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Public agricultural expenditures in COMESA, EAC and IGAD: Status and trends

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About ReSAKSS

Established in 2006, the Regional Strategic Analysis and Knowledge Support System (ReSAKSS) supports evidence and outcome-based planning and the implementation of agricultural-sector policies and strategies in Africa. In particular, ReSAKSS offers high-quality analyses and knowledge products to improve policymaking, track progress, and facilitate policy dialogue, benchmarking, review and mutual learning processes of the Comprehensive Africa Agriculture Development Programme (CAADP) implementation agenda. The International Food Policy Research Institute (IFPRI) facilitates the overall work of ReSAKSS working in partnership with the African Union Commission (AUC), the Planning and Coordinating Agency (NPCA) of the New Partnership for Africa's Development (NEPAD) and leading regional economic communities (RECs). At the regional level, ReSAKSS is supported by Africa-based CGIAR centres: the International Livestock Research Institute (ILRI) in Kenya, International Water Management Institute (IWMI) in South Africa and International Institute of Tropical Agriculture (IITA) in Nigeria.

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About this report

This report is one of the annual monitoring and evaluation (M&E) reports for the Comprehensive Africa Agriculture Development Programme (CAADP) generated by the Regional Strategic Analysis and Knowledge Support System (ReSAKSS) network. The topic featured in this report is: public agricultural expenditure and investments. The overall objective is to review and analyse data and synthesize information on agricultural expenditure by the public and private sectors so as to shed light on the progress being made in addressing the problem of low investment in the agricultural sector. The report focuses on the member states of three regional economic communities, namely the Common Market for Eastern and Southern Africa (COMESA), the East African Community (EAC) and the Intergovernmental Authority on Development (IGAD). Eleven countries, a subset of the member states of these regional economic communities (RECs), have come together to form a regional agricultural research organisation—the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA). To provide information on the progress being made in achieving CAADP indicators, the authors of this report have also aggregated information for ASARECA countries at regional level.

Executive summary

The Comprehensive Africa Agriculture Development Programme (CAADP) is a framework that provides for an agriculture-led development strategy. It aims to alleviate poverty and achieve food security in Africa by attaining an average annual agricultural growth rate of 6% through the allocation of at least 10% of the total annual national budget to the sector.

CAADP agricultural growth target of 6% has yet to be achieved by the majority of countries in the eastern and central Africa region. Recent statistics show that agricultural GDP growth rates range between 2% and 4% in the majority of countries, with year-to-year fluctuation. Agricultural GDP growth rates are highly correlated with weather conditions. Although the budgetary allocation to the agricultural sector among most of the COMESA countries is still lower than the CAADP target of 10%, allocations have increased over the years. So far in the region, Burundi, Ethiopia, Malawi, Zambia and Zimbabwe have already met the 10% annual budget target. After the signing of the Maputo Declaration in 2003, public expenditure on agriculture in the region increased in the 2004–2007 period compared to the preceding three years. Notably, a sharp drop in public expenditure was observed between 2007 and 2008, probably due to the global economic crisis. Overall, it is apparent that countries in the region are committed to implementing the Maputo Declaration.

Evidence from agriculture and food security policy documents indicates that agriculture has been prioritized at both regional and national levels. Several countries have elaborated national investment plans laying out priorities for meeting CAADP goals. In addition, various food security strategies and action plans place agriculture as a top priority. Good progress is being made in enhancing the quality of planning, strategy formulation and priority-setting exercises at country and regional levels. However, concerns are emerging about the slow pace of implementation of these plans and strategies.

Overseas development assistance (ODA) in agriculture is low; in most countries the share of agriculture ODA to total ODA is less than 10%. Encouragingly, the share of agriculture ODA to total ODA has been rising. Private investment in agriculture by both foreign and local actors have an important role to play in achieving targets set by investment plans. Data on local private sector investment in agriculture are generally fragmentary and incomplete, inhibiting quantitative comparisons across countries. Information on foreign direct investment (FDI) in agriculture is also scanty. Available data and information reveal that agriculture constitutes a very small proportion of the total FDI. This situation has been slowly changing for the better, with increased FDI directed in agriculture, particularly over the last five years. Moreover, a synthesis of existing literature indicates that private sector participation in the agricultural sector has been increasing among the member states of COMESA, EAC and IGAD, particularly since 2005. The increasing pattern in foreign and private investment in agriculture is an outcome of the measures being implemented by the national governments in COMESA, EAC and IGAD.

Agriculture productivity is still low and growing at a slow pace in most of the countries considered. Crop production has been increased by increasing the area under cultivation. Poverty has been falling, but the levels remain quite high. Food insecurity continues to be a key challenge because the absolute number of undernourished people is rising, despite current efforts to reduce food insecurity. The food insecurity situation is even more perilous because of the high and rising food prices following the food crisis around 2007.

Acronyms

ACTESA	Alliance for Commodity Trade in Eastern and Southern Africa
ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa
CAADP	Comprehensive Africa Agriculture Development Programme
DRC	Democratic Republic of the Congo
EAC	East African Community
FAO	Food and Agriculture Organization of the United Nations
FDI	Foreign direct investment
FPI	Food price index
GDP	Gross domestic product
COMESA	Common Market for Eastern and Southern Africa
IFPRI	International Food Policy Research Institute
IGAD	Intergovernmental Authority on Development
IMF	International Monetary Fund
NAIP	National Agricultural Investment Plan
ODA	Overseas development assistance
OECD	Organisation for Economic Co-operation and Development
SPEED	Statistics of Public Expenditure for Economic Development
SBS	Sector budget support
SWAp	Sector wide approach
REC	Regional economic community
ReSAKSS	Regional Strategic Analysis and Knowledge Support System
UNCTAD	United Nations Conference on Trade And Development
WFP	World Food Programme

Introduction

1.1 General background

Regional economic communities (RECs) in Africa group together individual countries in sub-regions for the purpose of achieving greater economic integration. RECs form the building blocks of the African Union (AU) and are essential to coordinating the implementation of the Comprehensive Africa Agriculture Development Programme (CAADP). There are four RECs that draw membership among countries in the East and Central Africa region. These include: Common Market for Eastern and Southern Africa (COMESA), the East African Community (EAC) and the Intergovernmental Agency on Development (IGAD) and the Economic Community of Central African States (ECCAS). In this report however, only three RECs are considered. In addition, to the three RECs, another grouping of countries from the Association for Strengthening Agricultural Research in East and Central Africa (ASARECA) are included in this report. Total membership to the RECs is as follows: COMESA (19), EAC (5) and IGAD (8). The membership to these RECs is summarized in Table 1. The RECs have some overlapping membership.

Table 1: Country memberships to COMESA, IGAD and EAC (Plus ASARECA)

COMESA	ASARECA	IGAD	EAC
Burundi (0.005)	Burundi (0.010)	Djibouti (0.010)	Burundi (0.022)
Comoros (0.001)	DRC (0.118)	Eritrea (0.012)	Kenya (0.375)
Democratic Republic of the Congo (DRC) (0.054)	Eritrea (0.008)	Ethiopia (0.241)	Rwanda (0.062)
Djibouti (0.003)	Ethiopia (0.160)	Kenya (0.256)	Tanzania (0.324)
Egypt (0.384)	Kenya (0.170)	Somalia*	Uganda (0.216)
Eritrea (0.004)	Madagascar (0.04)	South Sudan*	
Ethiopia (0.073)	Rwanda (0.028)	Sudan (0.334)	
Kenya (0.078)	South Sudan*	Uganda (0.147)	
Libya (0.120)	Sudan (0.222)		
Madagascar (0.018)	Tanzania (0.147)		
Malawi (0.013)	Uganda (0.098)		
Mauritius (0.025)			
Rwanda (0.013)			
Seychelles (0.004)			
Sudan (0.101)			
Swaziland (0.009)			
Uganda (0.045)			
Zambia (0.033)			
Zimbabwe (0.018)			

Note: The relative importance of the country in the group is given in parenthesis. This is based on a simple calculation of the average contribution to regional GDP (in constant 2005 USD) for the period 2010 to 2013. * Data not available for Somalia and South Sudan.

Source: This table was compiled in 2014 based on information from the following websites: www.resakss.org; www.comesa.int; www.eac.int; www.igad.int; and www.asareca.org.

Agriculture is a key sector in the majority of COMESA, IGAD and EAC member states. Based on the annual average levels for agriculture value added (2010–2012), agriculture contributes to about 14.2% of the gross domestic product (GDP) in COMESA; about 22.4% in EAC and 19.4% in IGAD (Table 2).

Table 2: The importance of agriculture: agriculture value added in national economies and sub-regions as share of GDP (%)

Country	1990–2013	1990–1995	1995–2000	2000–2005	2005–2010	2010–2013
COMESA	**22.2**	**27.8**	**25.4**	**19.8**	**17.3**	**18.3**
ASARECA	**35.7**	**42.1**	**40.9**	**33.6**	**29.4**	**29.7**
IGAD	**35.6**	**40.1**	**40.1**	**34.5**	**29.9**	**31.0**
EAC	**32.9**	**39.4**	**36.7**	**30.8**	**27.6**	**28.4**
Burundi	46.4	51.9	49.5	46.1	41.3	40.3
Comoros	40.8	39.7	42.2	42.3	41.4	39.0
DRC	34.1	48.0	45.2	27.9	23.2	21.8
Djibouti	3.5	3.3	3.5	3.6	3.6	
Egypt	15.9	17.3	17.0	16.0	14.0	14.4
Eritrea	20.0	24.6	19.9	15.6	21.5	
Ethiopia	49.9	58.7	52.7	43.7	46.3	45.6
Kenya	29.1	30.4	31.5	29.5	25.4	29.0
Libya	3.0			3.7	2.1	
Madagascar	28.3	27.8	29.2	29.2	27.2	27.7
Malawi	34.6	38.7	35.1	36.4	31.1	28.8
Mauritius	7.2	11.2	8.7	6.6	4.5	3.5
Rwanda	37.5	37.6	42.9	37.5	35.3	32.9
Seychelles	3.2	4.3	3.4	2.9	2.7	2.2
Somalia	65.5	65.5				
South Sudan						
Sudan	36.1	39.7	43.8	38.5	27.4	26.7
Swaziland	10.3	11.1	13.0	10.0	8.1	7.7
Tanzania	36.4	47.1	40.6	32.7	29.8	28.2
Uganda	34.9	51.9	41.1	26.6	24.9	25.2
Zambia	16.4	20.9	17.3	17.3	13.2	10.2
Zimbabwe	16.8	14.7	19.2	17.4	18.2	13.2

Notes: Blank cells indicate missing values. Regional aggregate values are calculated as weighted summations. The weights are computed using a country's GDP as a share of regional GDP.

IGAD values exclude Somalia because of data limitations.

Sudan includes South Sudan because the data has not been disaggregated for the two countries.

Source: Computed by the authors based on data from World Development Indicators (2015).

The contribution of agriculture to GDP in COMESA is relatively low compared to the other groupings, mainly because of the influence of Egypt which, although it accounts for a significant proportion of the total agriculture GDP of COMESA (about 37%), agriculture accounts for a relative small proportion of the wider Egyptian economy. While agriculture is an important sector in most of the countries considered in this report, its importance varies widely across countries. Agriculture accounts for over 30% of GDP in Burundi, Comoros, DRC, Ethiopia, Malawi and Rwanda. However, it accounts for less than 10% of GDP in Libya, Mauritius, Seychelles and Swaziland.

The average per capita GDP for the period 2010–2013 shows that COMESA has a markedly higher average income as compared to other RECs (see Table 3). The average per capita GDP was USD 1914.2 in COMESA as compared to USD 563.2 in IGAD, USD 497.4 in EAC and USD 491.4 in ASARECA. The high figure in COMESA compared to other RECs could be explained by the level of average per capita GDP in Egypt (USD 1553.7) and to some extent Sudan (USD 817.5). Being the largest economy in COMESA, the high level of per capita GDP in Egypt drives up the regional average. The regional average for EAC is largely influenced by Kenya whose per capita GDP was about USD 135 higher than that of the second country in the EAC, Tanzania.

Table 3: Average per capita GDP (constant 2005 USD) among COMESA, IGAD and EAC RECs and member states

Country	1990–2013	1990–1995	1995–2000	2000–2005	2005–2010	2010–2013
COMESA	**1600**	**768**	**1219**	**2000**	**2392.9**	**1914.2**
ASARECA	**410**	**370**	**362**	**391**	**460.6**	**491.4**
IGAD	**472**	**411**	**423**	**459**	**535.2**	**563.2**
EAC	**414**	**385**	**380**	**390**	**445.4**	**497.4**
Burundi	165	205	158	148	148.3	152.8
Comoros	621	642	601	628	617.4	606.3
DRC	272	373	253	210	236.3	268.8
Djibouti	988	1077	876	874	998.8	1134.8
Egypt	1192	907	1044	1188	1408.4	1556.9
Eritrea	225	215	261	241	201.5	193.7
Ethiopia	168	127	135	146	198.4	266.4
Kenya	537	526	511	505	553.4	609.0
Libya	7243		6872	7007	8533.4	6391.3
Madagascar	282	295	279	274	284.4	272.2
Malawi	220	194	220	211	232.1	260.7
Mauritius	4705	3343	4057	4790	5585.6	6402.0
Rwanda	270	228	212	245	316.1	380.6
Seychelles	11254	9335	10679	10894	12230.1	13953.1
Somalia						
South Sudan						
Sudan	621	468	530	617	750.7	806.6
Swaziland	2238	2034	2153	2248	2416.2	2416.3
Tanzania	353	288	291	337	413.0	476.0
Uganda	296	211	255	291	358.3	404.9
Zambia	727	627	601	661	831.3	1004.2
Zimbabwe	563	653	693	570	402.4	444.5

Source: Computed by the authors based on data from World Development Indicators (2015).

For the IGAD region, Sudan is the driver of regional per capita GDP; the average is about USD 200 higher than that of the second ranked country (i.e. Kenya). Viewed as the pathway out of poverty and hunger, the importance of agriculture in achieving food security, increasing incomes and creating employment opportunities is well recognized in most countries. However, despite the importance of the sector, it has not necessarily received the investment commensurate with its potential contribution to economic growth. Under-investment in agriculture is often cited as one of the reasons behind the poor performance of the sector (Benin and Yu 2013). While it is obvious that private sector investment constitutes the largest share of investment into the agricultural sector, the role of public investment is important in providing critical public goods and services necessary to facilitate further private sector investment.

To correct the problem of poor agricultural performance, the heads of African states made commitments to implement CAADP which was endorsed in the Maputo Declaration of 2003. CAADP provides an integrated agriculture-led framework of development aimed at reducing poverty and increasing food security. It aims to achieve this by targeting an average annual agricultural growth rate of 6%. Upon committing to CAADP, the heads of state agreed to increase the share of budgetary allocation to agriculture to at least 10% annually. Although this commitment was made more than 10 years ago, only a few countries have managed to achieve it (Benin and Yu 2013).

This report provides an overview of the status of investment in the agricultural sector in COMESA, IGAD, EAC and ASARECA member states through the lenses of public expenditure, donor funding and foreign direct investment, and to some extent private sector investment. In addition, the report focuses on a select group of CAADP indicators, including progress in CAADP implementation, agricultural sector performance and trade, the food security situation, and poverty. The rest of the report is organized as follows: sub-section 1.2 of this chapter presents the methodology

used in collecting, collating and analysing data for this report. Chapter 2 provides a detailed discussion on the status and trends of public and private agricultural expenditure in the region. Chapter 3 provides information regarding the status and trends of selected CAADP indicators. Chapter 4 presents a summary and conclusions, and highlights a few policy implications of the findings of the report.

