing literature has tended to portray food self-reliance and food self-sufficiency as competing and mutually exclusive policy approaches for addressing the question of food security. Presenting these policy approaches as either/or is limiting in the sense that it does not reflect the real policy choices that nations confront when dealing with food security, because countries are rarely completely food self-sufficient or self-reliant. In addition, such a binary formulation is generally inconsistent with the logic of comparative advantage in a context in which countries tend to produce domestically those food items over which they enjoy a comparative advantage and to import those food items that cannot be cheaply produced domestically. Although regionalism is vital for food security, overdependence on regional markets can also be detrimental for some states due to their unique economic and geographic circumstances. For instance, the 2002 hunger crisis in Malawi was made more severe not necessarily because of a food supply shortage on the international market, but rather because of the overwhelming nature of the logistical and fiscal burden associated with sustaining the flow of food imports into a landlocked country for mass consumption for an extended period of time (World Development Movement 2002). Thus, a central argument in this paper is that countries should move away from their relative autarky positions and become more integrated in international food trade, though in ways informed by a careful evaluation of their strengths and vulnerabilities.

3. THEORETICAL EXPLANATIONS OF REGIONALISM AND FOOD SECURITY

Three major theoretical explanations have been advanced as to why regional integration and trade can be instrumental in achieving national and household food security, as shown in figure 3. The first one relates to the ability of regional integration to lead to economic growth, which in turn would spur growth in employment and national income (Quigley 2008; FAO 2003). The increase in disposable income in households that results from the increase in national income can lead to improved household food security (Alan 2010). The assumption here is that lack of food is a direct consequence of poverty. The second pathway relates to regional integration's ability to increase the overall supply of food available in a country through a combination of domestic production and imports (FAO 2003). This relationship is premised on the assumption that countries will specialize in the production of those food items over which they have a comparative advantage and import those food supplies that can be produced more cheaply by other regional member states (Baldwin 1997; UNCTAD 2009). The third strand concerns the potential for regional integration to stabilize and iron out temporal variations in food prices. With regional integration, food supplies flow from regions where they are in excess supply to areas where there is excess demand, thereby achieving parity and stability in price. In turn, price stability can lead to stable demand and supply of food on the market (Quigley 2008). The foregoing dynamics are reflected in the middle stratum of figure 3.

The true extent to which regional integration can foster national and household food security is also contingent on the degree and quality of regional cooperation in other priority policy areas, such as agriculture policy coordination, education and training, climate change policy, land transactions and investment, and biodiversity. This means that the potential benefits of regional integration on food security are contingent on the deliberate design of regional agreements, strategies, policies, and safety nets. As each country has a relatively unique situation, regional agriculture policies and trade may impact individual member states' macroeconomic and food security situations differentially, producing winners and losers. The political will of member states to participate and cooperate in these regional initiatives will, therefore, be contingent largely on a shared perception of fairness and acceptable division of resulting social, economic, and environmental benefits and costs. These additional aspects are important, and they interact in complex ways. They have been reflected in the top and bottom strata of figure 3.

Figure 3: A Conceptual Framework for Regional Economic Integration and Food Security



Source: Authors' Conceptualization

4. OVERVIEW OF EXISTING CONTINENTAL AND REGIONAL STRATEGIES

This section provides an overview of existing policies and strategies formulated and implemented by the continental body (African Union) and various regional economic blocs in Africa aimed at promoting food security (table 1). The overall goal for agriculture-based countries of sub-Saharan Africa is to secure sustained agricultural growth, reduce poverty, and improve food security. This goal is reflected in the Comprehensive Africa Agricultural Development Program (CAADP) of the New Partnership for Africa's Development (NEPAD). As an overarching continental framework, the CAADP initiative acknowledges the importance of regional agricultural dynamics and the critical potential of RECs, which play important roles in the program. Specifically, they provide "technical and financial support to help member states produce CAADP compacts," as well as coordinate the "regional implementation of the CAADP framework" (Tibbett 2011: 11). Under CAADP protocols, RECs are also tasked with developing their own compacts, which seek to address obstacles to food security and agricultural development at the regional level.

The scope of this paper precludes a thorough analysis of such an expansive portfolio of strategies. Therefore, this discussion merely highlights salient policies and strategies currently underway. As will be apparent, some groups have formulated comprehensive and long-term regional plans and policies that deliberately target food security. Other RECs do not have explicit policies on food security, signifying the need for such measures.

4.1. AU's agricultural initiative

The African Union (AU) was formed in 2001. Its forerunner, the Organization of African Unity (OAU), was established in 1963. The AU's current membership is 54 states; South Sudan, the most recent member, joined in 2011. It fosters a coordinated position on matters of common concern and aims to promote deeper social, economic, political, and cultural integration and cooperation among member states.

AU's Comprehensive Africa Agriculture Development Program (CAADP) under the New Partnership for Africa's Development (NEPAD) provides the overall agricultural policy framework and sets the tone for harmonization and integration of agriculture strategies among regional economic groups in Africa in order to improve food security. The framework spans four main policy areas: 1) extending the area under sustainable land management and reliable water control systems; 2) improving rural infrastructures and trade-related capacities for market access; 3) increasing food supply, reducing hunger, and improving responses to food emergency crises; and 4) improving agricultural research, technology dissemination, and adoption. Overall, the establishment of a dynamic agricultural market is high on the CAADP's agenda, which includes improving the capacity of smallholder farmers to become more competitive exporters of agricultural products. The program also focuses on fostering equitable distribution of wealth for rural populations as well as environmentally sound agricultural production and management of natural resources. There is also recognition that enhancing investment in agriculture is vital for food security. For instance, at a meeting held in Mozambique in 2008, AU members committed to increase the share of agriculture in the national budget to 10 percent and to enhance the agriculture sector growth by 16 percent.

Other specific strategies include:

- (a) expanding land under sustainable land management and reliable water control systems;
- (b) increasing market access through improved rural infrastructure and other trade-related interventions (including improvements in food storage, packaging, processing, retail services and information, and enhancing supply chains); and
- (c) strengthening institutional capacities within AU member states to effectively participate in trade negotiations and meet market access requirements for world trade; building strategic alliances aimed at expanding domestic and foreign direct investment in agriculture; increasing the food supply; and reducing price instability by improving early warning systems and food emergency responses, with a particular focus on the chronically food insecure. A central feature of this strategy relates to the plan to establish a risk-sharing facility to allow member states that are experiencing droughts, floods, cyclones, and other climatic threats to access financial resources in order to promptly respond to those threats that can undermine food and nutrition security.

In addition to the CAADP, some RECs have developed agriculturally-relevant policy initiatives, as summarized below (see also table 1).

Table 1: Summary of Regional Economic Community Groupings and their Agricultural Policies/Initiatives

Major Regional Economic Communities (RECs)	Type	Existing Areas of Integration and Cooperation	Date of Entry into Force	Member States	Specified Objective	Agricultural Initiatives and Policies
Economic Community of West African States (ECOWAS)	Free Trade Area	Goods, services, investment, migration	July 24, 1993	Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, The Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo	Full economic union	CAADP, ECOWAS Agricultural Policy (ECOWAP)
West African Economic and Monetary Union (WAEMA/UEMOA)	Customs Union	Business law Harmonized Macro-economic policy convergence in place	Jan. 10, 1994	Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, Togo	Full economic union	CAADP, Common Agricultural Policy or Politique Agricole de l'Union (PAU), Regional Agricultural Information System (SIAR)
Southern African Development Community (SADC)	Free Trade Area	Goods, services, investment, migration	Sept. 1, 2000	Angola, Botswana, Democratic Republic of Congo, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe	Full economic union	CAADP, Land Reform Support Facility, Regional Agricultural Policy (RAP)
Common Market for Eastern and Central Africa (COMESA)	Free Trade Area	Goods, services, investment, migration	Dec. 8, 1994	Angola, Burundi, Comoros, Democratic Republic of Congo, Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Namibia, Rwanda, Seychelles, Sudan, Swaziland, Uganda, Zambia, Zimbabwe	Common market	CAADP, Common Agricultural Policy (CAP), Agricultural Strategic Framework

Major Regional Economic Communities (RECs)	Type	Existing Areas of Integration and Cooperation	Date of Entry into Force	Member States	Specified Objective	Agricultural Initiatives and Policies
East African Community (EAC)	Customs Union	Goods, services, investment, migration	July 7, 2000	Burundi, Kenya, Rwanda, Tanzania, Uganda	Full economic union	CAADP, Agricultural and Rural Development Policy (ARDP), Agricultural and Rural Development Strategy (ARDS), Food Security Action Plan (FSAP), Regional Agricultural Trade Information Network (RATIN)
Inter-Governmental Authority on Development (IGAD)	Free Trade Area	Goods, services, investment, migration	Nov. 25, 1996	Djibouti, Eritrea, Ethiopia, Kenya, Somalia, Sudan, Uganda	Full economic union	CAADP, Regional Food Security Strategy, Livestock Marketing Information System
Economic and Monetary Community of Central Africa (CEMAC)	Customs Union	Goods, services, investment, migration	June 24, 1999	Cameroon, Central African Republic, Chad, Republic of Congo, Equatorial Guinea, Gabon	Full economic union	CAADP, Common Agricultural Strategy, Regional Food Security Program
Southern Africa Customs Union (SACU)	Customs Union	Goods, services, investment, migration	July 15, 2004	Botswana, Lesotho, Namibia, South Africa, Swaziland	Customs union	Common Agricultural and Competition Policies
Arab Maghreb Union (UMA)	Free Trade Area	Goods, services, investment, migration	Feb. 17, 1989	Algeria, Libya, Mauritania, Morocco, Tunisia	Full economic union	CAADP, Common Agricultural Policy

Major Regional Economic Communities (RECs)	Type	Existing Areas of Integration and Cooperation	Date of Entry into Force	Member States	Specified Objective	Agricultural Initiatives and Policies
Economic Community of Central African States (ECCAS)			July 1, 2007	Angola, Burundi, Cameroon, Central African Republic, Chad, Republic of Congo, Democratic Republic of Congo, Equatorial Guinea, Gabon, São Tomé and Príncipe, Rwanda	Full economic union	CAADP, Early Warning Mechanism of Central Africa (MARAC), Common Agricultural Policy
Community of Sahel-Saharan States (CEN-SAD)	Free Trade Area	Goods, services, investment, migration	Feb. 4, 1998	Benin, Burkina Faso, Central African Republic, Chad, Côte d'Ivoire, Djibouti, Egypt, Eritrea, The Gambia, Libya, Mali, Morocco, Niger, Nigeria, Senegal, Somalia, Sudan, Togo, Tunisia	Free trade area and integration in some sections	CAADP

Source: Modified from Oshikoya (2010)

4.2. Progress and implementation challenges of CAADP

According to Brüntrup and Heidhues (2011), although transnational level issues are important features of CAADP, it is the national level that provides the litmus test of its effectiveness. Several indicators—including agricultural growth, stage of advancement of the CAADP processes, and budget allocation to agriculture—have been used to assess the CAADP's impact at the national level; these are discussed below.

In terms of growth rates, ten countries have surpassed the 6 percent target of growth in agricultural production (Fan et al. 2009; NEPAD 2011). Another 14 countries recorded growth rates of 3–5 percent, while six recorded positive growth rates of less than 3 percent. However, the link between agricultural budget spending and growth is far from linear. Policies, regulations, and private sector responses are at least equally important variables, and several variables that decisively influence agricultural growth—for example, climate and international prices—are beyond the control of governments (and CAADP). It is this complexity that makes agriculture a difficult candidate for modern sector support (Foster et al. 2001) and also renders it problematic to use such an aggregate indicator for policy quality and progress (Brüntrup and Heidhues 2011).

The majority of African countries have formalized CAADP compacts, certifying national agricultural development priorities identified through a participatory approach. As of June 2012, 40 African countries had engaged in the CAADP process, some 30 had signed CAADP compacts, and 23 had finalized investment plans (Kimenyi et al. 2012). The REC that has advanced its member states the most has been the Economic Community of West African States (ECOWAS). At present, all 15 of its member states have signed compacts and investment plans—a result facilitated by the technical support of the REC and its contribution of US\$ 450,000 to each nation to push the process along (NEPAD 2010). In 2009, ECOWAS became the first and, to date, only REC to finalize and sign a regional compact, referred to as the Economic Community of West African States' Agricultural Policy (ECOWAP). It has signed investment plans as well. Envisioned to cost some US\$ 900 million and to span from 2011 to 2015, the investment plan has three main objectives: 1) to diminish the incidence of food crises in the region, 2) to encourage the creation of food supply chains, and 3) to broadly create an environment conducive to agriculture development (Kimenyi et al. 2012). The Common Market for Eastern and Southern Africa (COMESA) has also helped its member states in the CAADP process. For instance, 10 of its 19 countries had signed compacts by March 2012 (NEPAD 2012a), while all EAC members have drafted and signed compacts and are at varying stages in the creation of investment plans.

Another progress indicator of CAADP is the annual budget allocation to the agricultural sector. African leaders pledged in 2003 to allocate 10 percent of their annual budgets to the agricultural sector by 2008, but at the end of that five-year timeline, only eight of Africa's 53 nations had reached the designated 10 percent target. Moreover, thirteen other countries had managed to spend 5–10 percent less on agriculture, and 15 more invested less than 5 percent (table 2). The remaining 18 countries did not report. Preliminary findings for 2008 indicate that approximately the same number of countries have invested at least 10 percent.

Table 2: Level of agricultural investment, 2007

At least 10 percent	From 5 percent to less than 10 percent	Less than 5 percent
Burkina Faso	Benin	Algeria
Cape Verde	Equatorial Guinea	Botswana
Chad	The Gambia	Burundi
Ethiopia	Ghana	Cameroon
Mali	Guinea	Democratic Republic of Congo
Malawi	Kenya	Egypt
Niger	Lesotho	Gabon
	Madagascar	Liberia
	Mozambique	Mauritius
	Senegal	Nigeria
	Sudan	Rwanda
	Tunisia	Sierra Leone
	Zimbabwe	Tanzania
		Uganda
		Zambia

Source: NEPAD Dialogue Online Weekly, November 23, 2007, Issue 205.

Brüntrup and Heidhues (2011), however, points out an important flaw with having a standard yardstick of 10 percent of the budget, as it is insensitive to variations in country situations. It takes into account neither the relative importance of the agriculture sector in the economy nor its relative potential for growth or poverty reduction. Therefore, the 10 percent target, though very useful in the political arena and easy to communicate, seems arbitrary (Mahalambe et al. 2009). Botswana, for instance, has an economy heavily focused on diamond extraction and, not unexpectedly, has naturally prioritized other initiatives over the CAADP process, to some extent.

Determining whether CAADP, itself, is responsible for creating better public policies for boosting agricultural development in Africa is difficult. Issues of causality often arise. According to an official CAADP review, “most governments committed to CAADP were already subscribing to the types of strategy advocated by” the program (NEPAD 2010: 20). Furthermore, “much of the policy content of CAADP derives from the more successful initiatives in agriculture taken by several African governments before 2003” (NEPAD 2010: 20). In this regard, it is interesting to note that four countries that have not signed CAADP compacts (Botswana, Angola, Madagascar, and Zimbabwe) surpassed the 6 percent average annual agricultural growth rate target anyway (World Bank 2012).