1.2 Data and methodology

The data and other information used in preparing this report was obtained from available national and international sources. The main public agricultural expenditure data was compiled by ReSAKSS (www.resakss.org/map) based on several sources, including the Statistics of Public Expenditure for Economic Development (SPEED) database developed by the International Food Policy Research Institute (IFPRI) and various national sources, including agriculture line ministries, national statistical agencies, ministries of planning and economic development, and ministries of finance and economic affairs. Additional information was sourced from the Organisation for Economic Co-operation and Development (OECD) creditor reporting system database on donor expenditures, and from the United Nations Conference on Trade and Development (UNCTAD) database on foreign direct investment (FDI).

Other data sources used include the International Monetary Fund (IMF), the United Nations Food and Agriculture Organization database (FAOSTAT), the United Nations Millennium Development Goals (MDG) statistics, the World Bank World Development Indicators and COMESA statistics database (COMSTAT). A review of literature was conducted to complement the scant data available for some indicators (especially private investments in agriculture) and provide explanations for the observed trends. Literature was sourced from both published and unpublished sources. Key references used were government publications, technical reports and research reports.

To estimate regional level values, the method for regional aggregation used by Benin et al. (2010) was adopted. Regional values were estimated using the weighted sum approach, an aggregate of the values of countries in the region or sub-region. Details for the different indicators are given in the technical notes in various tables. More detailed technical notes are available on the last page of this report.

2.   Prioritization of investments in agriculture

In this chapter various indicators of agricultural expenditure are presented and discussed. The chapter starts by providing a summary discussion on the prioritization of agricultural expenditures as presented in selected national investment plans; in the subsequent subsections, we present information on agricultural expenditures focusing on selected key indicators.

2.1 The prioritization of agricultural expenditure at regional level

COMESA, EAC and IGAD have initiated efforts to formulate regional CAADP compacts. IGAD adopted its regional CAADP compact in October 2013. COMESA held a validation workshop for its regional CAADP compact in September 2013, whereas EAC is in the advanced stages of developing its regional CAADP compact.

IGAD regional CAADP compact has identified four priority areas: a) the sustainable use and management of natural resources; b) the improvement of rural infrastructure and trade-related capacities for market access; c) the increase of agricultural production and improving food and nutritional security; and d) the support for institutional development and harmonization of policies. The priorities are derived from the CAADP Compact priorities, agricultural development strategies and national agricultural investment plans of individual member states.

The process of drafting a regional CAADP Compact for the EAC started in August 2011 and is yet to be concluded. Consultation with country-level stakeholders is underway and there is consensus among the member states that a regional compact would be useful. Ideally, it is expected that the regional compact will be based on the global document and will complement the CAADP Compacts of the member states.

COMESA adopted a regional agricultural policy in 2002 which recognizes a holistic approach to agricultural development in the region, attainable through investment in incentives, inputs, institutions and infrastructure. The overarching objective of the agricultural strategy adopted by COMESA is to achieve regional food security through rational agricultural production. Three strategic areas of intervention have consequently been identified:

a)   **Making agricultural markets efficient**: This is aimed at increasing access to food staples through enhanced trade in agricultural products. Priorities include improving market infrastructure, market information systems and institutional capacity.

b)   **Scaling-up adoption of productivity-enhancing technologies**: To address the declining agricultural productivity in the region COMESA has identified limited access to inputs, climate change, poor agricultural extension systems, low development of irrigation infrastructure, poor diversification of crop and livestock enterprises, and unsustainable farming systems as some of the constraints that need urgent attention.

c) **Enabling the policy environment**: COMESA recognizes that enhancing agricultural productivity and promoting trade in food staples, from a regional perspective, requires a harmonized set of enabling policies and procedures. Already there is progress in removing tariff and non-tariff trade barriers to ensure that the regional flow of agricultural products is dictated by market forces.

Of particular importance is the establishment of the Alliance for Commodity Trade in Eastern and Southern Africa (ACTESA) in 2009. ACTESA is a specialized agency whose aim is to boost regional trade in agricultural commodities by:

1.   Improving the policy environment and competitiveness of the staple crop sector;

2.   Expanding and improving market infrastructure for staple foods; and

3.   Integrating small-scale farmers in national, regional and global markets (COMESA 2010).

It is anticipated that ACTESA will contribute to increased agricultural productivity by focusing its efforts on building market information systems, providing services and enhancing smallholder commercialization in grains and pulses, oil seeds, roots and tubers, livestock, forest products, tree crops and agricultural input sub-sectors (COMESA 2010).

The COMESA CAADP Compact is based on the regional agricultural strategy. The regional compact seeks to add value to the various national CAADP Compacts and facilitate cross-country investments. Its objectives are to:

a)   Provide guidance to, and hasten the interventions that already exist at regional level for the realization of economic growth and food security. Such interventions include the facilitation of trade in food staples and livestock, value chain development and the harmonization of standards, such as sanitary and phyto-sanitary standards (SPS), across the member states;

b)   Develop and promote new regional policies and investments where gaps currently exist; and

C)   Clarify synergies and coordination among on-going and new regional initiatives in sectors that relate to agriculture-led growth and poverty reduction (COMESA 2013).

Individual countries in the different RECs have manifested their agricultural expenditure priorities in their respective national agricultural investment plans. Out of the 19 countries that make up the total membership of the three RECs, only 9 have finalized their investment plans, including Burundi, Djibouti, Ethiopia, Kenya, Malawi, Rwanda, Tanzania, Uganda and Zambia. The investment plans outline the priority areas of agricultural expenditure for the individual countries as discussed below.

Preparation of the EAC CAADP compact is at an advanced stage. The EAC CAADP Compact is based on the EAC Agriculture and Rural Development Strategy (EAC–ARDS), the EAC Food Security Action Plan (EAC–FSAP), EAC Climate Change Policy, Master Plan and Strategy and the Fourth EAC Development Strategy (2011/12–2015/16). The priority and focus areas identified in the current development strategy seek to: create a harmonized approach to the enhancement of food security in the East Africa region; increase agricultural (crops, livestock. forestry, and fisheries) productivity and make the East Africa region a net exporter of food; ensure that food is effectively sourced from areas of surplus to areas of deficit within the East African Community; deliberately improve the exploitation of non-conventional sources of food supply from crop, livestock, marine and freshwater fisheries, and forestry systems; improve physical access to food; establish structured trading systems for food commodities and products; improve food purchasing power of individuals, households and communities; improve capacity for emergency preparedness and response; improve nutrition and food safety; provide quality education, research, extension, and technological innovation; harmonize policies on the management and use of shared ecosystems; ensure sustainable animal and environmental health by addressing pest and disease incidences, including trans-boundary animal diseases; and address cross-cutting issues such as gender, HIV and AIDS, and transport and communication infrastructure.

2.2 The prioritization of agricultural investment at national level

National agricultural investment plans (NAIPs) are tools for prioritizing investment in the implementation of national agricultural strategies. They specify a clear roadmap that a country intends to follow in its pursuit of the CAADP targets, specifying the actual budget lines and sources of funding. Although the expenditure headings assume different names in different countries, they broadly target the four pillars of the CAADP: sustainable land and water management, increasing market access, increasing food supply and reducing hunger, and promoting agricultural research and extension. The essence is to revolutionize agriculture through modernization and commercialization for food security, poverty alleviation and national development. The investment plans are, therefore, often ambitious in most countries, allocating resources beyond the reach of national governments and calling for participation of development partners and the private sector. In Kenya, for instance, the government is expected to meet about 65% of the investment funds, while donors and the private sector are expected to meet 31% and 1% respectively, with a funding gap of USD 73.3 million. The reverse is true for Rwanda where the private sector is expected to fund about 59% of the investment budget, with the government and donors providing 41% of the funding. Overall, Kenya plans to spend more than three quarters of its agricultural budget on investment in two areas: increasing productivity, commercialization and competitiveness (36%), and sustainable land and natural resource management (42%). For Rwanda, intensification and development of sustainable production systems is allocated the bulk of the budget (77%) while institutional development is allocated the least (2.6%).

In Burundi, the six-year plan (2012–2017) requires USD 1.18 billion to implement, out of which only 40% is available, leaving a funding gap of 60%. While the plan indicates that the government will increase funding to agriculture, it is doubtful about whether the funding target will actually be met. Moreover, the investment plan is not explicit from where the additional funding will be obtained. Its main emphasis is on the promotion of sustainable agriculture. Perhaps the greatest challenge to the implementation of Burundi's agricultural investment plan is a lack of capacity as acknowledged in the country's proposal for funding from the Global Agriculture and Food Security Program (GAFSP) of March 2012.

The government of Uganda indicated that it would be allocating USD 122.65 million to the agricultural sector for the year 2010/2011, not specifying the sources of the said funds, and only showing that 60% of the funds would be allocated to the production and productivity program, 31.6% to the market access and value addition program, 5.4% to the enabling environment program and 3% to the institutional strengthening program. However, it is clear that the government is in negotiation with development partners to continue supporting investment in agriculture on the basis of a sector wide approach (SWAp) and sector budget support (SBS).

The government of Ethiopia, in its agricultural investment plan, projects a budget for agriculture and rural development amounting to USD 18 billion for the 10-year period of the plan (2010–2020). About USD 2.5 billion has already been committed for programs and projects. Of the additional USD 15.5 billion, 60% is expected to be raised by the government, while 40% is expected to come from development partners. Disaster risk management and food security are given prominence, receiving 66.1% of the planned sector investment funds. Other expenditure vote heads include natural resource management (15.4%); agricultural development (9.5%); natural resources and agricultural research (5.8%); agricultural marketing (2.4%) and support services (0.8%).

The Tanzania agricultural investment plan envisages agricultural investment of USD 5.30449 billion over the five-year period of the plan. About 71% of the funds will be channelled to agricultural productivity and commercialization. Other programs will be funded as follows: irrigation development (14%); policy and institutional reform and support (8%); rural infrastructure, market access and trade (4%); food and nutrition security (2%); and climate change mitigation and disaster management (1%). A funding gap of USD 2.876 billion is projected over the five-year period. It is expected that additional funding will be obtained from the government, development partners and the private sector to help close the gap.

The government of Malawi proposes agricultural investment of USD 1.75 billion for the period July 2010–June 2014. The funding gap in this budget is estimated at 35%. This budget translates to about 14% of the national budget being allocated to agriculture which is well above the CAADP target. The bulk of the allocation (85%) is consumed in only two thematic areas: food security and risk management, and sustainable agricultural land and water management. In terms of commodities, the agricultural sector budget is heavily biased towards maize production and productivity, taking up to 70% of the sector budget.

The total budget for Zambia's NAIP (2014–2018) is USD 2.73 billion, funded as follows: government and cooperating partners (78.4%); farmers (14.4%); and corporate private sector (7.2%). A funding gap of USD 605.23 million is envisaged. Expenditure vote heads include increasing production and productivity (46.1%); food and nutrition security and disaster management (24.2%); sustainable natural resource management (10.3%); market access and services development (9.4%); knowledge support systems (9.3%); and institutional strengthening (0.7%). Table 4 provides a summary of priority investment areas for different countries of the COMESA region which have already developed their post-CAADP investment plans. The priority areas are based on what has been identified and highlighted in the investment plans.

Table 4: Priority areas of agricultural investment for some countries in East and Central Africa

Country	Priority investment area
Burundi	Increase of crop and livestock production by raising productivity and ensuring optimal management of soil and water resources Strengthening of human resource capacities of national institutions and farmer organizations
Ethiopia	Disaster risk management and food security
Kenya	Promotion of sustainable land and natural resource management
Malawi	Food security and risk management Sustainable agricultural land and water management
Rwanda	Intensification and development of sustainable production systems
Tanzania	Production and commercialization Irrigation development, sustainable water resources and land use management
Uganda	Production and productivity program
Zambia	Sustainable natural resource management Agricultural production and productivity improvement Market access and services development Food and nutrition security and disaster risk management

Source: Compiled by the authors based on individual country investment plans 2014.

Basically, the priority areas fall within the CAADP pillars although, in some cases, different pillars are merged within broad expenditure areas. Table 5 highlights the allocation to different CAADP pillars by different countries, as contained in the different NAIPs.

Table 5: Planned expenditure allocation to different CAADP pillars

Country	Proportion of NAIP expenditure allocated (%)				
	Pillar I	Pillar II	Pillar III	Pillar IV	Cross-cutting issues
Ethiopia	70	7	22	Not explicit	-
Kenya	42	8	36	Not explicit	14
Malawi	37	5	47	6	5
Rwanda	77 (combined with III)	16	-	2	5
Tanzania	85	4	3	Not explicit	8
Uganda	69	25	Not explicit	Not explicit	6
Zambia	56	9	24	Not explicit	11

Source: Compiled by the authors based on information in the NAIPs 2014.

CAADP Pillar I is intended to take up the bulk of the planned expenditure. This is understandable, especially given that sustainable agriculture and natural resource management requires heavy investment, particularly for irrigation infrastructure and improved technologies. The allocations to CAADP Pillar IV (agricultural research) is a source of concern. Most countries lack an explicit allocation to the pillar, yet research is important for the modernization of agriculture and improvement of competitiveness. This could reflect the reliance of countries on donor funding for agricultural research.

2.3 Indicators of public expenditure in agriculture

The report examines government agricultural expenditure as a percentage of total government expenditure for evaluating progress towards the CAADP 10% target. It also examines government agricultural expenditure as a share of agricultural gross domestic product (GDP). The data covers 15 of the 19 countries in the three RECs.

Share of government agricultural expenditure in total government expenditure

Statistics indicate that in absolute terms, most countries in the ECA region have registered an increase in their budgetary allocations to agriculture. However, in many cases the amounts spent relative to the total national expenditures have stagnated or only increased marginally for most countries (see Figure 1).

In some cases, where some improvements (higher shares) are followed by lower shares, fluctuations have been observed, raising questions as to whether national governments are able or willing to sustain their commitments to the target of 10% budgetary allocation (Figure 1).

Of the countries included in Figure 1, only Ethiopia, Malawi and Zambia have met the CAADP target of at least 10%. Ethiopia has maintained this since 2005. Zambia has exceeded the target since 2001, only falling below it in 2005 and 2007. It is these countries that have drawn the regional average closer to 10%; the majority of the countries are allocating less than 5% of their national budgets to agriculture and rural development.

Overall, the ratio of public agricultural expenditure to government expenditure for the region, based on the sampled countries, had been on a downward trend in the pre-CAADP period. After the signing of CAADP a slight increase was recorded in the ASARECA and IGAD countries but the trend reversed soon after (see Figure 2).

Figure 1: Trends in percentage share of government agriculture expenditure total expenditure total government expenditure

Source: Calculation by the authors based on ReSAKSS compilations (ReSAKSS 2014).