Furthermore, the CAADP process calls for improved use of evidence in agricultural policymaking to better base policies on lessons learned. Major elements of this evidence-based policymaking are stock taking, modelling and participation at the national level, and peer review that employs external expertise (Brüntrup and Heidhues 2011). This evidence may be the most important element to improve policies, but there are difficulties in putting it into practice due to the lack of assessment of organizational, institutional, governance, and political constraints in the sector (Brüntrup and Heidhues 2011).

Given the present uncertainties regarding whether and to what extent CAADP genuinely guides policies and investment programs and advances their implementation, an assessment of CAADP at the national level has to look at the quality of the contributions that CAADP has brought to national agricultural policy making processes. The few detailed external investigations of the processes (Zimmermann et al. 2009), the critical self-assessment and communication at the CAADP partnership platform, and anecdotal evidence for individual countries show that CAADP processes are not necessarily a sufficient improvement to existing agricultural policy processes—which, of course, existed prior to the CAADP agenda in all African countries (Brüntrup and Heidhues 2011). In fact, Brüntrup and Heidhues (2011) highlights a plethora of implementation challenges of the CAADP. For instance, although successful in generating ownership at the highest political levels through heads of state, CAADP has not been able to translate this into such strong commitment on the part of technical staff in the sector at the country level. In many countries, CAADP is not well-known or understood, and its added value remains unclear. At a technical level, planners are unconvinced of the purpose of a CAADP process, which appears to attempt to run parallel to existing strategies and programs. Also, there is no systematic monitoring of whether the participation of the private sector and civil society in CAADP processes is better than in autochthonous country policy processes.

5. CHALLENGES IN RAISING PRODUCTIVITY IN AFRICAN AGRICULTURE

Before discussing the ways in which regional trade and integration can enhance agricultural growth and food security, it is important to briefly identify key constraints that have reduced the capacity to raise agricultural productivity in Africa. Poor infrastructure, climate change, research and development deficiencies, and the disease burden are among the many challenges that are negatively affecting agricultural productivity in Africa.

Inadequate infrastructural development has long been identified as an important impediment to agricultural productivity in many African countries (Platteau 2000; World Bank 2008). Roads, transportation services, and telecommunication networks are relatively undeveloped in several agricultural hinterlands, thereby restricting farmers' access to critical farm inputs. In some remote areas, poor transportation systems adversely affect the marketing of outputs, a problem that discourages farmers' efforts to increase productivity. A number of African countries also have limited irrigation systems, thus compelling farmers to depend almost exclusively on rain-fed farming systems.

Within the whole of sub-Saharan Africa, total investment in irrigation is 4 percent of crop area, a figure far below that found in other world regions (World Bank 2008). These infrastructural problems are well noted in the World Development Report 2008, which emphasizes that:

sub-Saharan Africa is massively disadvantaged in infrastructure, increasing transaction costs and market risks. In part due to low population densities, there are fewer and less developed roads in sub-Saharan Africa than there were in Asia at the time of the green revolution. Sub-Saharan countries are small, many of them landlocked, and barriers to trade are relatively high because of high transport costs. (World Bank 2008: 55)

Research and development limitations constitute another critical constraint to raising agricultural productivity in Africa. Even where innovative farming practices have been developed by research institutions, there are significant challenges in scaling up these successes. Oftentimes, these challenges result because the innovations either are not developed with farmers or do not fit their context-specific circumstances.

Rainfall failure, increased temperatures, and greater climate variability are imposing additional threats to agricultural productivity in the region. This problem is particularly acute in the Sahel, where growing seasons are now shorter and unpredictable, thus resulting in a significant decrease in farm productivity. Projections by the Intergovernmental Panel on Climate Change illustrate that as a result of climate variability, yield from rain-fed agriculture could be reduced up to 50 percent by 2020 in some African countries (Challinor et al. 2007). Although a number of smallholder farmers are already making changes to their agriculture by adopting climate-smart farming practices, research shows that these local practices are inadequate in light of projected climatic changes (Kristjanson et al. 2012).

Disease burden, especially HIV/AIDS, is putting a further strain on agricultural productivity. In several African countries, not only is HIV/AIDS depleting human capital and labour availability (FAO 2001; see also table 3) but significant resources are being diverted away from agriculture to pay medical expenses (Topouzis 2003). In African countries where the epidemic is most prevalent, deaths and prolonged illnesses have led to a reduction of land area under cultivation, a decline in crop varieties, and changes in cropping patterns (Barnett et al. 1995; Shapouri and Rosen 2001).

Table 3: Impact of HIV/AIDS on agricultural labor force in the most affected African countries (2000 and 2020)

Country	2000 Estimated Loss in Agricultural Labor Force (%)	2020 Projected Loss in Agricultural Labor Force (%)
Namibia	3.0	26.0
Botswana	6.6	23.2
Zimbabwe	9.6	22.7
Mozambique	2.3	20.0
South Africa	3.9	19.9
Kenya	3.9	16.8
Malawi	5.8	13.8
Uganda	12.8	13.7
Tanzania	5.8	12.7
Central African Republic	6.3	12.6
Côte d'Ivoire	5.6	11.4
Cameroon	2.9	10.7

Source: Food and Agricultural Organization (2001)

6. AFRICA'S INTRA-CONTINENTAL AGRICULTURE TRADE

The policies and strategies illustrated in the fourth section clearly show that there is a strong desire for regionalism and economic integration as a way to advance Africa's food security needs and socioeconomic objectives. An understanding of the scale, trends, and composition of intra-African trade is crucial for the effective design and implementation of policies to boost that trade. However, available data show that Africa has, by far, the lowest level of intra-continental integration in the world (table 4). According to UNCTAD (2013), intra-African trade as a share of African world trade declined to a low of 11 percent in 2011, compared with 22 percent in 1997. However, UNCTAD acknowledges that much of this is because of the surge in African trade with the rest of the world, which grew at 12 percent per year. The UNCTAD report is based only on official figures. According to UNCTAD (2013), substantial and thriving informal trade in Africa is an indication that intra-African trade is not as low as official statistics suggest. At the same time, there is little doubt about the huge untapped potential for growth in trade among neighbors, particularly in agriculture and manufacturing. An estimated 50–60 percent of the world's unused arable land is in sub-Saharan Africa. However, only 16.9 percent of African world trade in food and live animals, and only 14.8 percent of African agricultural imports, took place within the continent in the period 2007–2011 (UNCTAD 2013). Africa, chronically food insecure, imported 15 percent of its food items from the rest of Africa in 2007–2011 (UNCTAD 2013).

Intra-African trade has consistently remained low, averaging about 10–12 percent in the last decade; this is low when compared with intra-European trade (72 percent), intra-Asian trade (52 percent), intra-North American trade (48 percent), and intra-South and Central American trade (26 percent) (WTO 2011). Intra-African trade in agriculture and food is relatively low (estimated at 15 percent), a somewhat paradoxical situation when examined in the context of the potential of the sector as a key driver of growth, trade, employment, and poverty reduction in Africa. This also implies that a great deal of effort is needed to position food and agriculture favorably in the intra-African trade profile, along with manufacturing. The fact that there is a relatively high level of intra-African trade in primary commodities also suggests that there is ample room to exploit opportunities for high value-added trading activities within the continent. This observation is supported by the share of Africa's percentage of export volume going to Africa itself (figure 4), Africa's agriculture as a proportion of GDP (figure 5), Africa's agricultural exports by value (figure 6), and the proportion of Africa's agricultural exports (figure 7).

Table 4 presents regional trade among five African trade blocs, as well as for sub-Saharan Africa, between 1990 and 2009. It presents the share of intra-African trade as share of world trade for food, agriculture, and total trade. Overall, the proportion of intra-regional trade has increased marginally in sub-Saharan Africa, from 15–19 percent for agriculture and from 15–20 percent for food (Dijk 2011). A similar increase is observed in COMESA and SADC, although trade within regional initiatives remained stable or slightly decreased in EAC and IGAD. Trade within ECOWAS exhibited a regressive trend for food (from 18–6 percent) and agriculture (from 14–6 percent). On the whole, economic integration in Africa in terms of agriculture and food trade remains weak when compared with other continents, where intra-regional trade ranges from approximately 20 percent in South America to more than 68 percent in Europe (UNCTAD 2009).

Table 4: Intra-African trade as share of world trade in agriculture and food

REC		1990	1995	2000	2005	2009
COMESA	Agriculture	9	6	8	10	13
	Food	10	7	9	10	15
EAC	Total	6	5	5	7	9
	Agriculture	14	9	7	10	13
	Food	12	10	8	10	15
ECOWAS	Total	12	11	11	7	9
	Agriculture	14*	7	11	10	6
	Food	18*	6	9	10	6
IGAD	Total	12*	17	11	7	8
	Agriculture	7	6	8	9	8
	Food	6	6	7	8	9
SADC	Total	9	8	8	6	4
	Agriculture	17	16	27	26	22
	Food	16	18	30	28	24
SSA	Total	12	10	16	16	16
	Agriculture	15	14	20	21	19
	Food	15	15	21	22	20
	Total	12	12	16	19	17

Note: WTO definitions for agriculture and food *1991. Trade equals imports plus exports.

Source: Data derived from *The World Integrated Trade Solution's Database*

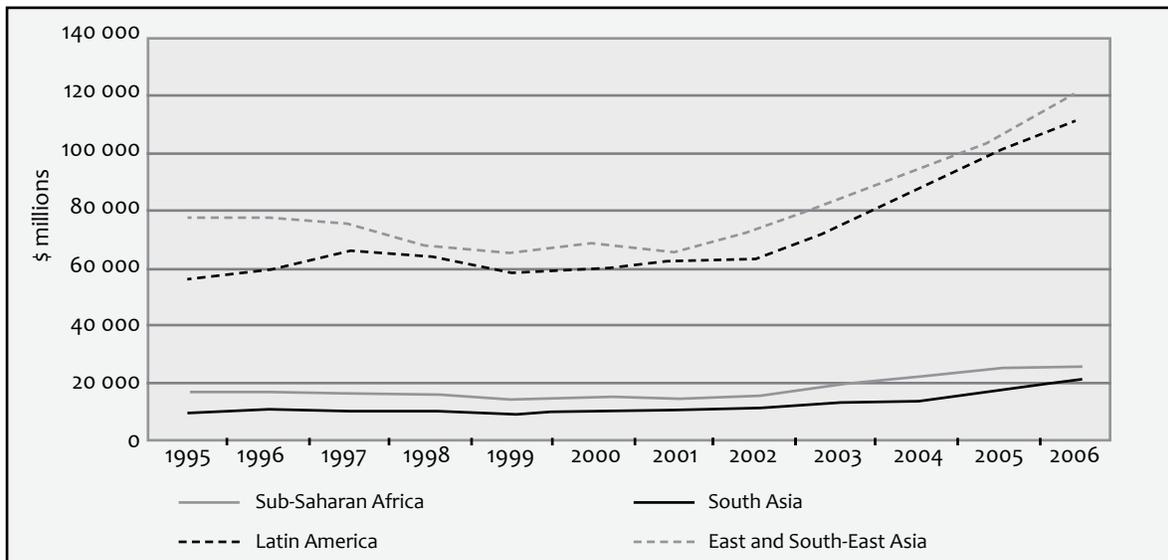
According to UNECA (2013), in general, the historical trend during the period 2002–2010 shows a positive trend of intra-REC exports every year. The only exception is a pronounced fall in total intra-REC exports in 2009, which was influenced predominantly by the global financial crisis. On average, the top four RECs that actively pursued intra-REC exports were SADC (accounting for 34 percent of intra-REC trade), CEN-SAD (26 percent), ECOWAS (15 percent), and COMESA (11 percent). The RECs that traded least among themselves were AMU (6 percent), EAC (4 percent), IGAD (3 percent), and ECCAS (1 percent).

Gravity model estimates (UNECA/AfDB/AUC 2010) indicate that countries in West and Central Africa are realizing only 43 percent of their potential trade in the region, while countries in Eastern and Southern Africa are trading 75 percent. Nonetheless, some RECs are managing to expand regional trade at a faster rate than that observed at the continental level. For example, growth in intra-COMESA trade has been particularly impressive, with the value of exports increasing from US\$ 1.7 billion in 2002 to US\$ 8.6 billion in 2010 (an increase of approximately 80 percent). East Africa has enjoyed success in recent years in diversifying production and moving up value chains, thus enhancing its resilience during the recent economic crisis. A strong infrastructure base, effective regulation and institutional quality, and low levels of initial export concentration have

been identified as drivers of this success (WEF 2011). Meanwhile, the homogeneity of exports and poor transport infrastructure in ECCAS are contributing factors to poor trade integration there. On average, countries within CEN-SAD registered the highest exports beyond their borders to the rest of African countries from 2000 to 2007 (an average of US\$ 2.2 billion), followed by SADC (average of US\$ 2.2 billion), ECOWAS (average of US\$ 1.8 billion), UEMOA (average of US\$ 1.6 billion), and COMESA (average of US\$ 1.6 billion) (UNECA/AfDB/AUC 2010). Most of the goods traded among African RECs add little manufacturing value and include many primary products, mainly mineral fuels and agricultural inputs.

According to Gayi et al. (2008), it appears that decades of trade liberalization following Structural Adjustment Programs (SAPs) have had little impact on intra-African trade. Though there was a marked increase in the share of intra-African trade in the 1980s and early 1990s, it has remained essentially stable afterward (figure 4). For instance, intraregional trade accounted for only 8 percent of total African exports in 2006. The figures are much lower than in other regions. For instance, intraregional trade in the European Union accounted for 67 percent of total exports in 2006. Intraregional trade in Africa also compares poorly with that of Latin America, where it accounted for 16 percent of exports, and in Asia, where it accounted for 46 percent (Gayi et al. 2008). The limited intraregional trade in Africa can be partly explained by tariff cuts, which reduce the preference margins given to other African countries and, therefore, reduce the incentives for intraregional trade (Gayi et al. 2008). There are a number of other factors that restrain intra-African trade. First, African countries have long suffered the problem of structural overproduction, whereby countries tend to export a narrow range of agricultural commodities, thereby driving down commodity prices and profitability (Weis 2007). Second, the infrastructure for intra-African trade is often poor, which leads to high transaction costs. And third, despite the many regional agreements in place, implementation of these treaties is generally slow and, even then, receives little private sector involvement.