Figure 2: Trends in agriculture expenditure to total expenditure by regional grouping
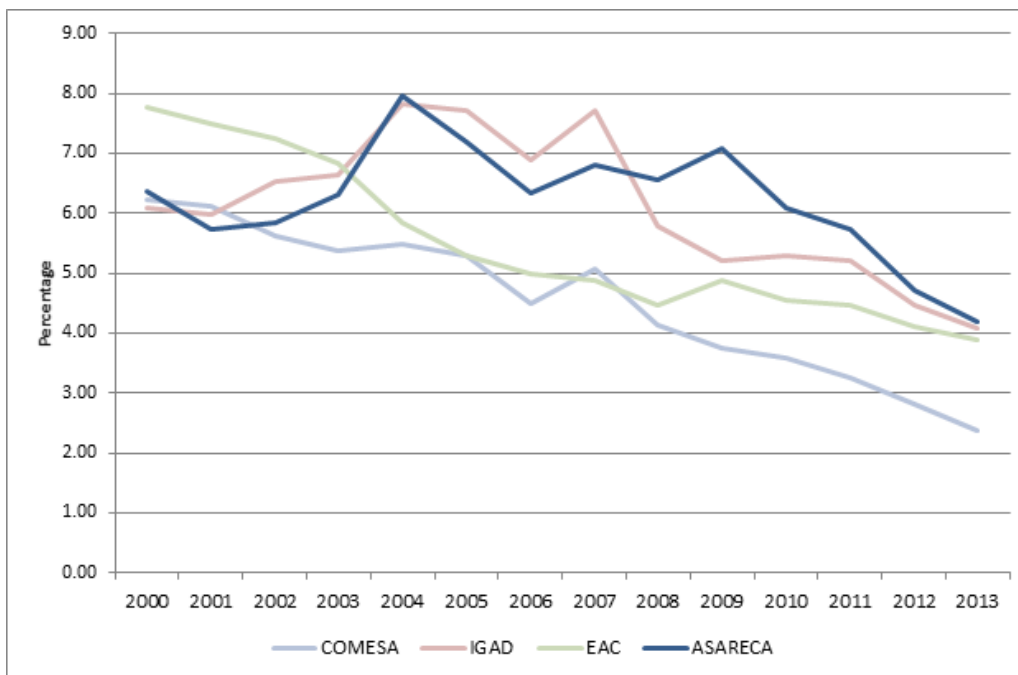
Source: Calculation by the authors based on ReSAKSS compilations (ReSAKSS 2014).

The observed aggregate downward trend in the overall agricultural expenditure at the regional level is a matter of concern. While a few individual countries like Ethiopia are performing better, the majority have declined.

Agricultural spending as a percentage of agricultural GDP

An alternative measure for the priority given to agriculture, other than agricultural expenditure as a share of total expenditure, is the ratio of agricultural expenditure to total agricultural GDP. This measure explicitly weights the size of the sector in the overall economy when comparing across countries (Omilola and Lambert 2010). Agricultural spending in COMESA as a percentage of agricultural GDP has averaged 10% or less over the period 1990–2010. In the EAC region, agricultural expenditure as a percentage of agricultural GDP remained more or less stagnant (2.0–3.3%) throughout the 20 years. IGAD experienced some improvements from a low share of about 0.9% in the period 1990–1995 to about 2.8% in the period 2003–2010. Agricultural expenditure relative to agricultural GDP in COMESA, EAC and IGAD remains lower than in the other sub-regions, such as the Economic Community of West African States (ECOWAS) and the Southern African Development Community (SADC) (Benin and YU 2013). Moreover, agricultural spending as a percentage of agricultural GDP has decreased in some countries in the region. In Kenya, agricultural spending as a percentage of agricultural GDP decreased from 5.7% in the period 1990–1995 to 3.4% in the period 2003–2010. During the same period, Burundi saw a decline from 3.5% to 0.5% and Malawi experienced a decline from 8% to 3%.

Official development assistance to agriculture

Official development assistance (ODA) is a term used by the Development Assistance Committee (DAC) of the Organisation for Economic Cooperation and Development (OECD) to measure aid. ODA is reported by OECD countries and represents financial flows provided by official agencies. It is administered for the promotion of economic development and welfare of developing countries. For most African countries ODA represents a significant portion of expenditure since they have inadequate in-country resources. It reflects the commitment of the development partners to support agriculture. Table 6 summarizes average ODA received by countries in the RECs considered from among the OECD countries.

Table 6 shows that Ethiopia received the highest amount of aid cumulatively from 2007–2012. Other important recipients of aid were Tanzania, Uganda and Kenya. Comoros, Djibouti, Eritrea and Swaziland received little aid.

Since 2000 Africa has experienced an increase in ODA consistent with recent commitments made by the donor community to increase aid to Africa (Benin et al. 2010). The annual average increase in total bilateral aid to all sectors has been about 6%, 8% and 11% in COMESA, EAC and IGAD respectively in the period 2002–2011(see Appendix 1c).

ODA to agriculture is low; in most countries the share of agriculture ODA to total ODA is less than 10%. In 2011 the share of agriculture ODA in total ODA was only about 5% in COMESA, 6% in EAC and 5% in IGAD. Encouragingly, positive trends are being observed in the share of agriculture ODA to total ODA. In the period 2006–2011, for instance, the share of agriculture ODA in total ODA grew by over 10% in all the RECs considered in this report. These growth levels were much higher than the average for 2002–2006, where a decline in the share of agriculture ODA was recorded. Many donors who have historically supported agriculture in the ECA region are committing to increase their expenditure on the agricultural sector to support countries. There are also several emerging donors investing in African agriculture, such as Australia, Brazil, China, India, Saudi Arabia, South Korea and Turkey. If more resources by the funding agencies are effectively directed to national priorities, such investments have great potential to contribute towards addressing challenges affecting the agricultural sector. Increasingly, the sector development partner working groups are working closely with national governments and with each other to coordinate and harmonize their interventions. This is a positive development that would be good to promote as it enhances chances of increasing the effectiveness of interventions.

Table 6: Total ODA to agricultural sectors by recipient countries (USD, millions)

Recipient country	Annual Average				Cumulative total
	2005–2007	2007–2009	2009–2011	2011–2013	(2005–2013)
COMESA	403.24	478.50	774.14	828.19	5735.84
ASARECA	246.10	330.99	614.02	798.52	4614.97
IGAD	147.94	196.06	369.46	459.86	2809.12
EAC	132.41	178.05	377.01	408.17	2534.19
Burundi	3.90	13.50	31.31	35.26	181.43
Comoros	1.75	0.07	1.05	1.41	11.27
DRC	16.12	24.41	42.51	55.26	307.45
Djibouti	0.19	0.26	0.43	1.93	7.32
Egypt	97.69	67.09	85.39	40.89	694.76
Eritrea	5.15	3.73	2.62	0.33	24.75
Ethiopia	44.76	60.06	119.00	234.71	1129.64
Kenya	62.63	56.29	139.76	107.01	903.72
Libya	3.66	1.03	0.94	0.83	15.23
Madagascar	38.28	37.20	17.44	14.66	221.35
Malawi	32.20	34.56	51.32	76.67	455.96
Mauritius	4.47	0.97	0.17	0.13	15.90
Rwanda	18.83	26.77	49.18	53.21	343.26
Seychelles	1.11	5.01	1.43	0.41	20.10
Somalia	0.49	1.66	7.16	14.15	49.53
South Sudan			44.43	64.76	194.27
Sudan	9.39	27.54	40.63	20.63	203.32
Swaziland	4.18	2.07	2.97	4.06	37.19
Tanzania	21.71	34.96	96.90	131.60	614.94
Uganda	25.33	46.53	59.87	81.10	490.84
Zambia	29.43	32.62	59.67	63.09	391.72
Zimbabwe	8.35	40.87	71.43	40.66	317.82

Source: Compiled by authors based on data obtained from the OECD database (2015).

Foreign direct investment in agriculture

Foreign direct investment (FDI) is one of the sources of finance for economic development including agriculture. In addition to being a source of capital, FDI has other potential benefits to host countries which include technology transfer, new management skills, market knowledge, and job creation (Kinuthia 2010). Overall, FDI may contribute towards bridging the investment gap and have an impact on development, but government involvement to guide the investment and strengthen smallholder farmers in the sector remains crucial (Heumesser and Schmid 2012). THe goal here is to discuss trends in agriculture FDI due to its importance in contributing to investments in agriculture. However, because systematic data on agriculture FDI is not available, the report approaches its analysis in a phased manner to provide an idea of the amount of FDI in agriculture. It starts with analysing trends in total FDI, then uses available literature to highlight the proportion of the total FDI going to agriculture.

Total FDI

All the countries and regional groupings discussed in this report witnessed very high growth in total FDI in the recent period compared to the levels in the early 1990s. UNCTAD and COMESA data sets indicate that total FDI has increased significantly in the past two decades in COMESA, ASARECA, EAC and IGAD compared to the levels in the early 1990s (Figure 3 and Appendix 1b). COMESA FDI rose from USD 1.1 billion in the period 1990–1995 to USD 16 billion in 2005–2011. Annual average percentage changes (1990–2011) for COMESA, ASARECA, EAC and IGAD were about 1.2%, 1.3%, 1.2% and 1.3 % respectively (Appendix 1b, Table 1). Prior to 2008, for instance, COMESA FDI had risen to a peak of USD 24 billion in 2007. A notable decline in FDI levels was recorded in the latest period (2005–2011) in all regions but more so in COMESA. The recent global economic and financial crisis and political unrest in Kenya, Libya and Egypt largely accounted for the observed decline. For Egypt in particular, 2011 witnessed a retreat in net investments, a decline in greenfield FDI as well as a decline in FDI in the real estate sector (COMESA 2012).

As seen in Figure 3, the FDI trends have been consistently positive, suggesting that without the unique circumstances discussed above, there would have been a net positive growth in FDI inflows. The increase in FDI has largely been attributed to efforts being undertaken to improve the investment climate by countries in the ECA region (MAFC and FAO 2008).

Figure 3: Total inward FDI into COMESA, ASARECA, IGAD AND EAC countries (1990–2013 (USD at current prices and current exchange rates in millions).
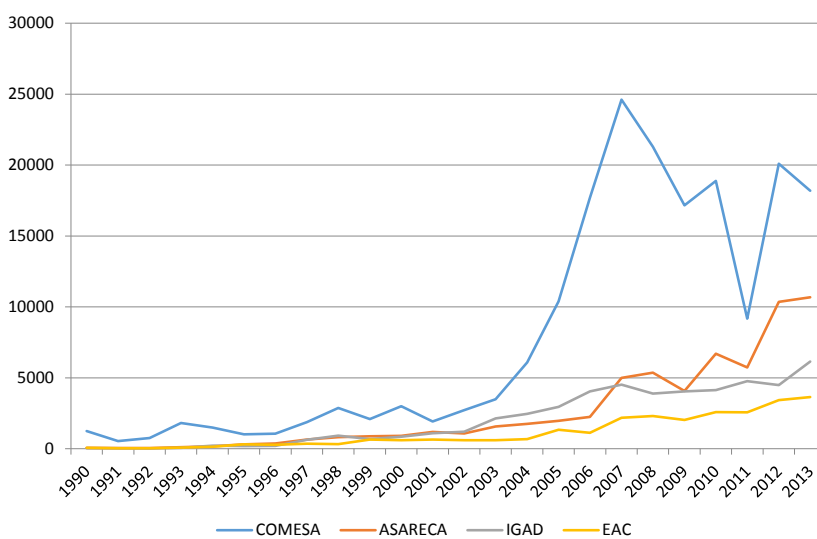
Source: Calculation by the authors based on data from UNCTAD (2015).

Agriculture FDI

Very little information is available on FDI to the agricultural sector. Available data on FDI to agriculture are generally incomplete due to poor reporting, collection and dissemination efforts, coupled with secrecy due to the sensitive nature of most investments (FAO 2012). This section is mainly informed by review of various literature sources. Although the majority of countries in the ECA region have experienced a large surge in total FDI, the agricultural sector continues to be a minor beneficiary of the total FDI inflows (see Table 7). Shares of agriculture FDI to the total inward FDI flows have been less than 20% in many countries (MAFC and FAO 2008; FAO 2012). The largest sectors for FDI in the majority of countries in the ECA region have been in transportation, tourism, communication (especially telecommunication since the 1990s), construction (for instance real estate) and manufacturing (UNCTAD 2006; Ogalo 2011, AfDB et al. 2010; UN-OSAA and NEPAD-OECD 2010 and MAFC 2013). In some countries, FDI is directed towards the extraction of natural resources, such as oil and gas and minerals (UN-OSAA and NEPAD-OECD 2010). Trends are, however, changing; opportunities to increase FDI to agriculture are emerging. Many countries in the ECA are increasingly dedicating efforts towards providing a range of interventions to attract FDI flows (in addition to local private investments) to agriculture to spur economic growth. Examples of the incentives[1] include the:

1. Adoption of liberal policies including the removal of price controls, exchange controls, and restrictions to both domestic and foreign borrowing, privatisation etc.

2. Enactment of new investment laws and regulations that aim to attract and reassure foreign investors. For instance, investors are entitled to duty free importation of farm implements; they can also access loans at discounted rates. Countries are simplifying procedures for the approval of foreign investment applications in agriculture.

3. Leasing of land for agriculture investments by private investors (both local and international).

4. Provision of tax incentives (such as zero rating of capital goods and farm inputs, including farm implements, fertilizer, pesticides and herbicides in addition to VAT exemptions on agricultural exports.

5. Strengthening or creation of specific agencies to spearhead FDI. For instance, Tanzania has strengthened the Tanzania Investment Centre (TIC), while Kenya has the Investment Promotion Council.

6. Implementation of measures to enhance social, economic and political stability.

7. Stepping up of travel by heads of state to other countries to solicit for FDI or alternatively hosting delegations of foreign governments to invite them to invest in their countries.

8. Support and encouragement of partnerships (between large-scale investors and smallholder farmers) in contract farming.

These efforts have been especially evident once countries committed to implementing CAADP, which emphasizes inclusiveness as one of its core principles. Many African countries, including countries in the ECA region, are increasingly receiving attention from foreign investors in the agricultural sector (UNCTAD 2006; Weissleder 2009; UN-OSAA and NEPAD-OECD 2010; Rakotoarisoa 2011). The improvements in the levels of agriculture FDI observed in the recent past in Ethiopia, for instance (see Table 7), have largely been attributed to government measures to attract foreign investors in agriculture (Weissleder 2009; USAID 2012). FDI in the agricultural sector increased from USD 135 million in 2000 to USD 3500 million in 2008 (Weissleder 2009). One of the examples of incentives is the support provided by the Ethiopian government to the horticultural industry over the past decade where the new export projects receive 70% loans at interest rates of 12% (USAID 2012).

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[1] Sources: UNCTAD (2006); Weissleder (2009); UNCTAD (2010); Malunda and Musana (2012); National Bank of Rwanda (2012); USAID (2012).

Table 7: Total FDI to agricultural sectors of selected countries

Country and references	Share of agriculture FDI, total FDI	Investment areas
Burundi (UNCTAD 2010; http://www.investburundi.com/fdi-in-burundi)	No data	Coffee industry
Ethiopia (Weissleder 2009; Ogalo 2011; USAID 2012)	Agriculture FDI stands at 32% of the total Ethiopian FDI inflows. This level has only been achieved recently; previously, FDI inflows to agricultural sector were rather low.	Agribusiness, horticulture (fruits, vegetables and flowers), meat production, biofuel
Kenya (Kinuthia 2010; Ogalo 2011; Njoroge and Okech 2011)	There is no data on the amount of FDI into the sector. Using the number of enterprises in the agribusiness sector as a proxy indicator, the share is about 19%*.	Horticulture (fruits, vegetables and flowers), sugar cane, agro-processing
Malawi	No data	Tobacco, timber (commercial logging), cotton
Rwanda (UNCTAD 2006; Malunda and Musana 2012; National Bank of Rwanda 2012)	About 8%, based on the foreign private investment census report 2011 (National Bank of Rwanda 2012)	Tea and horticulture (fruits, vegetables and flowers)
Tanzania (Msuya 2007; MAFC and FAO 2008; Biswalo 2011; Ogalo 2011; FAO 2012)	Biswalo (2011) indicates that the share is about 2.1%, while Msuya (2007) and Ogalo (2011) show that it is about 7% of total FDI inflow (translating to an average of less than 5%).	Sugar, tea, sugar, tobacco, floriculture, vegetable production, grapes, biofuels
Uganda (Ogalo 2011; FAO 2012)	About 20%	Coffee, horticulture (mainly floriculture) and fish
Zambia (UNCTAD 2006)	No data	Agribusiness, horticulture (fruits, vegetables and floriculture), cotton, maize, tobacco and sugar

Notes: * Based on the distribution of EPZ enterprises 2011 (UNCTAD 2013).