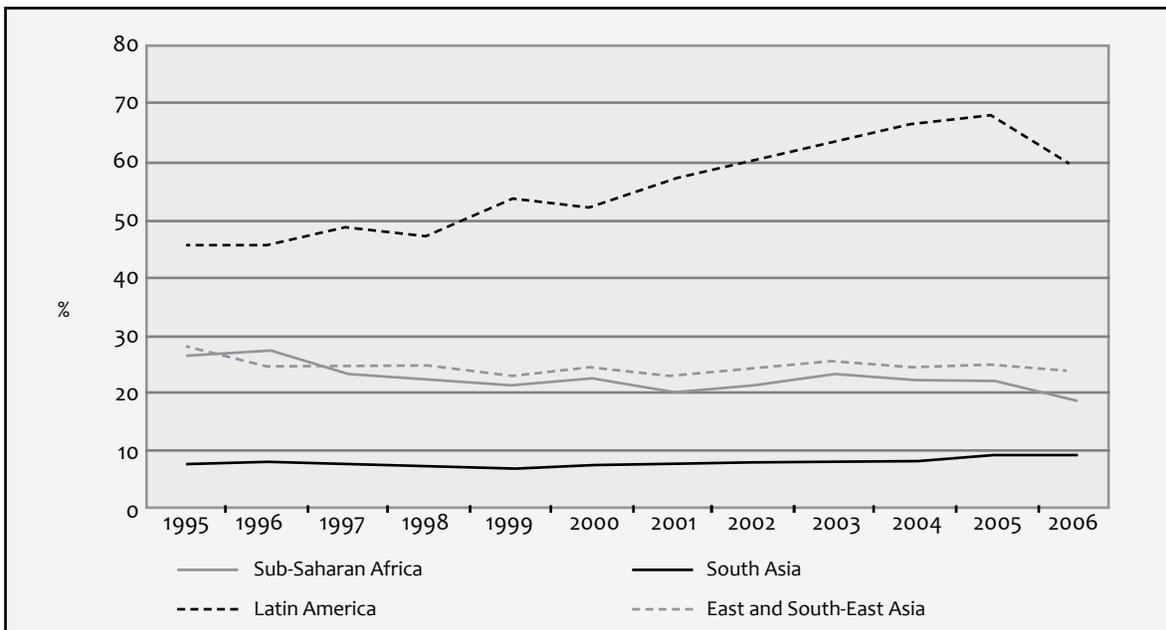
Figure 4: Share of African exports going to Africa, 1995–2006



Source: Gayi et al. (2008 : 26)

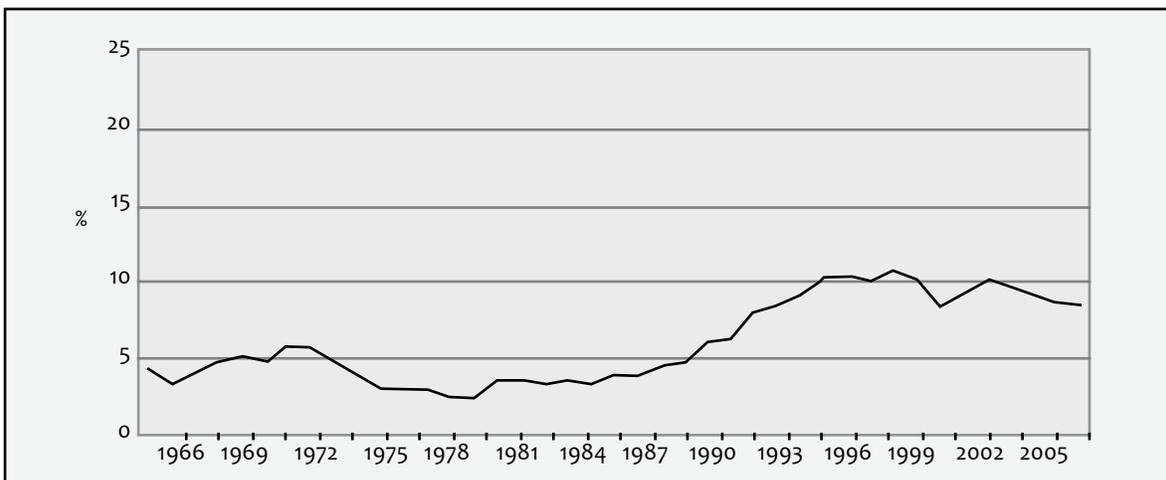
In recent years, a number of African countries, including Ethiopia, Ghana, Uganda, and Zambia, have increased their exports of non-traditional commodities, but the volumes are generally small (except possibly in the case of Ghana) compared with those of traditional exports. Africa’s agricultural exports have remained largely focused on traditional commodity exports, which tend to be bulky and concentrated in a smaller number of countries (figure 5). Fundamentally, the contribution of agricultural exports to total output does not appear to have significantly changed over the last two decades (figure 5).

Figure 5: Agricultural exports by value, sub-Saharan Africa and other developing regions*



* Total exports of primary commodities by value, excluding fuels, ores and metals.
 Source: Gayi et al. (2008 : 32)

Figure 6: Proportion of agricultural output exported



Source: Gayi et al. (2008 : 32)

During the period 2000–2007, however, African intra-continental trade grew more rapidly (25 percent) than African exports to the rest of the world (16 percent), due in part to renewed political commitment from African leaders and development agencies to accelerate regional integration from historically low levels (Douillet and Pauw 2012). Although increased regional integration may be partly politically motivated, it also makes economic sense. First, the growth potential for domestic and regional consumer markets is large considering the small base it is starting from and recent extended spells of rapid growth in the subcontinent. Second, at present, sub-Saharan African exports are concentrated in primary agricultural products. Less than half of the agricultural output is supplied to domestic processing sectors. This suggests considerable scope that could be exploited in terms of intensifying agricultural processing before exporting to regional and international markets. Third, sub-Saharan Africa's share in world trade volume has decreased from 5 percent in 1960 to less than 2 percent in 2008. The fact that Africa's current trade position is worse than at the eve of independence means that the continent is having a hard time taking advantage of opportunities created by globalization and reflects the continent's marginal economic and political status in the global economy (Douillet and Pauw 2012). Against this background, it has been argued that increased economic integration among African states important not only for achieving continental food security, but also because associated increased competition and economies of scale can facilitate Africa's successful integration into the global economy.

From the foregoing, it is apparent that the extent of agricultural trade within Africa remains limited and underscores the need for regional integration.

7. POTENTIAL AREAS OF REGIONAL INTEGRATION FOR FOOD SECURITY

This section provides recommendations for enhancing regional integration as a national and household food security strategy in Africa. They are premised on the understanding that while self-reliance presents a more efficient and effective strategy for food security, regional integration for food security in Africa should proceed on the basis of comparative advantage in terms of careful choices of which food items are cheaper to import and which ones should be produced domestically.

The recommendations encompass the following areas: agriculture policy and trade; strategic planning of agricultural production and food security systems; and legislative and institutional frameworks on access to agricultural services and food markets. Others include regional-level road, rail, and air transport linkages; standards required for agricultural infrastructure services and facilities; guidelines for assessing sustainability of food and agriculture systems; incentive structures of agricultural trade; sharing of food market information; and agricultural research and knowledge hubs.

From the onset, it is important to state that the national, sub-regional, and regional markets in Africa have many competitive advantages for African producers in terms of proximity of markets and similarity of consumer preferences. In this context, the Agriculture, Agribusiness and Agro-industries Initiative (3ADI) adopted by African leaders in Abuja in March 2010 is a useful example of a food security initiative in Africa. This initiative encompasses seven development pillars that are important in achieving food security in Africa. These pillars include enhancing agricultural productivity; upgrading value chains; exploiting local, regional, and international demand; and strengthening technological efforts and innovation capabilities. Others are promoting effective and innovative sources of financing, stimulating private sector participation, and improving infrastructure and energy access. Obviously, these pillars overlap with other food security agendas on the continent, and they provide a useful platform for an effective regional collaboration aimed at ensuring food security.

Furthermore, the Alliance for a Green Revolution in Africa (AGRA) is an initiative worthy of emulation. AGRA was established in 2006 by the Bill & Melinda Gates Foundation and the Rockefeller Foundation to facilitate a comprehensive partnership for agricultural development in Africa. AGRA's programs are being developed within the context of CAADP and focus their support on national priorities in collaboration with regional governments and other donors (Toenniessen et al. 2008). AGRA's approach is comprehensive and addresses four key issues: developing resilient crop varieties, advancing new methods of integrated soil fertility management and water management, strengthening local and regional markets, and building and strengthening extension and other forms of technology delivery systems for farmers.

Along with AGRA's comprehensive initiative, there are a few other small-scale practical agricultural projects that deserve attention in this report. One such practical example of existing food security initiatives is the "cassava revolution" triggered by the International Institute for Tropical Agriculture (IITA) in Ibadan, Nigeria. Cassava consumption is estimated at one to four times per week by more than 80 percent of Nigerian households in most states (AGRA 2013;

Farm Concern International 2012). Since its launch in 2002 and as of 2007, the cassava initiative in Nigeria alone had generated US\$ 5 billion in export revenue. This is in line with the global cassava strategy, which is premised on the belief that a growing demand for cassava will spur rural industrial development and contribute to the economic development of producing, processing, and trading communities and the well-being of numerous disadvantaged people in the world. FAO reports that the world production of cassava root has increased from 184 million tons in 2002 to 230 million tons in 2008. Of the total production, 99.1 million are grown in Africa, 51.5 million in Asia, and 33.2 million in Latin America and the Caribbean (FAO 2008). World cassava output was expected to reach 282 million tons in 2012, an increase of 7 percent from the level in 2011—the fourteenth consecutive annual rise (FAO-GIEWS 2012). The International Food Policy Research Institute (IFPRI) estimates that world cassava production will reach 275 million tons by 2020, 60 percent of which is projected to come from Africa (Farm Concern International 2012). This stresses the important role that cassava plays in the African economies. Cassava has been identified as one of the crops that could alleviate poverty in Africa. This is because it does well on poor soils and low rainfall. In addition, it is a perennial that can be harvested for more than two seasons. This wide harvesting window makes it act as a famine reserve. It also offers flexibility to smallholders because it serves as either a subsistence or a cash crop. The above is just one of many existing initiatives that can be effectively transformed into a regional program. With such successful initiatives in mind, we now proceed to outline specific recommendations that deserve further consideration.

- (a) Harmonization of agriculture and trade policy: NEPAD's Comprehensive Africa Agriculture Development Programme (CAADP) provides an overarching policy framework and sets the tone for synchronizing economic, agricultural, and trade policies of regional economic communities on the African continent. Given the low level of intra-African trade in agriculture and food, as revealed in the fifth section, progressive harmonization and coordination of agriculture and trade policy among member states of regional economic groupings should be promoted. It has been observed that even without a full common market for agriculture and food products, regional cooperation and harmonization of agricultural policy among member states of regional economic blocs can still promote agricultural development, trade, and food security (FAO 2010). This is because each policy action geared at removing any degree of barriers to trade, whether tariff or non-tariff, will likely be met with an increased volume of cross-border trade. This implies that there is nothing automatic about this process. A regional bloc must identify opportunities for cross-border agriculture trade and designate specific goods and services to be subjected to progressive liberalization. This might include, for instance, a strategy on how to reconcile the thorny problem of domestic agriculture subsidies and other price support arrangements. The ability to provide and sustain a stable and predictable fiscal, trade, and regulatory policy climate throughout the African region would be vital for economic integration and food security.
- (b) Strategic planning of agricultural production, markets, and food security systems: Only an estimated 20–25 percent of local agricultural production in RECs' member states is marketed (UNECA/AfDB/AUC 2010), and intra-African agricultural exports account for only 19 percent of total intra-African exports (UNCTAD 2009). Strategic planning can foster a strong and coordinated position on policy among REC member countries in the agriculture

sector to promote exports both to other members within the group and to those outside the bloc. Strategic planning can also foster mutual learning among regional actors, which can feed into the analysis of what can work or not and thereby inform future directions.

A coordinated policy stance and organizational learning for regional integration can involve a range of issues, such as investment in agriculture, physical infrastructures (most notably, rural and cross-border roads transportation and communication networks), fertilizers and quality seeds, access to credit, and access to regional and international markets. Functional cooperation among member states that takes place around specific themes and domains of respective domestic economies can bring about real benefits for regional integration, such as an enhanced capacity to deal with institutional constraints, the sharing of regional resources for research, regional transport infrastructure, the spread of pests and diseases, and management of trans-boundary environmental resources. Policy coordination can be effective in exerting peer pressure on member states, thereby helping to generate and sustain the political will needed to implement regional integration policies.

- (c) Institutional frameworks: As in other parts of the world, deepening economic integration in Africa has the potential to splinter multilateral trade as regional economic groups become “closed systems” that compete with each other. In addition, the question of overlapping membership, where some African countries belong to more than one regional economic bloc, has raised challenges in terms of derailing economic integration. For instance, a number of COMESA member states are also active members of SADC, thus giving rise to the problem of divided loyalty that compounds coordination of economic, agriculture, and trade policies. It is therefore critical to have a robust legal framework for resolving conflicts that arise from differences in rules of trade. This also calls for the need for higher-level collaboration at the African Union to ensure that trade rules formulated under various regional arrangements are transparent and consistent with the larger multilateral system.
- (d) Regional terrestrial, fluvial, sea, and aerial corridors: National and household food security benefits (in terms of affordable and stable food supply and prices) can flourish only in the presence of a communal regional transport policy that can facilitate food flows from remote farms and plantations to national strategic reserves and households. Aerial corridors present different realities depending on whether they are extra- or inter-regional. Traditionally, air transport has been used for products that are time sensitive and valuable, and the sea has been used for lower-value products that are less time sensitive. However, given the speed required in an increasingly globalizing world to deliver commercial food supplies or, indeed, food aid to victims of climatic events, there is need for a coordinated regional plan for development and expansion of air transportation beyond the traditional hubs of Johannesburg and Nairobi. The bulky and voluminous nature of food also requires a coordinated policy on the development and expansion of the international road and rail transport network in order to facilitate agriculture and food flows across Africa. These land-based modes are likely to increase their modal share of international agricultural goods movements as they offer services that are cheaper (Buys et al. 2006; Teravaninthorn and Raballand 2008).

Stronger coordination among African states is required for the development and expansion of sea corridors. Sea transport is cheaper and, therefore, more appropriate for the movement of food supplies across long distances. It is necessary to develop regional agreements and policies that focus on developing and directly linking harbors and coastlines to national regional land-based transport corridors. For landlocked countries, there is a need to explore the potential of alluvial corridors. Although most African rivers have peculiar flows and limited navigability, certain segments of some of these rivers are passable. For instance, the Shire-Zambezi waterway is a potential gateway linking Malawi to the rest of SADC and COMESA and is, therefore, key for intra- and extra-regional flows. As such, strategic international cooperation among countries, especially those that are landlocked, in terms of feasibility studies and investment in fluvial and fluvial-maritime infrastructure, including dredging works and ports, can have a positive impact on regional economic integration, including international food flows.

- (e) Harmonization of cross-border operational procedures: Slow and excessively cumbersome border control services present a fundamental obstacle to free trade. The situation is compounded by wide differences in these procedures across countries, even among members of the same regional bloc. The Logistics Performance Index (Arvis et al. 2012) suggests major differences in logistics performance across countries and regions, including differences between the RECs' member countries at similar levels of development. Countries with relatively poor indices, especially those that are landlocked, need to focus on the service level (in terms of cost, speed, and reliability) provided by the road and rail services if they are to enjoy the benefits of agricultural trade-related regionalization in the coming years. Complex and inefficient customs clearance procedures not only carry the risk of corruption but also can create disincentives for small- and medium-scale farmers to participate in regional agriculture trade (Buys et al. 2006; Grigoriou 2007). Increased flexibility, simplification, standardization, and harmonization of technical customs procedures, coupled with investment in technologies, can reduce manual processes and enhance efficiency.