** These factors are also driving domestic private investments in agriculture.

Despite the benefits that increased agriculture FDI might bring, concerns regarding the likely negative impacts of increased foreign investment in African agriculture still persist. The recent trend has been one of farmland acquisitions by foreign investors through long-term leases of use rights through the public sector rather than outright purchases or ownership (Deininger 2011; Ogalo 2011). Such acquisitions are being termed as 'land-grabbing' (Cotula et al. 2009; FIAN International 2010). There are growing concerns about the potential of these acquisitions to deny smallholder farmers (including poor women and young people, pastoralists, indigenous communities and other vulnerable groups) access to land and thereby negatively affecting their food security and livelihoods (Biswalo 2011; Ogalo 2011; FIAN International 2010). It is imperative that measures be taken to minimize or mitigate potential threats by agriculture FDI on land rights and livelihoods of smallholder farmers.

Local private sector investment in agriculture

There is limited data on private investment in agriculture. The smallholder farmers are collectively the largest single group of private investors. However, data on the size of their investment is not available. The data challenge for local private sector investments is perhaps even greater than was experienced with FDI. Our discussions here draw mostly on literature from varied sources. The literature indicates that there is a growing trend in the involvement of local private sector actors in agriculture in eastern, central and southern Africa (IDEA Project 2002; Mhlanga 2010; Malunda and Musana 2012; MAFC 2013; Kakuba et al. 2013). Increasingly, individuals (both in rural and urban

areas), organizations (faith-based organizations and others) and groups (membership groups such as savings and credit organizations [commonly known as SACCOs], women's groups, men's groups and youth groups) are investing in agriculture. Private investors in agriculture are mainly constituted of family businesses, small and medium-sized enterprises (SMEs) and some large companies and cooperatives. Private investments in the agricultural sector are mainly dedicated to production of cash crops (such as coffee, tea, sisal, sugar and vanilla), high-value crops (fruits and vegetables) and non-traditional crops such as cut flowers. Private sector activities are also directed at agro-processing (for value addition, including food processing), transport and marketing (Mhlanga 2010). The production of agricultural products for export markets is on the rise, especially in Ethiopia, Kenya, Rwanda, Tanzania and Uganda (IDEA Project 2002; Weissleder 2009; Mhlanga 2010).

Various factors are driving the growth of private sector investments in agriculture in the ECA region as follows:

1.   Improvements in economic and political stability

There has been a general improvement in factors influencing investments such as macro-economic stability, development of infrastructure, political stability and increased access to natural resources in many countries in the region. These factors have led to improvements in the business environment (Mhlanga 2010).

2.   Expanded markets resulting from growth in populations, urbanization and incomes

Demand for food is growing rapidly due to high population growth and increased urbanization. At the same time, the middle class is growing in the majority of the countries; this population segment has more purchasing power than the low-income groups and can afford products from local markets, including supermarkets. Consequently, there has been a rapid mushrooming of supermarkets and hotels in the ECA region, which have become important markets for the agricultural produce of private investors. They are increasingly encouraging private investment in agriculture through contract farming initiatives (Strom and Hoeffler 2006; Barret 2012).

3.   Expanded markets due to reductions in tariff and non-tariff barriers

Variations in harvesting seasons across borders due to differences in climatic conditions and in comparative advantage in producing agricultural products makes regional agricultural trade inevitable. In the past it was more difficult to trade across borders because of trade restrictions. This situation is rapidly changing because countries are increasingly encouraging trade liberalization by making efforts to reduce tariff and non-tariff barriers to trade. These initiatives are resulting in an expanded regional market for agricultural products.

4.   A slow but generally upward trend in lending to the agricultural sector by commercial banks

Commercial bank lending to the primary agricultural sector has historically been very low, accounting for less than 10% of the commercial bank credit in a number of sub-Saharan African countries (Mhlanga 2010; Kakuba et al. 2013; Curtis 2013). Countries in eastern and central Africa are among those with low levels of lending to agriculture as seen in the examples provided in Tables 2.5 and 2.6. The risky nature of rainfed agriculture and lack of collateral by poor farmers have made commercial banks reluctant to provide loans for agriculture-related activities. This trend is, however, slowly changing; various governments and development partners are implementing interventions to stimulate increased lending to the sector. These interventions can be exemplified by projects tailored to donate funds to serve as loan guarantees for poor farmers or to provide crop or livestock insurance (Mhlanga 2010; Curtis 2013; Kakuba et al. 2013). Although these interventions are still few in number, it is crucial to promote them further. As a result of such investments, commercial banks and other financial institutions are responding by developing loan packages for the. The number of commercial banks involved in providing loans to agricultural projects is rising (see Table 10). There are a growing number of microfinance institutions (SACCOs and community banks) supporting agriculture. Also several other organizations, such as financial NGOs and faith-based organizations, are involved in rural credit operations.

Table 8: Share of commercial bank lending to the agricultural sector 1995–2008 (percentage of total portfolio)

Country	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008
Kenya	–	6.57	6.01	6.07	6.2	6	6.25	5.38	4.08	3.6
Malawi	28.62	7.55	8.63	3.23	10.4	12.11	9.9	15.25	16.27	14.6
Uganda	22.54	10.71	8.57	11.14	9.69	11.07	10.05	9.13	6.67	5.88
Tanzania	8.1	6.3	9.6	17.1	12	13.9	12.4	13.94	11.01	12.35

Note: Although the share of Malawi seems to be higher than the other countries, it should not be concluded that the country has more lending to agriculture than the other countries, because the absolute amount of agricultural lending in this country is a lot lower than the other countries in the table (see Table 9). Source: FAO (2010).

Table 9: Value of commercial bank lending to the agricultural sector (select countries) 1995–2008 (USD million)

Country	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008
Kenya		320.4	290.93	322.99	360.78	388.83	455.87	465.06	436.8	381.54
Malawi	22.91	10.5	8.21	1.47	9.84	16.89	14.24	31.97	42.76	47.17
Uganda	55.91	40.05	30.42	40.55	41.34	60.82	65.61	72.9	74.11	103.1
Tanzania						141.05	152.14	231.37	289.48	422.24

Source: FAO 2010.

Table 10: An example of how the number of banks lending to agriculture has increased

	Early 2000s	Examples of other banks that have since started supporting agriculture
Kenya	Mostly Equity Bank	Cooperative Bank, Kenya Commercial Bank, Family Bank
Tanzania	Mostly Cooperatives Rural and Development Bank (CRDB)	Tanzania Investment Bank, National Microfinance Bank (NMB), Standard Chartered Bank, Exim Bank, Kagera Farmers' Cooperative Bank, Stanbic Bank
Rwanda	Rwanda Development Bank, Banque Commerciale du Rwanda (BCR), now I & M Bank (Rwanda)	Bank of Kigali

Source: compiled by the authors.

5.   Growing number of agro-processors and agro-exporters

For many decades the ECA region was lagging behind as far as agro-processing and agriculture value addition is concerned. Recently, this trend has been slowly changing. There are many private sector actors involved in agro-processing and value addition activities, such as the production of vegetable oil, potato chips, tomato paste and cereal milling. By 2005, for instance, Kenya had more than 30 vegetable oil refining companies (EPZA 2005). These industries are good markets for vegetable oil crops such as cotton, coconut, cashew nuts, groundnuts, sunflower, soy bean and others. Agro-processing industries stimulate further investment in agricultural production to cater for the increased demand by agro-processing companies.

At the same time, the ECA region is also witnessing increased growth in the export of agricultural products. In the past, the region mainly exported traditional export crops (such as sisal, coffee, tea, pyrethrum and cardamom). Recently, the trend has been changing; there are many additional crops for export, particularly fruits and vegetables. As a result, an increasing number of private investors are growing crops for export.

Agricultural capital stock

Agricultural capital stock (ACS) is obtained by multiplying the quantity of physical assets in agriculture by the unit price. It encompasses the following items: land development, livestock (assets and inventories), machinery and equipment, plantation crops and livestock structures. Low capital stock per worker translates to low productivity per

agricultural worker, which is a commonly observed in low-income countries around the world, and more so in eastern and central Africa region. There is strong positive correlation between government expenditure on agriculture and growth in ACS (Anriquez et al. 2009). It is, therefore, not surprising that ACS has been low in the ECA region. For agricultural labour productivity to grow, the amount of capital available for each worker (the capital-labour ratio) must grow. Available data, however, indicates that the amount of ACS is quite low in the RECs discussed in this report.

Figure 4 shows that ACS has been increasing, although at rates below 4% per annum, for the 1975–2005 period across the four regions covering the countries under consideration. Growth of ACS was relatively high in the period 1990–1995. It stood at 13.7% per annum in IGAD, 6.8% in COMESA and 0.7% in EAC. Notably, three of the five EAC countries recorded negative growth over this period: Rwanda -5.7%, Burundi -0.7%, Kenya -0.4%, Uganda 1.5% and Tanzania 1.9%. On the other hand, IGAD member countries, other than Kenya and Uganda, grew by -0.1%, 1.9%, and 7.5% in Somalia, Djibouti and the former Sudan respectively. Another notable feature was that investment grew at a reducing rate for the 1975–1990 period, but started to grow increasingly from 1995 through to 2005.

Figure 4: Annual rate of growth in agricultural gross capital stock
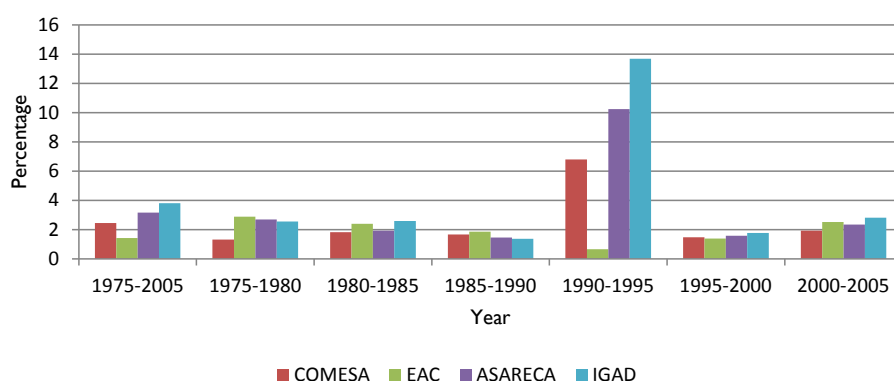
Source: Computed by the authors using data from FAOSTAT 2013.

ACS growth has lagged behind growth of the agricultural working population (Figure 5) leading to falling capital/labour ratios (Table 11). Figure 5 illustrates that the total economically active population in agriculture had also grown positively. Again, just like in capital stock, the period 1990–1995 had recorded the highest growth in all the regions. However, a comparison between the two figures (rate of growth of capital stock and population) illustrated that population grew at a higher rate than the agricultural capital stock. Unlike the capital stock growth, the population grew progressively from 1980 through 1995, but the rates stagnated between 1995 and 2005. The capital-labour ratio for the period 1980–2005 confirms that ACS had increased at a slower rate than the total economically active population in agriculture for most of the countries considered.

Figure 5: Rate of growth of total economically active population in agriculture (%).
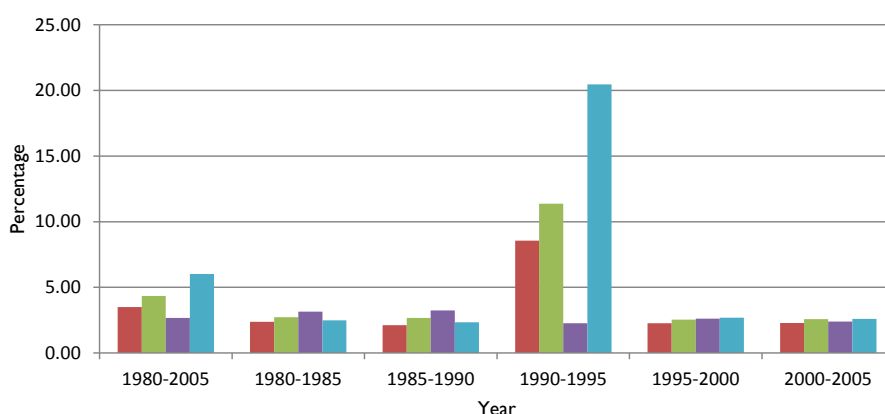
Source: computed by the authors using data from FAOSTAT 2013.

Further, Table 11 demonstrates that the population grew at a higher rate than that of ACS. For the whole 1980–2005 period, the ratio was least in EAC at 0.5, followed by IGAD, ASARECA and COMESA at 0.7, 0.8 and 0.8 respectively. These numerical quantities indicate how many times one quantity is greater than the other; for example, capital growth rate in EAC is half of growth of labour force in agriculture for the period between 1980 and 2005. This confirms that capital stock had increased at a slower rate than the total economically active population in agriculture for all of the regions. However, in 2000–2005, IGAD and EAC had growth in capitals exceed the growth of labour with the ratio standing at 1.1 in both regions.

Table 11: Ratio of capital growth rate to population growth rate

Region	Indicator	1980–2005	1980–1985	1985–1990	1990–1995	1995–2000	2000–2005
	Capital growth (%)	2.7	1.8	1.6	6.9	1.5	1.9
COMESA	Labour growth (%)	3.5	2.4	2.1	8.6	2.3	2.3
	Ratio	**0.8**	**0.8**	**0.8**	**0.8**	**0.6**	**0.8**
	Capital growth (%)	3.5	1.9	1.5	10.2	1.6	2.3
ASARECA	Labour growth (%)	4.4	2.7	2.7	11.4	2.5	2.6
	Ratio	**0.8**	**0.7**	**0.5**	**0.9**	**0.6**	**0.9**
	Capital growth (%)	4.3	2.6	1.4	13.7	1.8	2.8
IGAD	Labour growth (%)	6.0	2.5	2.3	20.5	2.7	2.6
	Ratio	**0.7**	**1.0**	**0.6**	**0.7**	**0.7**	**1.1**
	Capital growth (%)	1.3	2.4	1.9	0.7	1.4	2.5
EAC	Labour growth (%)	2.7	3.1	3.2	2.3	2.6	2.4
	Ratio	**0.5**	**0.8**	**0.6**	**0.3**	**0.5**	**1.1**

Source: Computed by authors using data from FAOSTAT 2013

3. Trends of selected agriculture and rural development indicators

This section summarizes trends of the key agriculture and rural development indicators based on the standard CAADP indicators as per the CAADP M&E framework (Benin et al. 2010). The indicators on the status of CAADP implementation for the different RECs are discussed.

3.1 Progress in implementation of CAADP

Countries in the RECs discussed in this report are at various stages of CAADP implementation. Some countries are yet to sign CAADP compacts, while others have signed and have also developed CAADP investment plans (see Table 12). Technical reviews of the investment plans have been undertaken in Kenya, Burundi, Uganda and Malawi (see ReSAKSS website). Although countries are making progress in implementation, some challenges have also been recorded. These consist of a lack or poor quality of involvement of non-state actors, delays in implementation of CAADP processes, a lack of adequate alignment with existing national agriculture initiatives and poor coordination among CAADP stakeholders (Kimenyi et al. 2012).