- (f) Standards required for agricultural infrastructure services and facilities: The private sector can have a more significant impact on regional integration than is presently the case by 1) developing clusters of agricultural industries with complementary interests, particularly in active extra-regional export industries; 2) pressuring stakeholders to develop infrastructure and policy frameworks for industries that "fit" the agricultural productive capabilities of different countries in the region (especially, for example, in agriculture and food security); 3) pushing for—and helping to develop—upgraded regional agricultural infrastructures, particularly in communications and transport; and 4) pushing for the full implementation of monetary and agricultural trade zones, such that the interests of agribusinesses in the RECs can be realized in a timely fashion. Upgrading the existing regional infrastructure, as well as reducing transaction costs associated with the agricultural value chain, should be at the forefront of the RECs' agendas. Central to this is the notion of sectoral development, particularly in the exploitation of regional resources to stimulate food security as a key economic and social imperative. Sectoral development is critical: specifically, much greater

coordination is required at the regional level so that the distinct productive capabilities of different African states can be identified and better harnessed for the wider regional benefit. The most notable area for development is in sustainable agriculture. Food security and sovereignty are critical, and the RECs must devote resources to reducing food import bills.

- (g) Guidelines for sustainability assessment of food and agriculture systems: The impacts of an integrated agriculture system for various RECs in Africa will be felt disproportionately across the population and across spatial scales because of existing disparities in resource distribution and access in each of the member states. Thus, an integrated agriculture system should envision a regionally sustainable food and agriculture sector characterized by environmental integrity, economic resilience, social well-being, and good governance throughout the sector. A critical challenge is how to develop and harmonize guidelines and indicators for measuring impacts across member states in each REC. A unified system can be introduced to set benchmarks and define the monitoring framework to track, for example, water discharge for agriculture, quality, and development effects. The benchmarks must account in part for impacts on food and nutrition security, air, water, soil, material cycles, waste, biodiversity, vulnerability, local economy, decent livelihood, equity, occupational health and safety, equity, participation, gender, and accountability.
- (h) Agricultural research and knowledge hubs: Regional agricultural research can be seen as a public good that requires close cooperation among those who partake in the benefits in order to avoid “free-riding” (Foster and Briceño-Garmendia 2010). Because the public nature of research of this type precludes private sector investment, it is important that regional members take the lead. Although there is a range of research agriculture, in general, there is need for expansion and collaboration on research oriented toward regional food security, including establishing and consolidating knowledge hubs that foster indigenous agricultural knowledge and practices, agricultural science, technology sharing, innovation, and capacity building.

Developing and implementing joint food security surveillance systems and building technical capacity and systems for identifying, tracking, collecting, analyzing, and disseminating statistics at regional, national, and local levels is an important area of collaboration. These systems should include vulnerability mapping that combines information on food security statistics and other socioeconomic data. It is also important to establish regional food security coalitions, which may develop indicators to guide decision-making and to track progress in food security at regional levels, suggest appropriate pre-emptive and remedial action, and incorporate a regional early warning and response system for timely prediction of major food shortages, as well as rapid sharing of information, technology, and mitigation.

New Rice for Africa (NERICA) is a practical example of a determined collaborative research activity by multiple stakeholders with the goal of ensuring food security. NERICA was developed by the West Africa Rice Development Association (WARDA), a non-governmental association that includes 17 African nations. It is a hybrid of African and Asian rice, developed by scientists to combine the best characteristics of the two varieties.

The development of NERICA is a major breakthrough and has the potential to ensure that African nations become self-sufficient in rice production. Already NEPAD has selected NERICA as its crop of first priority and will fund NERICA development and dissemination over five years (Diagne et al. 2011). Moreover, the Food and Agriculture Organization of the United Nations (FAO), the World Food Programme (WFP), and World Vision International have included the dissemination of NERICA varieties in their work programs.

- (i) **Adaptation to climate variability and change:** Climate change not only undermines availability, accessibility, and stability of food supplies but also threatens integration itself. For instance, the trajectory of climate change on the African continent will dictate where rail and road infrastructure will be constructed, as well as which kinds of farming activities can be carried out. The precise impact of climate change on agriculture varies across social and political groups, with vulnerable populations already bearing much of the brunt of it. Due to the fact that both the causes and impacts of climate change are global in nature, regionalism offers a particularly appropriate institutional framework for addressing the challenges presented by increasing climatic variability and change. To date, most African regional groups and their respective member countries have formulated key policies aimed at enhancing social resilience and adaptive capacity at different scales. Another area relates to the need for countries to identify priority areas and coordinate their activities with the view of enhancing synergies and maximizing impacts. The fact that the climate is expected to change in different parts of the African continent and, therefore, that diverse challenges and opportunities will arise in different places does not negate the need for stronger regional collaboration on the implementation of climate change policies. While each has a unique set of climate-related policies, depending on the context, stronger regional collaboration would reduce duplication and promote the sharing of best practices and experiences. In addition, collaboration can be used to leverage member states to ensure that they follow through on their respective policy commitments.

- (j) **Increased collaboration on management of trans-boundary pests and diseases:** Plant pests and diseases cause significant losses to farming and threaten the viability of agriculture and food security on the African continent. Regional collaboration in terms of harmonization of agriculture policy and trade would hardly result in improved food security without collaborative efforts to combat the movement of plant pests, animal diseases, and invasive organisms across physical and political boundaries, such as foot-and-mouth disease, locusts, banana diseases, cassava diseases, wheat rust, armyworm, and fruit flies. Regional integration can facilitate the spread of these pests and diseases through increased cross-border trade and traffic. This entails a shared commitment to deal with cross-border plant pests and diseases as an important component of any effort to foster economic integration. Climate change also greatly influences the distribution and spread of many of these invasive organisms and diseases. Other drivers of plant and animal pests and diseases include land-use changes (water storage and irrigation), human population growth, and industrial pollution. The bottom line is that if regional integration is to contribute to national and household food security, there is need for stronger policy collaboration and sharing of information among African countries in order to enhance surveillance and limit the spread of these trans-boundary pests and diseases.

8. KEY CAPACITY ISSUES

In view of the analysis of agriculture trade flows and the potential areas of regional integration that have been identified in the preceding sections, this report identifies the following capacity issues that need to be addressed in the short and medium term.

(1) Institutional frameworks for conflict resolution between member states:

Many countries in Africa belong to more than one regional economic bloc (table 1). Overlapping membership presents enormous challenges for regional integration because it creates the problem of divided loyalty. This can undermine integration in that it reduces a regional group's ability to agree to and implement a unified tariff structure. Institutional and legal capacity to deal with conflicting loyalties and potential tariff fragmentation will have to be developed to accelerate regional economic integration.

(2) Efficient and modern infrastructure:

An efficient and modern transport network is vital for economic integration and improved food security. Africa's current transport network is generally ill-equipped for efficient transportation of food supplies and other trade flows in a globalizing world. Hence, there is need for investment and modernization of Africa's transport infrastructure. In addition, the traditional approach (whereby commodity producers double as transporters) is rapidly paving the way for situations where private companies acting on behalf of customers move goods and services to destinations where they are consumed. Regional economic blocs should create enabling conditions for private sector investment in this value addition. An effective regulatory environment whereby such services as insurance, warehousing, documentation, safety, and other related logistical capabilities needed for this niche can be nurtured and developed would be vital for economic integration.