At regional level, various economic groupings have made efforts to develop regional CAADP compacts. IGAD has already signed a compact, while COMESA is at an advanced stage in developing its compact. In October 2012, COMESA adopted a roadmap on how to move towards a regional compact and investment plan (Rampa and Seters 2013). A validation workshop on the regional COMESA CAADP compact was held on 26–27 September 2013. Enhancement of the document building on the recommendations and comments from the stakeholders is ongoing.

The EAC agriculture ministers mandated the EAC Secretariat to start the regional CAADP compact process in August 2011 (Rampa and Seters 2013). To deliver on this mandate, the secretariat developed a roadmap for the regional CAADP process in August 2012, which has been approved by the EAC Council of Ministers. The secretariat is implementing a project supported by the NPCA on the development of a regional CAADP compact stock-taking report. The activity includes preparation of a draft regional compact framework.

Table 12: Status of implementation at regional and country level compacts

	Date compact signed	Investment plan (IP) ready	IP review date	Business meeting held
COMESA	Not yet			
EAC	Not yet			
IGAD	September 2013			
Rwanda	30–31 Mar 2007	Yes	4–8 Dec 2009	8–9 Dec 2009
Ethiopia	27–28 Sept 2009	Yes	10–16 Sept 2010	6–7 Dec 2010
Burundi	24–25 Aug 2009	Yes	22–31 Aug 2011	14–15 Mar 2012
Uganda	30–31 Mar 2010	Yes	2–10 Sept 2010	16–17 Sept 2010
Malawi	19 Apr 2010	Yes	10–16 Sept 2010	28–29 Sept 2010
Tanzania	6–8 Jul 2010	Yes	20–31 May 2011	9–10 Nov 2011

	Date compact signed	Investment plan (IP) ready	IP review date	Business meeting held
Kenya	23–24 Jul 2010	Yes	6–14 Sept 2010	27 Sept 2010
Swaziland	3–4 Mar 2010	Draft compact	Not yet	Not yet
Zambia	18 Jan 2011	Yes	Not yet	Not yet
DRC	18 Mar 2011	Yes	8 Nov 2013	Not yet
Djibouti	19 Apr 2012	12 Nov 2012	Not yet	Not yet
Seychelles	27 Sept 2012	Not yet	Not yet	Not yet
Zimbabwe	22 November 2013	Yes	Not yet	Not yet
Sudan	29 July 2013	Not yet	Not yet	Not yet

Source: Adopted from Bwalya (2012) and supplemented by information from country CAADP teams and the CAADP website (http://www.nepad-caadp.net).

3.2 Agricultural GDP growth rate

Average agricultural GDP growth rates for 1990–2012 stand at about 2.5% in COMESA, 2.8% in EAC and 3.1% in IGAD (see Table 13). At country level, agricultural GDP growth rates range between 2% and 4% in the majority of countries (Comoros, Kenya, Eritrea, Egypt, Madagascar, Uganda, Sudan, Tanzania and Zambia). During the same period (1990–2012), GDP growth rates higher than 4% are only recorded in Malawi, Ethiopia and Rwanda, while levels lower than 2% are recorded in Burundi, DRC, Djibouti, Seychelles, Somalia, Swaziland and Zimbabwe.

A generally fluctuating pattern is observed on the levels of agricultural GDP over time. During the period 1995–2000, there were higher growth rates than in the previous period (1990–1995) in all RECs. Declines were, however, recorded in the 2000–2005 period. Agricultural GDP growth levels for the period 2005–2010 in COMESA, EAC and IGAD were 2.6%, 2.6% and 3.6% respectively. In 2012, IGAD levels declined to about 1.3%, while COMESA levels declined to 2.1%. The drought that occurred in the Horn of Africa must have caused a serious dent to the gains in agricultural GDP at country and regional levels, although data that would clearly show that trend are incomplete. The 2011 drought in the Horn of Africa was reported to be the worst in 60 years. It affected Djibouti, Ethiopia, Kenya, Somalia and Uganda. Overall, at regional level, agricultural growth rates are still below the CAADP target of 6%.

Figure 6: Agriculture value added, annual average growth (1990–2012).
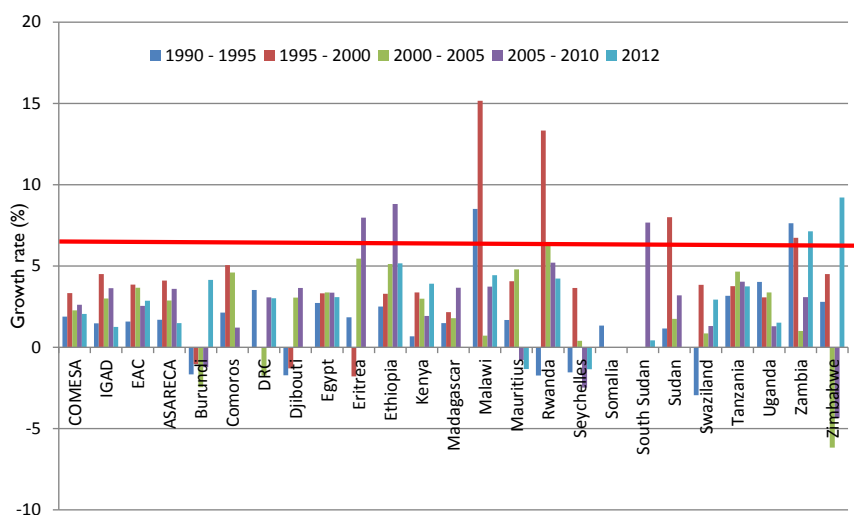
Notes: Libya, Somalia and South Sudan were omitted due to missing values. Regional and economic aggregate values are calculated as weighted summations, where a country's agricultural GDP as a share of regional agricultural GDP is used as a weight. Sudan includes South Sudan because the data has not been disaggregated for the two countries.

Source: Calculation by the authors based on data from World Bank (2013).

At country level, very few countries have achieved the 6% CAADP growth target at any one period of time over the years considered in the analysis. These are Ethiopia, Eritrea, Malawi, Rwanda, Zambia and Zimbabwe (for the 2012 period).

3.3 Overall GDP growth

All regional groupings discussed in this report have experienced positive GDP growth since the 1990s (see Table 13). Annual average GDP growth rates (1990–2012) have been as follows: COMESA (3.8%), EAC (4.5%), ASARECA (4.0%) and IGAD (4.7%). There are wide variations in economic growth over time. Between 1990 and 1995 economies grew very slowly; all regional groupings experienced GDP growth of less than 3%. Faster growth was recorded in the subsequent periods (1995–2000, 2002–2005 and 2005–2010). Growth in 2005–2010 was the highest since the 1990s. Countries that influenced the high growth recorded in this period were Ethiopia, Libya, Malawi, Rwanda, Sudan, Tanzania, Uganda and Zambia. These recorded more than 5% GDP growth during this period.

Table 13: GDP growth, annual average % (1990–2012)

Country	1990–2012	1990–1995	1995–2000	2000–2005	2005–2010	2010–2012
COMESA	**3.76**	**1.75**	**3.93**	**3.95**	**5.91**	**3.39**
IGAD	**4.72**	**2.63**	**4.85**	**5.24**	**6.77**	**1.54**
EAC	**4.51**	**2.69**	**4.51**	**5.08**	**6.29**	**5.72**
ASARECA	**3.95**	**0.65**	**4.17**	**5.19**	**6.58**	**2.76**
Burundi	0.87	-1.41	-2.44	1.69	3.90	3.99
Comoros	1.78	1.59	1.83	2.56	1.80	2.41
DRC	-0.57	-7.03	-3.12	2.45	5.97	7.07
Djibouti	0.43	-3.07	-0.94	2.55	4.36	
Egypt	4.63	3.79	5.11	3.84	5.90	3.04
Eritrea	3.51	12.51	3.11	1.66	-0.11	5.96
Ethiopia	5.60	1.56	4.91	6.52	10.61	8.58
Kenya	3.08	2.04	2.54	3.14	4.88	4.91
Libya	4.32		3.70	4.23	5.54	
Madagascar	2.32	0.29	3.48	2.96	3.23	1.83
Malawi	4.20	3.88	6.06	1.92	6.38	4.26
Mauritius	4.86	5.27	5.55	4.06	4.55	4.87
Rwanda	5.22	-3.70	14.43	7.99	8.31	7.81
Seychelles	3.68	3.69	5.10	0.57	5.60	5.01
Sudan	5.42	3.37	6.38	6.42	6.25	-3.31
Swaziland	3.50	6.06	3.18	2.05	2.46	0.22
Tanzania	5.11	2.67	4.19	6.70	6.96	6.78
Uganda	6.98	6.95	6.97	6.11	7.89	5.30
Zambia	3.02	-1.15	1.88	4.60	6.24	7.26
Zimbabwe	-0.91	2.32	2.03	-6.50	-2.48	8.00

Notes: Regional estimates for COMESA, EAC, ASARECA and IGAD are computed using country GDP as a share of regional GDP. Sudan includes South Sudan because the data has not been disaggregated for the two countries.

Source: Calculation by the authors based on World Bank (2012).

3.4 Per capita GDP

Similar to GDP growth, COMESA, EAC, ASARECA and IGAD also experienced growth in per capita GDP. Overall, all sub-regions experienced a positive trend in annual average growth of per capita GDP in the period between 1990 and 2012 (Figure 7 and Appendix 2). Annual average per capita GDP levels in 2010–2012 were well above those of 1990–1995. The COMESA average is much higher than the other sub-regions due to the influence of Egypt that has a high level of per capita GDP. Other countries in the COMESA region that had higher per capita GDP levels than the regional average were Djibouti, Libya, Mauritius, Seychelles and Swaziland.

Figure 7: Trends in per capita GDP (1990–2013).
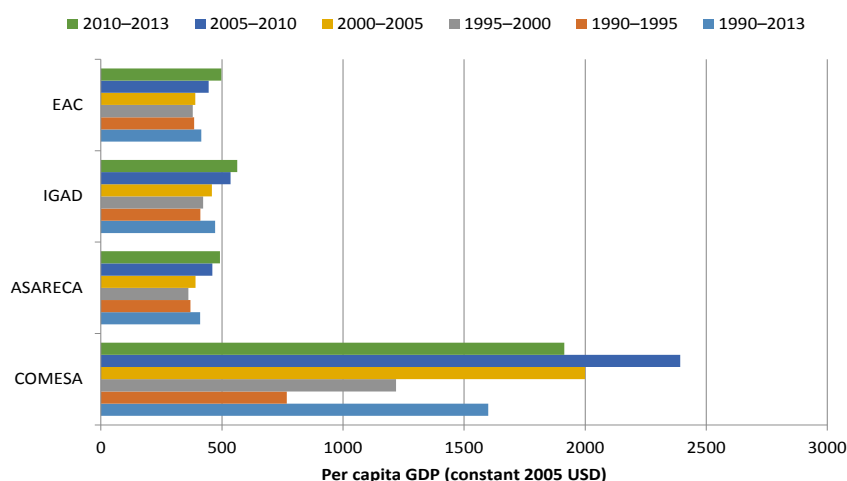
Source: Calculation by the authors based on ReSAKSS compilation (ReSAKSS 2014).

3.5 Agricultural trade

Three indices of agricultural trade are presented in this section. They provide an overview of trade position of RECs and their members as either net importers or net exporters.

Per capita agricultural imports

This index is a ratio of the value of total agricultural imports to the population size. Table 14 summarizes per capita agricultural imports at REC and country levels. Among the RECs, COMESA imports almost three times more than EAC and IGAD. The higher average per capita imports in COMESA is driven mainly by Libya. Other countries in COMESA with high per capita agricultural imports are Djibouti, Egypt, Mauritius and Seychelles.

In all three sub-regions, per capita agricultural imports increased in the period 2005–2010, up from the previous 2000–2005 period. Although increases have been recorded in the past, the recent increases are conspicuously high (COMESA 90.16%, IGAD 99.45% and EAC 92.11%), perhaps due to the recent food price crisis in 2007–2008.

Table 14: Per capita agricultural imports

Country	Annual avg. level 1990–2010	Annual avg. level 1990–1995	Annual avg. level 1995–2000	Annual avg. level 2000–2005	Annual avg. level 2005–2010
COMESA	39.98	33.20	32.09	31.51	59.92
IGAD	10.12	5.31	7.46	9.07	18.09
EAC	11.39	7.24	9.70	9.56	18.27
Burundi	6.44	6.24	4.99	5.36	9.16
Comoros	73.08	59.46	60.40	61.20	109.28
DRC	12.00	8.35	7.96	9.74	21.00
Djibouti	319.88	181.43	227.92	258.66	581.34
Egypt	187.01	114.49	151.33	144.28	321.77
Eritrea	25.65	17.06	21.85	32.68	28.94
Ethiopia	8.19	5.11	4.01	6.86	14.37
Kenya	24.81	15.25	20.23	20.08	41.82
Libya	4828.90	2991.32	3359.04	4332.02	8341.69
Madagascar	11.95	6.96	7.82	10.84	22.54
Malawi	15.64	15.79	9.15	12.35	22.75

Country	Annual avg. level 1990–2010	Annual avg. level 1990–1995	Annual avg. level 1995–2000	Annual avg. level 2000–2005	Annual avg. level 2005–2010
Mauritius	2937.93	1486.41	2170.07	2620.69	5255.66
Rwanda	10.99	12.21	10.37	7.96	13.51
Seychelles	944.96	619.63	834.38	941.63	1379.30
Somalia	36.00	20.54	22.77	28.60	69.20
Sudan	0.02	0.01	0.01	0.02	0.04
Swaziland	508.22	266.73	458.40	649.45	673.22
Tanzania	12.55	6.15	11.57	11.77	19.67
Uganda	0.01	0.00	0.01	0.01	0.02
Zambia	19.76	12.06	15.52	19.55	30.12
Zimbabwe	57.42	23.52	25.47	31.17	133.08

Notes: Values are in USD; Regional aggregate values are calculated as weighted summations, where a country's share of the agricultural population in the regional total is used as a weight.

Source: Calculation by the authors based on World Bank (2012) and FAO (2012).

A comparison of the average trend in per capita agricultural exports of the sub-regions for the period 1990–2010 ranks COMESA first and IGAD last. Djibouti, Egypt, Libya, Mauritius, Seychelles and Swaziland are noted as countries driving up the values for COMESA sub-region, Kenya and Tanzania for EAC and Djibouti for IGAD.

Per capita agricultural exports

Per capita agricultural export is the ratio of the value of exports to the population size. The index provides a relative measure of a country or region's trade position as an agricultural exporter compared to others controlling for its population size. Per capita agricultural exports at regional and country level are summarized in Table 15.