(3) Efficient, cost-effective, and flexible Customs clearance:

Closely related to the challenge of weak and fragmented transportation infrastructure is the question of exceedingly slow and clumsy border control procedures that are outdated and involve large volumes of paperwork. The capacity for more efficient, cost-effective, and flexible Customs clearance lies in modernizing and building technological capabilities at border control posts. The introduction and expansion of automated control and processing systems can play a positive role in enhancing regional integration through expedited cross-border trade.

(4) Effective safety nets and social protection systems:

Empirical evidence has shown that economic integration creates both winners and losers. The welfare consequences of integration, for instance, can be crippling for the poor, who, due to their weak economic position, might find it difficult to rely on far-off regional food markets for everyday domestic food supplies. This might especially be the case with HIV/AIDS-affected families. This necessitates the development and the strengthening of member countries' institutional capacity to provide effective safety nets and social protection systems for addressing the needs of the poor in both rural and urban areas as regional integration deepens. The specter of climate change and increasing frequency of natural and economic shocks demand increased ability among regional members to

develop and activate appropriate compensatory social programs and productive safety nets for such vulnerable populations.

(5) Effective collaborative research:

The public nature of research precludes exclusive reliance on private sector investment. It is, therefore, important that regional member states take the lead. While there is already a range of research activities underway in agriculture in general, there is need for expansion and collaboration by those that are geared toward bolstering regional food security, including establishing and consolidating knowledge hubs that foster indigenous agricultural knowledge and practices, agricultural science, technology sharing, innovation, and capacity building. The capacity to conduct credible research and develop information infrastructure would not only provide the informational building blocks for empirical analysis of regional agricultural and food security policies but also provide timely and effective data for mobilizing appropriate safety nets for vulnerable populations. However, it is important that the farmers themselves also have an influence on the agriculture research agenda in order to permit production of effective and relevant knowledge.

(6) Strong mechanism to deal with extra-regional institutions, such as the WTO:

Regional integration on the African continent can enhance food security and accelerate economic development. However, by setting a common tariff regime that favors member states and imposes high tariffs on extra-regional members, economic integration can also be seen as directly contravening the WTO principle of non-discrimination contained in the General Agreement on Trade and Tariffs Article I. In addition, price supports and other forms of state subsidy that African member states may rightly pursue as safety nets for vulnerable groups (for example, smallholder farmers, who constitute the majority of the farming population) may similarly be seen as in conflict with the general spirit of the WTO Agreement on Agriculture. These examples imply that regional integration in African states is, in part, predicated on developing the capacity to effectively engage and influence the WTO's position on these and related issues. Stronger collaboration will be required to defend the strategic economic interest of African states. However, there is also a need to ensure that trade rules formulated by various regional economic groups are consistent with multilateral trade rules.

(7) Technical capacity to respond to trans-boundary plant pests and disease epidemics:

Plant and animal pests and diseases can undermine the potential of regional integration to achieve food security in important ways: availability, access, utilization, and stability. In order to deal with this threat, African regional economic groups will need the technical capacity to conduct surveillance and provide accurate projections of future distribution, intensity, and incidence of animal and plant pests and diseases. The impact of climate change on migratory pests such as locusts, for instance, implies that new geographic sources of pests and diseases will have to be mapped and surveyed in different time periods and that control capacity should be available at different periods of the year and in different locations than at present. Second, regional economic groups in Africa should develop and expand the capacity for early warning of the emergence of plant pests and diseases, for sharing and disseminating information, and for coordinating preventive or pre-emptive policies in various countries. Thus, African countries need appropriate

emergency-response capacity to take action, as well as regional infrastructures, in terms of research and technological networks, that can support and coordinate policy action.

(8) Climate change adaptation capacity:

Beyond conventional climate change mitigation and adaptation strategies, there is a need for significant investment in basic research on indigenous livelihoods and adaptation decision-making as a basis for more thorough understanding of why people do what they do and how they will behave under alternative future climate scenarios. In addition, there is need for human and infrastructural capacity development throughout Africa for generation of reliable and appropriate climate science tailored to the policymaking needs of the continent.

9. CONCLUDING COMMENTS

There is no shortage of regional institutions in Africa, but few are effective (Foster and Briceño-Garmendia 2010). The institutional architecture that supports African integration comprises more than 30 executive continental bodies, regional economic communities with many overlapping memberships, sectoral technical bodies, and national planning bodies (Foster and Briceño-Garmendia 2010). The result is a high degree of complexity, unclear functional responsibilities for strategy and project development, and uncertain financing strategies. RECs could participate in mapping extant regional institutions, initiatives, and programs (including other donor programs with a regional focus) and then fund the anchoring of national-level actions on those initiatives, particularly in terms of longer-term financing to sustain agriculture and food security.

There are a number of specific lessons learned from efforts to promote regional integration in Africa. According to Brüntrup and Heidhues (2011), an important lesson is that, at least in an African context, a purely neo-liberal approach is not sufficient to foster food security and, consequently, development. The approach overlooks important institutional constraints, such as insecure property rights and deficiencies in the rule of law, financial institutions, firms and industrial organizations, and the organization and functioning of markets. Even if there is a great deal of governance failure, the solution is not to abandon state intervention entirely but, rather, to improve governance (Abic et al. 2011). Another pertinent lesson drawn by Heidhues and Obare (2011) is that important policies, such as SAPs, cannot be imposed without a country's ownership—a lack of genuine ownership led to half-hearted or abandoned implementation of SAPs and contributed to their failure.

Five key actions that foster institutional effectiveness can also aid regional cooperation in agricultural infrastructure provision and, improve food security: 1) the roles and responsibilities of regional bodies concerned with regional integration must be clarified; 2) increased legal authority is required for regional entities to improve and accelerate decision-making processes; 3) the key regional bodies, along with foundations and major funding partners, must boost their professional capacity; 4) national planning agencies must improve their ability to strengthen links between regional strategies and national development plans; and 5) delivery mechanisms for priority programs (for example, sub-regional food markets) should be strengthened to bolster confidence in integration by delivering tangible results.

Differentiated regulatory schemes and trade standards represent a drag on regional economic activity (Ndulu et al. 2008). Much can be gained by harmonizing frameworks and making all economic agents aware of their parameters. This is true for labor markets (and cross-border mobility) as well as for markets for agricultural goods and services. Regional integration allows for a new exploration of a regional industrial policy for accelerating food security.

Because of the market scale, larger labor pool, and diversified resource and production bases, regional policies that work together with existing comparative advantages but also look to how these may transform in the future stand a greater chance of success. This regional industrial policy could encourage skills upgrading for value added in agriculture and other manufacturing opportunities. However, the process of integration will give rise to adjustment costs and distributional impacts across countries, and not all impacts will be positive. Social protection

systems can play a key role in helping populations cope not only with shocks but also the risks that more open and competitive markets bring. While applicable to populations as a whole, social protection mechanisms are particularly important for more vulnerable groups, including young people and women.

Moreover, weak inter-sectoral coordination, especially among agriculture and trade sectors/communities (within both African governments and the donors' agencies) have, at times, led to parallel and competing policy frameworks. This tendency has greatly undermined the creation of inter-sectoral growth linkages in terms of material relations between farm activities or farm and non-farm activities (ECDPM 2012).

Better coherence, coordination, and complementarity between trade, infrastructure, and agriculture (including the external support for their development) are needed to ensure that those policy frameworks stimulate public and private investment and the development of food markets. It is pointless to increase agriculture productivity if those goods (in increased quantity and quality) cannot move smoothly across borders between areas or countries where there are production surpluses (and willingness to sell such produce) and those areas where there are deficits (and willingness to buy such produce). It is also pointless to establish a functional trade corridors system connecting different African countries if farmers and other companies cannot produce efficiently and cannot access those corridors because of trade barriers.

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