Table 15: Per capita agricultural exports

Country	Annual avg. level 1990–2010	Annual avg. level 1990–1995	Annual avg. level 1995–2000	Annual avg. level 2000–2005	Annual avg. level 2005–2010
COMESA	**28.60**	**25.91**	**25.73**	**23.35**	**37.84**
IGAD	**23.03**	**16.97**	**21.91**	**18.81**	**33.99**
EAC	**28.04**	**22.40**	**27.68**	**22.16**	**39.31**
Burundi	9.76	15.06	10.56	5.32	8.55
Comoros	26.68	37.49	11.33	32.83	21.98
DRC	2.19	3.80	2.69	0.93	1.40
Djibouti	31.77	9.95	9.45	21.35	77.30
Egypt	44.55	18.43	22.41	38.00	92.90
Eritrea	0.97	2.01	1.14	0.50	0.70
Ethiopia	11.08	6.04	7.85	7.75	19.33
Kenya	57.05	43.72	51.47	47.74	82.86
Libya	77.91	102.34	129.11	69.34	33.85
Madagascar	13.74	18.34	11.18	13.06	12.21
Malawi	56.41	46.00	53.30	44.48	77.60
Mauritius	2729.14	2338.64	2635.87	2669.40	3202.12
Rwanda	8.06	9.60	5.30	4.77	11.93
Seychelles	30.97	18.69	27.05	18.87	56.53
Somalia	19.14	14.80	25.13	17.18	20.69
Sudan	22.06	24.02	23.45	20.37	20.84
Swaziland	778.04	812.15	803.51	718.23	767.05
Tanzania	17.91	13.92	18.81	15.16	23.64
Uganda	19.73	14.42	23.42	12.49	28.85
Zambia	22.56	4.75	11.10	25.38	47.30
Zimbabwe	104.87	102.07	126.43	99.19	90.32

Notes: Values are in USD; Regional aggregate values are calculated as weighted summations, where a country's share of the agricultural population in the regional total is used as a weight.

Source: Calculation by the authors based on World Bank (2012) and FAO (2012).

The export position of all three RECs was better during the 2005–2010 period compared to the 1990–1995 period. A comparison of the long-term (1990–2010) average trend in per capita agricultural exports of the sub-regions ranks COMESA first, while IGAD is last. Mauritius and Swaziland are seemingly driving up the values for COMESA sub-region, Kenya for EAC and Djibouti and Kenya for IGAD. Recent statistics (average for 2005–2010) indicate that per capita agricultural exports are much higher than the average levels for 2000–2005 in all the sub-regions.

Agricultural trade balance

The agricultural trade balance, measured by the ratio of the value of total agricultural exports to imports, has been on a declining trend in COMESA, EAC, ASARECA and IGAD[2]. The annual average changes in the ratio of agricultural export to import in these sub-regions for the period 1990–2010 were: -1.7%, -3.5%, -4.1% and -4.5% respectively (see Table 16).

Table 16: Agricultural trade balance (1990–2010)

	Annual avg. level 1990–2010	Annual avg. % change 1990–2010	Annual avg. level 1990–1995	Annual avg. % change 1990–1995	Annual avg. level 1995–2000	Annual avg. % change 1995–2000	Annual avg. level 2000–2005	Annual avg. % change 2000–2005	Annual avg. level 2005–2010	Annual avg. % change 2005–2010
COMESA	**0.7**	**-1.7**	**0.7**	**2.4**	**0.7**	**-3.0**	**0.7**	**2.6**	**0.6**	**-4.2**
EAC	**2.0**	**-3.5**	**2.6**	**-6.3**	**2.2**	**-8.5**	**1.7**	**0.9**	**1.6**	**-2.6**
IGAD	**1.5**	**-4.1**	**1.9**	**-2.6**	**1.8**	**-9.8**	**1.2**	**0.0**	**1.0**	**-1.3**
ASARECAA	**1.4**	**-4.5**	**1.9**	**-3.8**	**1.7**	**-8.5**	**1.2**	**-1.4**	**1.0**	**-3.7**
Burundi	1.7	-7.2	2.6	-11.9	2.2	1.2	1.1	-9.2	1.0	4.0
Comoros	0.4	-4.9	0.7	-19.0	0.2	9.3	0.5	3.3	0.2	-12.7
DRC	0.2	-12.1	0.4	-2.7	0.3	-14.4	0.1	-14.1	0.1	-0.1
Djibouti	0.1	6.1	0.1	-15.3	0.0	-8.6	0.1	19.4	0.1	3.6
Egypt	0.2	4.4	0.2	4.2	0.1	1.0	0.3	19.7	0.3	1.7
Eritrea	0.0	-9.8	0.1	-18.9	0.1	-18.3	0.0	-12.0	0.0	18.5
Ethiopia	1.6	-1.3	1.2	22.1	2.2	-7.1	1.2	11.1	1.5	-6.4
Kenya	2.5	-2.3	3.0	-2.3	2.6	-5.4	2.4	6.8	2.1	-7.5
Libya	0.0	-12.7	0.0	-4.2	0.0	-0.4	0.0	-26.2	0.0	-10.0
Madagascar	1.6	-8.8	2.7	-1.0	1.4	-15.1	1.4	-14.7	0.5	-2.9
Malawi	4.5	-0.3	3.4	-13.2	6.8	20.9	4.8	-18.2	3.6	-3.9
Mauritius	1.1	-6.1	1.6	-6.9	1.2	-7.2	1.0	-1.1	0.7	-15.4
Rwanda	0.8	-0.1	1.0	-36.4	0.5	24.3	0.6	2.0	0.9	-7.2
Seychelles	0.0	1.9	0.0	14.6	0.0	-8.4	0.0	4.3	0.0	17.8
Somalia	0.7	-5.5	0.8	8.6	1.1	-10.5	0.6	-7.5	0.3	0.8
Sudan	1.1	-10.4	1.8	-0.1	1.6	-14.7	0.8	-3.6	0.4	-14.4
Swaziland	1.9	-6.6	3.0	-4.4	2.0	-17.5	1.2	-11.1	1.2	-1.2
Uganda	2.3	-7.4	4.0	-16.3	2.5	-11.9	1.4	-15.2	1.3	5.4
Zambia	1.0	8.7	0.5	-6.0	0.8	21.7	1.3	14.2	1.6	3.5
Zimbabwe	4.4	-11.5	7.0	-7.0	5.2	6.0	4.7	-30.8	0.9	-14.1
Tanzania	1.7	-4.4	2.4	-5.6	1.8	-14.1	1.3	1.1	1.2	1.5

Notes: Regional estimates were calculated using share of import trade as a weighting factor.

Source: Computed by the authors using data from FAOSTAT (2011).

Declines in agricultural trade balance from the period 1990–1995 and 2005–2010 were: COMESA (0.74 to 0.57), EAC (2.64 to 1.59), ASARECA (1.9 to 0.98) and IGAD (1.89 to 1.05). These changes show that the ASARECA region went from being a net exporter of agricultural products to a net importer. The EAC and IGAD sub-regions remained net exporters of agricultural products despite the decline in their trade balance. COMESA experienced some reductions

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2   Values greater than one indicate that the country or region is a net exporter, values less than one indicate that the country is a net importer.

in the agricultural trade balance but maintained its status as a net importer. Countries driving the net importing status of COMESA are Comoros, Djibouti, DRC, Egypt, Libya, Mauritius, Seychelles and Zambia.

3.6 Crop productivity

Average cereal yields in COMESA, EAC and IGAD remain significantly lower than the world average (Figure 8). Recent estimates (2010–2012) indicate that cereal yields are about 2.3 t/ha, 1.6 t/ha, 1.8 t/ha and 2.1 t/ha in COMESA, EAC ASARECA and IGAD respectively, while the global yields stand at about 5.1 t/ha. The COMESA average is higher than that of the other RECs because of the influence of Egypt and Mauritius whose average yields (1990–2012) are more than 4 t/ha (Appendix 8). Growth in cereal yields is very slow; this is an issue of concern regarding whether we are likely to have high productivity in the near future. On average, cereal yields have been growing at an annual average (1990–2012) of 0.8% in COMESA, 0.3% in EAC and 1.9% in IGAD. It is clearly evident that the growth observed in cereal production has mostly been achieved through expansion of crop land, because the rate of growth in cereal yields is much slower than that of cereal production (Figure 9).

Figure 8: Cereal yields
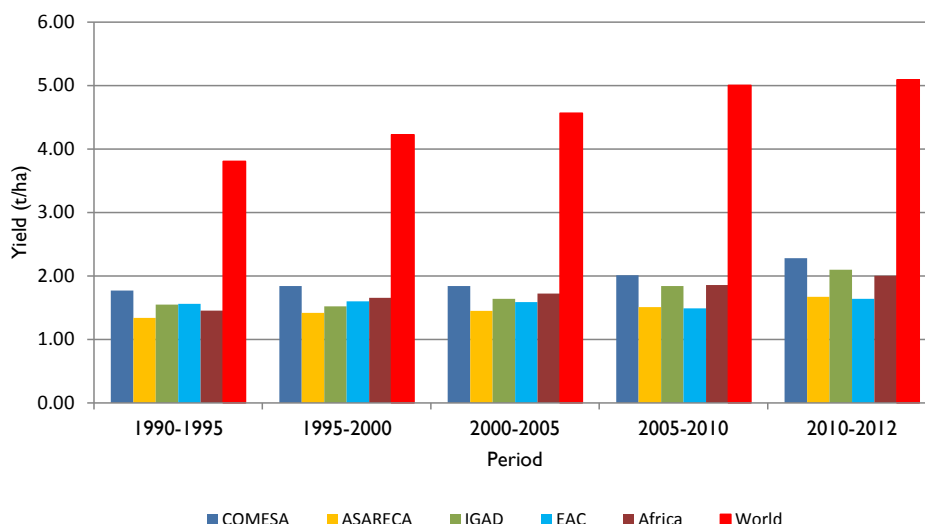
Source: Calculation by the authors based on data from World Bank (2013).

Figure 9: Comparison between cereal production and productivity
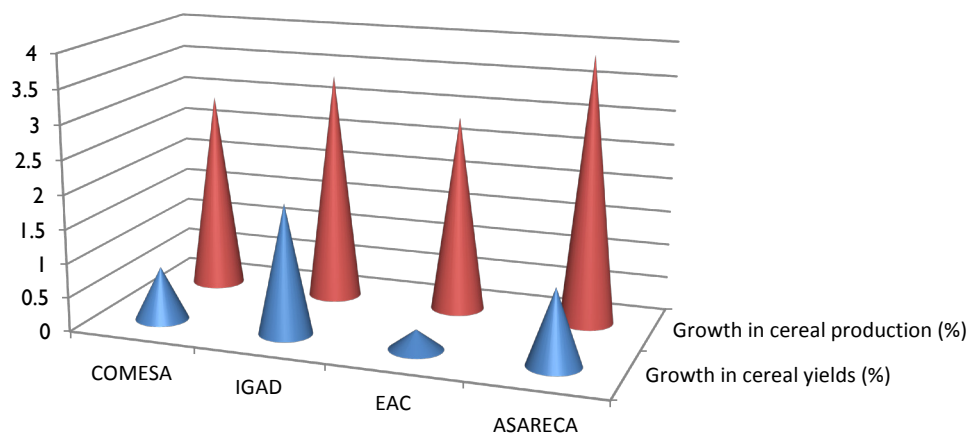
Source: Calculation by the authors based on data from World Bank (2013).

3.7 Trends in the food security situation

This sub-section discusses the status and trends of various food security indicators. The indicators are different but they all depict a generally consistent message that food insecurity continues to be a key challenge in all RECs and countries considered in this report.

1.   Population undernourished (in millions)

The absolute number of hungry people has been increasing over time in all RECs under consideration, due to a rapid increase in human population without a corresponding increase in food production. For instance, the number of undernourished people in COMESA (average for 2010–2012) stands at 147 million people, up from 86 million people in 1990–1992. EAC, ASARECA and IGAD have also experienced an increase in the number of undernourished people. [3]

Figure 10: Undernourished population (1990–2012).
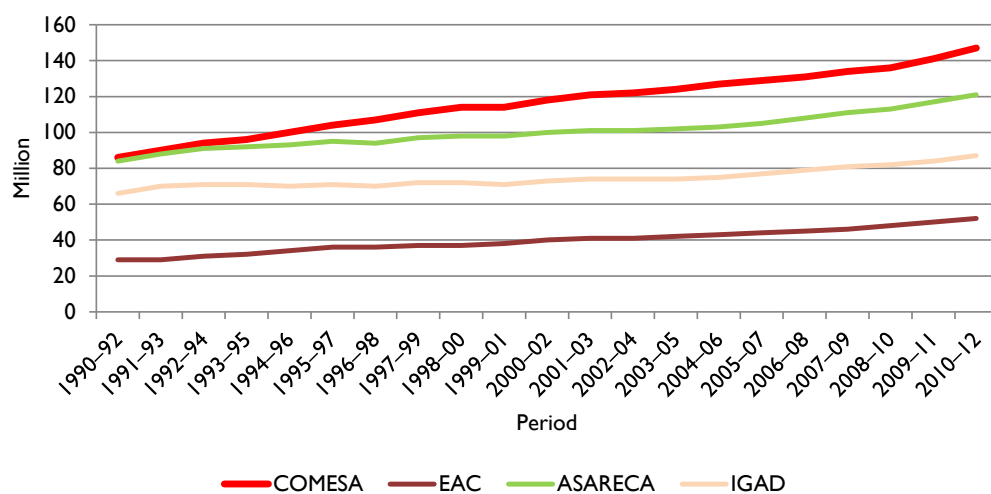
Notes: The indicator is calculated on three-year averages. Regional estimates are calculated by summing up the number of undernourished people in each of the countries for the member countries of the respective region.

Source: Calculated by the authors using FAO (2012).

2.   The depth of the food deficit

The depth of the food deficit is defined as the number of calories that would be needed to lift the undernourished person from his/her status, everything else being constant (FAO 2013). This means that the higher the level of undernourishment, the greater the depth of the food deficit. Available data indicate that the food deficit is high in the majority of countries considered in this report. The depth of the food deficit is particularly high in Burundi, Comoros, Ethiopia, Eritrea, Rwanda, Sudan, Zambia and Zimbabwe.

3.   The Global Hunger Index

The Global Hunger Index (GHI) is designed to comprehensively measure and track hunger globally and by country and region. Calculated each year by the International Food Policy Research Institute (IFPRI), the GHI highlights successes and failures in hunger reduction and provides insights into the drivers of hunger. In 2011, the GHI scores were 21.4, 20.1, 26.1 and 23.4 for COMESA, EAC, ASARECA and IGAD respectively (Table 17). According to the classification of GHI scores, these levels are alarming (Von Grebmer et al. 2011). However, all is not doom and gloom; there has been a notable reduction in hunger levels compared to the early 1990s. The GHI scores in 2011 show that hunger has fallen since 1990, by 14% in COMESA, 18% in EAC, 13% in ASARECA and by about 28% in IGAD. Because of lags in data availability, the 2011 GHI does not reflect the recent crisis in the Horn of Africa, which intensified in 2011 (Von

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3   Proportion of the population estimated to be at risk of caloric inadequacy. This is the traditional FAO hunger indicator, adopted as the official Millennium Development Goal indicator for Goal 1, Target 1.9.

Grebmer, et al. 2012). Burundi and the DRC are the only countries that experienced deterioration in GHI measures over the period under consideration.

Table 17: Global Hunger Index 1990–2011

	1990	1992	1997	2003	2007	2008	2010	2011	% change 1990–2011
COMESA	**24.98**	**25.92**	**26.53**	**25.49**	**24.79**	**23.47**	**22.22**	**21.38**	**-14.4**
EAC	**24.60**	**25.53**	**27.21**	**25.38**	**23.80**	**21.93**	**20.31**	**20.11**	**-18.3**
IGAD	**32.29**	**33.75**	**30.84**	**28.66**	**27.21**	**24.55**	**23.69**	**23.35**	**-27.7**
ASARECA	**30.01**	**31.12**	**32.05**	**30.84**	**30.21**	**28.38**	**27.07**	**26.11**	**-13.0**
Burundi	32.60	32.30	39.70	42.70	42.40	38.30	38.30	37.90	16.3
Comoros	26.40	28.30	29.60	30.80	31.50	29.10	27.90	26.20	-0.8
DRC	25.50	25.40	35.10	37.60	41.20	42.70	41.00	39.00	52.9
Djibouti	30.70	32.10	24.50	20.90	17.10	20.90	23.50	22.50	-26.7
Egypt	8.60	6.80	7.00	5.20	4.30	4.30	<5	2.50	-70.9
Eritrea			41.10	40.40	40.30	39.00	35.70	33.90	-17.5
Ethiopia	44.00	46.30	41.70	36.70	33.70	31.00	29.80	28.70	-34.8
Kenya	23.50	23.70	22.90	21.70	21.00	19.90	19.80	18.60	-20.9
Libya	2.70	25.30	30.70	32.00	0.90	0.90	<5	2.50	-7.4
Madagascar	29.10	30.80	31.90	29.90	30.70	28.80	27.50	22.50	-22.7
Malawi	32.20	33.30	30.50	25.40	24.50	21.00	18.20	18.20	-43.5
Mauritius	6.10	8.40	7.70	3.80	3.80	5.00	6.70	5.40	-11.5
Rwanda	28.30	29.20	32.10	27.20	26.30	22.30	23.10	21.00	-25.8
Sudan	25.60	26.20	22.80	25.70	25.60	20.50	20.90	21.50	-16.0
Swaziland	13.40	11.20	14.00	14.90	15.00	17.70	10.80	10.50	-21.6
Tanzania	26.10	27.50	31.60	30.00	26.10	24.20	20.70	20.50	-21.5
Uganda	19.90	21.80	21.70	18.60	18.60	17.10	15.00	16.70	-16.1
Zambia	29.10	31.20	30.50	31.80	31.10	29.20	24.90	24.00	-17.5
Zimbabwe	20.20	21.80	23.50	23.20	21.30	23.80	20.90	17.70	-12.4

Notes: Calculations are weighted summations, where each country's population as a share of the regional population is used as a weight. Blank cells indicate missing values. Sudan includes South Sudan because the data has not been disaggregated for the two countries.
Source: Calculation by the authors based on von Grebmer et al. (2011).

3.8 Trends in food prices

Food prices in the ECA region have remained persistently high and volatile since the global food price crisis in 2008 (Wanjiku et al. 2013). In many countries, the 2013 food price indices (FPIs) are much higher than the levels before the crisis (see Figure 11).

At regional level, the demand-side drivers of food price increases are rising incomes, rapid population growth, rapid urbanization and changing diets. On the supply side, the combination of high agricultural input prices (especially fertilizers and fuel), climatic shocks, political and civil instability in some places, reduced world food stocks, reduced exports, underinvestment in agriculture, and declining agricultural resources such as land and water, have been associated with shortages in the supply of food commodities (Karugia et al. 2009; Wanjiku et al. 2013). Shortages in the supply of food commodities implies that demand outstrips supply causing rising food prices. High food prices are likely to worsen the hunger situation and negate the gains in hunger reduction.

Figure 11: Trends in the food consumer price indices
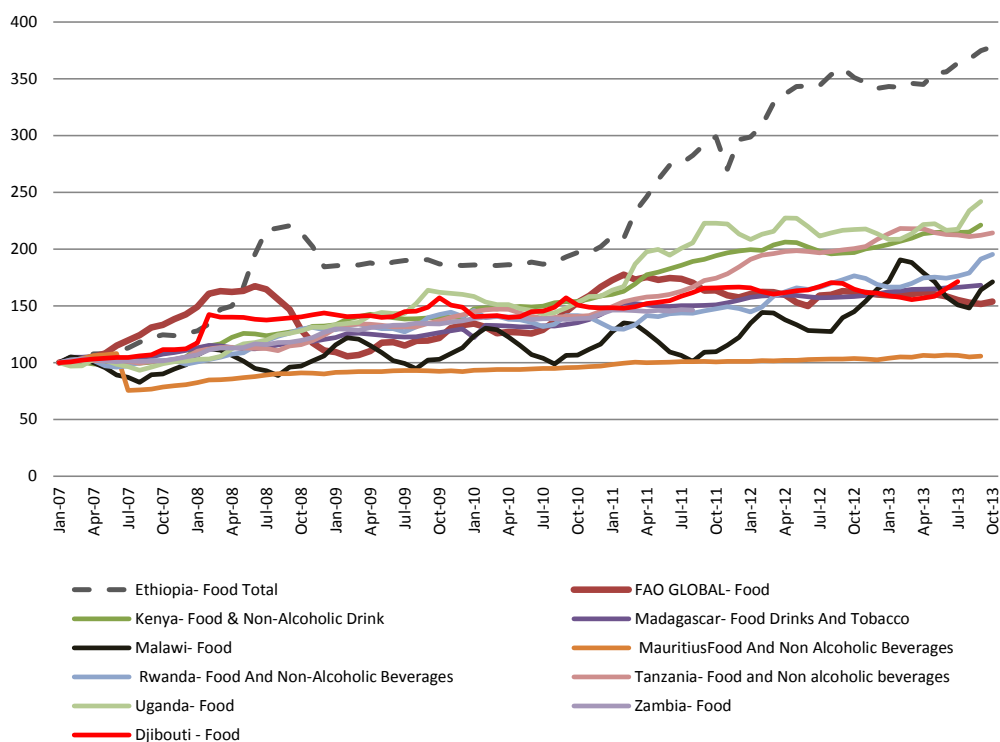
Source: ReSAKSS ECA database.

3.9 Food aid

Food aid deliveries continue to be a common phenomenon in the RECs due to food insecurity. Although food aid is a contentious issue, during periods of severe shortages it helps bridge the gap between demand and supply. If not well targeted, it can lower food prices in a domestic market to the detriment of local producers. As summarized in Figure 12 available statistics on food aid to COMESA and IGAD show fluctuation since the 1990s. In the EAC the level of food aid deliveries has been stable over the years. To mitigate the fluctuations, the World Food Programme (WFP) of the United Nations has been piloting purchase for progress (P4P) to try out new ways of leveraging its purchasing power to support agricultural and market development in developing countries. Preliminary procurement figures from the P4P pilot treatment period (September 2008–December 2013), show that WFP has contracted over 430,000 metric tonnes (mt) of commodities at a value exceeding USD 167 million (www.wfp.org). Smallholders have also been successfully connected to sustainable markets, having sold over 200,000 mt of commodities to markets beyond WFP.

Figure 12: Food aid to COMESA, EAC and IGAD 1990–2011.
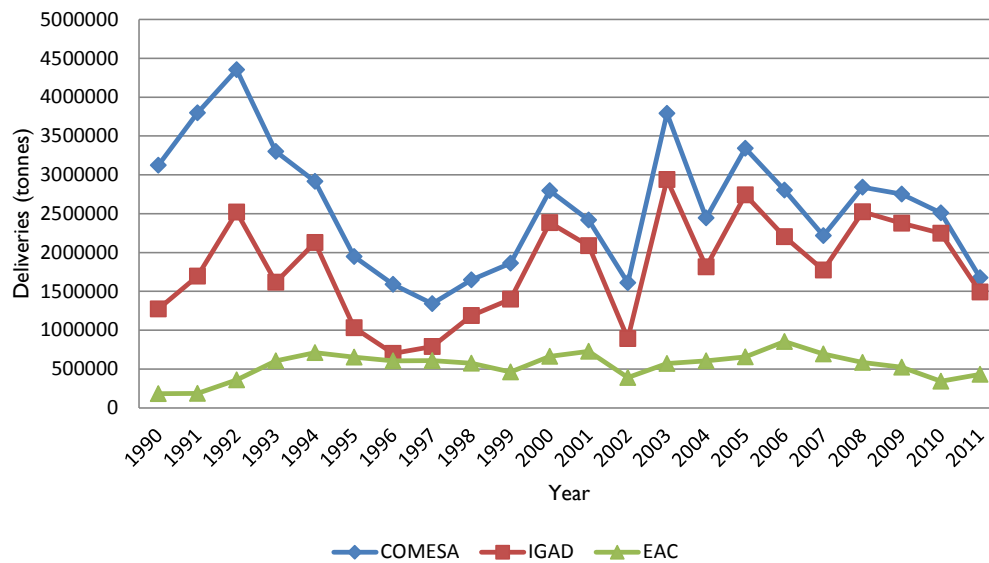
Source: Computations by the authors using data from WFP (2013).

Other measures have been used to support the vulnerable populations in gaining access to food, such as vouchers and cash transfers. According to WFP, the use of these food assistance instruments has the potential to strengthen local markets and enhance the productivity of domestic producers. Evidence from humanitarian cash interventions makes a plausible case that cash transfers can, and in some cases do, impact upon nutrition by improving dietary intake and access to food (Baliely and Hedlund 2012).

4.   Conclusions and policy implications

4.1 Summary and conclusions

This report focused on the analysis of trends in agricultural investments in three regional economic communities, namely COMESA, EAC and IGAD, plus ASARECA. It also discussed selected CAADP indicators. In the majority of countries considered, allocation to the agricultural sector is still lower than the CAADP target of 10% of the national budget, although allocation has increased over the years. So far in the COMESA region, only Ethiopia and Malawi have consistently met the 10% annual budget target. Public expenditure on agriculture in COMESA increased slightly in the post-CAADP period (from 2004 to 2007) compared to the preceding pre-CAADP period. However, there was notably a sharp drop in public expenditure in the 2007 and 2008 period. Overall, public agricultural spending has been on an upward trend in all the RECs considered since the Maputo Declaration, despite year-to-year variations. Among the RECs, IGAD achieved a very high average level of spending mainly driven by Ethiopia. A similarly high level of spending in the ASARECA region was also driven by Ethiopia. Agricultural spending, as a percentage of agricultural GDP, has remained below 2% in both the pre-CAADP and post-CAADP periods in all the RECs considered in this report (see appendix 2b)

At country level, trends in public expenditure in many countries showed fluctuations. High expenditure shares are recorded in some years but are then followed by lower shares in subsequent years. It is not clear whether the explanation for such fluctuating trends is the challenge in balancing limited resources with other needs, such as education and health, or a lack of political will to honour CAADP commitments.

Private sector investment (foreign as well as local) is increasingly driven partly by strategic measures implemented by national governments to encourage participation of the private sector in agricultural investment. However, some challenges still remain; further efforts to enhance an enabling environment for investment by public and private actors must be made. There is need to strengthen the business environment, develop the physical and marketing infrastructure, enhance human resource capacity for effective implementation of agricultural programs, and strengthen agricultural institutions.

The RECs and their member states considered in this report have continued to make good progress in implementing CAADP. All the RECs have embarked on and are at various stages of developing, adopting and implementing regional CAADP compacts. IGAD adopted its regional compact in late 2013. The report provides evidence that the member states of COMESA, EAC and IGAD have made good progress in improving the performance of the agricultural sector. However, none of the RECs have achieved the average of 6% CAADP agricultural growth target. Similarly, the majority of countries have not achieved the CAADP national agricultural growth target.

Agricultural productivity remains low and is growing at a very slow pace in the majority of countries in eastern and central Africa. Increasing crop production has only been achieved by increasing the area under cultivation. Poverty is falling, but levels remain quite high. Food insecurity continues to be a key challenge because the absolute number of undernourished people is rising despite current efforts to reduce food insecurity. The food insecurity situation is even more perilous because of the high and rising food prices following the food price spike of 2007/2008.

4.2 Policy implications

The current levels of public expenditures in the agricultural sector are below the CAADP targets. It is also obvious national governments face the challenge of limited budgets that have to be shared among the different sectors of the economy. Therefore, while sustained efforts must be made to increase budget allocation to the agricultural sector, concurrent efforts must also be made to ensure an efficient use of the available resources. In essence, there ought to be very deliberate efforts to invest in sub-sectors and activities with the potential to make the highest impact on growth and poverty reduction. These sub-sectors may vary from country-to-country as revealed by the growth-options analysis undertaken by many countries during the roundtable process.

National governments alone cannot meet all the investment needs in the agricultural sector. To further increase the resources available to agriculture, strategic and mutually beneficial partnerships with private sector should be nurtured. The governments must continue to play the critical role of ensuring a stable and predictable investment environment. They must also safeguard the interests of the poor and marginalized sections of the population who face the threat of losing everything, particularly as a result of large-scale land acquisition schemes undertaken by large foreign investors.

It is essential to increase efforts to strengthen linkages between economic growth and agricultural performance for the reduction of poverty and food insecurity. Measures to enhance the effectiveness of agricultural development programs are necessary so as to increase the likelihood of achieving poverty and food security outcomes as envisaged by CAADP.

Overall, performance of agriculture is improving although CAADP targets have not yet been met in most countries. The levels of productivity are still low compared to the potential, as well as to the world average. They have also varied across countries analysed in the regions. Some countries, such as Egypt and Mauritius, have achieved high levels of productivity mainly through the use of productivity enhancing measures such as irrigation. There are many opportunities for peer learning from countries that are already performing better. The key constraints that limit productivity should be addressed. These include a lack of policy reforms, consistent investment in research and development and investment in irrigation.

The regional economic groupings should continue with their efforts to coordinate CAADP implementation at regional level. There is, however, a need to work more closely to strengthen the synergies among them given that most member countries overlap across the economic groupings.

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Appendix 1a: Agriculture FDI in selected countries: Share of total FDI, trends and drivers

Country and references	Share of agriculture FDI, total FDI and key investment areas	Factors influencing trends in agriculture FDI *
Burundi (UNCTAD 2010; http://www.investburundi.com/fdi-in-burundi)	Share: No data Key investment area: Coffee industry	Total FDI inflows are still very limited and more so to the agricultural sector FDI attraction is part of Burundi's development strategy, although the fragile political and security situation is likely to limit rapid growth in FDI. However, opportunities for change are emerging. Government has been working on the stabilization of the political situation and economic reforms. The government enacted a new investment code in September 2008. The code aims to attract and reassure foreign investors by encouraging and facilitating acquisitions, production, transformation and distribution of goods and services.
Ethiopia (Ogalo 2011; Weissleder 2009; USAID 2012)	Share: Agriculture FDI stands at 32% of the total Ethiopian FDI inflows. This level has only been achieved recently; previously, FDI inflows to agricultural sector were rather low. Key investment areas: Agribusiness, horticulture, meat production, biofuel	Data from the Federal Investment Bureau of Ethiopia indicate that agriculture FDI in Ethiopia increased heavily after 2005. Investment in the agricultural sector increased from USD 135 million in 2000 to USD 3500 million in 2008. Government has been approving more foreign-financed agricultural projects since 2007. Government provides incentives in the form of subsidies, reduced taxes, simplified administrative procedures and promoting credit to the agricultural sector. Land is being leased for up to 99 years.
Kenya (Kinuthia 2010; Ogalo 2011; Njoroge and Okech 2011)	Share: There is no data about the amount of FDI into the sector. Using the number of enterprises in agribusiness as a proxy indicator the share is about 19 %*. Key investment areas: Horticulture, sugar cane	Export processing zones (EPZs) that gave tax concessions to foreign companies. Kenya has strengthened its investment promotion agency (IPA) to attract FDI. Government provides incentives in the form of reduced duties and other taxes on imported inputs crucial to the sector, provision of cash subsidies, reduction of land rents, guarantee of rent and repatriation
Malawi	**Share:** No data **Key investment areas:** Tobacco, timber (commercial logging), cotton	Attracted increasing ODA and FDI Malawi's continued implementation of structural reforms and strong macroeconomic performance.
Rwanda (UNCTAD 2006; Malunda and Musana 2012; National Bank of Rwanda 2012)	Share: About 8% based on the foreign private investment census report 2011 (National Bank of Rwanda 2012) Key investment areas: coffee, tea, horticulture	There is evidence of a significant increase in private sector investment. Vision 2020, the Poverty Reduction Strategy Paper (PRSP) and the National Investment Strategy all recognize that the commercial private sector will have to lead the process of economic development and wealth creation Revised tax code and implementation of the 'doing business' reforms since 2005 have stimulated private investment in agriculture (both domestic and foreign)

Tanzania (Msuya 2007; MAFC and FAO 2008; Biswalo 2011; Ogalo 2011; FAO 2012)	Share: Biswalo (2011) indicates that the share is about 2.1% while Msuya (2007) and Ogalo (2011) shows it is about 7% of total FDI inflow (translating to an average of less than 5%)	Mixed trend with fluctuations were recorded in the recent past decade; however some positive trends have been recorded in the recent years. Establishment of Public Private Partnership Policy of 2010 Tax incentives (such as zero-rating of capital goods and farm inputs including fertilizer, pesticides and herbicides; VAT exemption on agricultural exports and for domestically produced inputs
	Key investment areas: Sugar, tea, sugar, tobacco, floriculture, vegetable production, grapes	Kilimo Kwanza initiative that aims at supporting private sector investments and the implementation of a five-year Agricultural Development Plan through corridor approach, a point in case being the Southern Agricultural Growth Corridor of Tanzania (SAGCOT) that encourages partnership in many aspects, including agro-processing, contract farming and others. Establishment of Tanzania Agricultural Development Bank (TADB) to provide agricultural credit Development of a public private partnership policy in 2010 to mobilize private sector investments and partnership to achieve the goals of Kilimo Kwanza
Uganda (Ogalo 2011; FAO 2012)	Share: About 20%	Various reforms to attract foreign direct investment. Through policies, plans and program frameworks such as: National Development Plan (NDP)
	Key investment areas: coffee, horticulture (mainly floriculture) and fish	Plan for Modernization of Agriculture (PMA) National Agricultural Advisory Services (NAADS) National Trade Policy (NTP) Agricultural Sector Development Strategy and Investment Plan 2010/11–2014/15 (DSIP)
Zambia (UNCTAD 2006)	Share	Investment in the Zambian agricultural sector has been low until recently. Zambia has, therefore, stepped up efforts to attract FDI by making bold privatization measures to encourage private investments, stabilizing its economy and removing existing market distortions. Specific measures to stimulate greenfield investments in the agricultural sector are in place.
	Key investment areas: agribusiness, horticulture (fruits, vegetables and floriculture), cotton, maize, tobacco and sugar	

Notes: * Based on the distribution of EPZ enterprises 2011 (see UNCTAD 2013).

** These factors are also driving domestic private investments in agriculture.

Source: Compiled by the authors using information from literature indicated in the first column. The majority of literature use statistics from national investment centres.

Appendix 1b: Total inward FDI in current USD (in million dollars)

Country/ Region	1990–2011		1990–1995		1995–2000		2000–2005		2005–2011	
	Average level	Annual avg. change %	Average level	Annual avg. change %	Average level	Annual avg. change %	Average level	Annual avg. change %	Average level	Annual avg. change %
COMESA	6,830.97	1.18	1,145.32	1.09	1,985.27	1.25	4,610.64	1.33	16,899.63	0.97
EAC	887.88	1.23	108.22	1.51	419.78	1.17	744.43	1.13	2,022.19	1.13
ASARECA	2,906.83	1.30	141.65	1.53	863.93	1.37	2,552.07	1.27	6,929.67	1.10
IGAD	1,749.53	1.30	89.83	1.57	577.89	1.40	1,793.82	1.31	3,968.08	1.01
Burundi	1.48		0.87		4.63		2.47		1.35	1.50
Comoros	3.00		0.45		0.36	0.75	0.62	1.25	8.42	1.79
DRC	476.11		-3.30		17.09		226.70	1.43	1,335.37	1.40
Djibouti	38.43	1.31	1.78	1.67	3.21	1.00	14.18	1.69	108.46	1.01
Egypt	2,815.35		730.18	1.13	915.78	1.17	1,693.77	1.36	7,015.09	
Eritrea	35.27		0.00		56.24	9.27	18.88		40.57	1.77
Ethiopia	214.56	1.28	8.84	1.22	131.64	1.52	335.71	1.16	325.31	1.05
Kenya	91.20	1.17	20.20	0.79	38.78	1.16	48.81	0.98	217.83	1.38
Libya	753.11		41.16		-63.85		281.83		2558.50	
Madagascar	255.52	1.27	14.66	0.82	31.85	1.59	85.63	1.02	715.31	1.38
Malawi	53.13		4.36		24.42	1.47	68.53	1.35	110.00	1.03
Mauritius	111.66		21.09	0.90	74.82	1.44	66.34		260.00	1.34
Rwanda	26.29	1.25	4.26		3.96	1.23	9.32	1.05	71.08	1.29
Seychelles	71.10	1.20	19.80	2.31	43.45	0.97	53.09	1.15	146.01	1.04
Somalia	30.72		1.56		0.48		3.14		95.71	1.17
Sudan	1,040.69		13.23		207.33	3.07	1,140.71	1.42	2,490.92	0.97
Swaziland	63.01		62.81	1.03	68.15		31.83		73.28	
Tanzania	467.33	1.47	38.67	8.32	234.52	1.22	451.85	1.14	1,042.65	1.17
Uganda	301.85		44.22		140.20	1.07	232.40	1.18	689.28	1.09
Zambia	428.88	1.16	122.25	0.96	146.13	1.01	272.22	1.27	966.76	1.19
Zimbabwe	88.03	1.08	38.45	1.77	143.37	0.80	28.03	1.26	131.60	1.30

Notes: Sudan includes data for South Sudan.

*Source: Calculation by the authors based on UNCTAD 2013.

Appendix 1c: Percentage change in ODI flows

Country	2002–2011		2002–2006		2006–2010		2011
	Average level	% change	Average level	% change	Average level	% change	
COMESA	3.90	6.04	3.08	-10.41	4.24	16.13	4.97
ASARECA	3.91	5.31	3.13	-10.38	4.19	14.15	4.78
IGAD	4.32	3.91	3.64	-17.06	4.47	19.94	5.62
EAC	5.01	5.52	4.08	-5.50	5.35	13.36	5.67
Burundi	3.15	9.66	2.57	25.15	4.03	-4.44	**3.61**
Comoros	3.37	-4.31	3.91	-14.37	2.77	11.88	**3.09**
DRC	1.22	14.00	0.87	19.36	1.48	-1.59	**1.43**
Djibouti	0.83	-0.58	0.82	15.13	0.83	-5.72	0.65
Egypt	4.04	6.34	3.70	12.02	4.56	6.28	**5.06**
Eritrea	5.96	-7.15	7.04	-11.53	4.97	3.10	**6.29**
Ethiopia	4.43	2.48	3.73	-26.27	4.45	30.92	**6.56**
Kenya	6.02	-0.28	5.92	-4.38	6.38	-6.06	**5.64**
Libya	9.34		21.77		3.82		1.03
Madagascar	8.32	5.41	6.25		8.93	31.83	**11.34**
Malawi	8.08	6.63	7.11	-16.10	7.84	44.37	**11.01**
Mauritius	6.21	-24.86	8.30	-18.58	3.83		0.99
Mozambique	4.59	9.92	3.63	12.74	5.00	14.03	**5.35**
Rwanda	4.80	13.75	2.90	-11.04	5.84	34.43	7.60
Seychelles	25.37	-8.54	26.22	27.57	28.32		18.15
Somalia	1.17	28.17	0.57	21.82	1.67	36.26	**2.48**
South Sudan	2.60				2.60		2.60
Sudan	2.78	25.37	1.00		3.84	114.55	**6.94**
Swaziland	10.09	15.80	7.26	25.99	11.88	13.35	12.85
Tanzania	4.85	4.73	4.16	-8.26	4.92	19.40	**5.55**
Uganda	5.78	7.47	4.37	1.37	6.33	9.71	**6.10**
Zambia	3.22	9.29	2.07	-19.91	3.79	20.95	**3.97**
Zimbabwe	4.66	10.03	3.31	-17.93	5.28	46.04	**8.36**

Appendix 2a: Government agriculture expenditure (% of total government expenditure)

Country	Annual average level				Annual average change (%)			
	1990-1995	1995-2003	2003	2003-2012	1990-1995	1995-2003	2003	2003-2012
COMESA	**4.7**	**4.6**	**5.5**	**4.3**	**-15.0**	**19.4**	**-1.3**	**-7.1**
ASARECA	**6.0**	**9.0**	**6.7**	**6.5**	**0.9**	**2.4**	**16.8**	**-3.3**
IGAD	**6.7**	**6.3**	**7.0**	**6.3**	**3.0**	**0.4**	**9.5**	**-5.6**
EAC	**7.4**	**6.8**	**6.6**	**5.0**	**-1.0**	**1.1**	**-10.1**	**-4.3**
Burundi	6.9	2.3	2.1	4.5		-11.8	28.4	11.2
Comoros								
DRC	0.2	6.5	1.2	2.1		34.5	0.0	17.4
Djibouti		0.7	1.2	2.2			83.0	10.6
Egypt	4.8	5.9	5.1	2.8	-0.2	1.3	-10.2	-15.1
Eritrea	6.9	6.4	4.7	5.4		-7.0	-5.4	2.3
Ethiopia	9.6	9.2	13.0	12.1	9.4	3.4	14.3	-5.8
Kenya	7.1	5.4	4.6	3.6	-3.6	-3.4	-8.1	-2.4
Libya								
Madagascar	9.0	8.2	3.7	9.5	-18.8	-11.8	-12.8	20.9
Malawi	9.5	6.1	5.3	13.7	-7.6	-5.0	-22.2	18.0
Mauritius	5.8	4.4	3.2	2.8	-5.0	-6.5	-7.3	-2.0
Rwanda		2.6	2.9	5.2			21.4	10.7
Seychelles	2.0	2.7	4.0	3.7		12.9	17.2	-3.5
Somalia								
South Sudan				1.7				
Sudan	3.6	14.8	6.3	5.2	-0.7	8.5	20.3	-9.4
Swaziland	8.4	4.6	4.3	3.1	-11.3	-6.7	15.5	-8.3
Tanzania	7.4	5.4	7.6	6.1	9.2	5.1	59.6	-3.9
Uganda	2.2	2.8	3.6	3.6	-4.1	21.0	-24.3	2.3
Zambia	2.3	4.6	5.8	8.7	8.1	10.8	8.1	1.2
Zimbabwe	7.9	4.5	9.8	15.4	-20.7	14.3	24.4	0.8

Note: Annual average percentage change is calculated by fitting an exponential growth function to the data points

Source: Computed by the authors based on data from ReSAKSS Africa Wide (2014).

Appendix 2b: Government agriculture expenditure (% of GDP)

Country	Annual average level				Annual average change (%)			
	1990-1995	1995-2003	2003	2003-2012	1990-1995	1995-2003	2003	2003-2012
COMESA	**1.3**	**1.3**	**1.3**	**1.1**	**-1.0**	**0.8**	**1.1**	**-4.8**
ASARECA								
IGAD	**1.0**	**1.0**	**1.6**	**1.5**	**-5.4**	**7.8**	**14.6**	**-5.3**
EAC	**1.8**	**1.5**	**1.5**	**1.2**	**-2.9**	**1.1**	**-11.7**	**-2.6**
Burundi	1.8	0.5	0.5	1.0		-13.4	35.4	9.4
Comoros								
DRC	1.5	1.3	0.2	0.8		-27.6	21.6	27.8
Djibouti		0.3	0.4	0.7			77.7	
Egypt	1.5	1.5	1.3	0.8	3.5	-0.3	-11.0	-11.8
Eritrea	4.6	4.4	2.9	2.3		-5.6	-11.4	-6.0
Ethiopia	1.5	2.2	4.0	3.5	8.0	12.6	18.7	-9.4
Kenya	1.7	1.1	1.0	0.9	-4.6	-5.2	-3.6	3.3
Libya								
Madagascar	1.6	1.3	0.7	1.3	-16.1	-12.5	12.7	10.6
Malawi	2.9	1.6	1.1	4.0	-1.5	-8.0	-5.8	21.3
Mauritius	1.3	1.0	0.8	0.7	-5.4	-4.8	-2.0	-1.3
Rwanda		0.5	0.5	1.3			27.0	16.0
Seychelles	1.1	1.4	1.7	1.4		8.7	-3.1	-5.5
Somalia								
South Sudan								
Sudan	0.2	0.4	1.1	1.1		93.9	42.5	-9.9
Swaziland	1.7	1.2	1.3	1.0	-8.5	-2.2	13.3	-6.0
Tanzania	1.2	1.0	1.3	1.4	7.6	5.6	40.4	1.5
Uganda	0.3	0.6	0.9	0.7	-15.7	37.0		1.0
Zambia	0.7	1.1	1.3	2.0	-2.6	8.9	15.9	2.0
Zimbabwe	11.6	12.6	12.0	5.3	6.2	-0.8	80.2	-24.0

Note: Annual average percentage change is calculated by fitting an exponential growth function to the data points

Source: Computed by the authors based on data from ReSAKSS Africa Wide (2014).

Appendix 2c: Per capita GDP (1990–2012) at constant 2005 USD

REC/ Country	Annual average level						Annual average change (%)					
	1990-2012	1990-1995	1995-2000	2000-2005	2005-2010	2010-2013	1990-2012	1990-1995	1995-2000	2000-2005	2005-2010	2010-2012
COMESA	567.3	460.6	512.5	604.0	671.4	620.8	2.1	-0.9	5.8	1.2	0.5	0.0
ASARECA	414.4	336.6	354.2	397.6	516.3	534.9	2.7	0.6	-0.6	5.8	3.9	-6.5
IGAD	367.7	312.3	329.8	357.6	429.1	460.9	2.1	-0.6	1.3	2.3	3.6	-1.0
EAC	664.3	584.5	618.4	660.0	745.2	777.3	1.6	0.4	1.3	1.8	2.3	0.1
Burundi	164.9	205.1	158.0	148.1	148.3	152.0	-1.7	-4.7	-2.1	-0.9	0.9	0.8
Comoros	650.0	697.9	652.8	644.5	621.2	604.6	-0.7	-1.3	-0.8	0.0	-1.3	0.1
DRC	160.9	219.4	148.5	124.2	142.3	158.0	-2.1	-11.4	-5.9	1.7	2.5	4.1
Djibouti	949.4	1076.7	875.6	874.1	944.2			-5.3	-1.9	1.6		
Egypt, Arab Rep.	1175.9	906.7	1044.2	1187.5	1408.5	1553.8	2.9	1.8	3.5	1.8	4.5	0.3
Eritrea	226.6	215.3	260.6	241.2	201.5	192.7			0.1	-2.3	-4.5	4.4
Ethiopia	159.6	124.8	132.0	142.8	194.8	252.3	3.4	-1.8	0.5	2.6	7.8	7.1
Kenya	531.1	525.5	511.4	505.1	553.6	584.5	0.4	-1.8	-0.5	0.7	1.6	1.7
Libya	7552.9		6872.1	7007.0	8420.3					3.0		
Madagascar	282.4	294.8	278.8	273.5	284.4	273.9	-0.3	-2.9	0.7	-1.0	0.1	-0.3
Malawi	213.0	194.0	219.5	210.7	225.6	220.4	0.8	0.6	1.2	-0.1	2.0	0.2
Rwanda	260.9	223.5	207.4	240.9	314.4	371.0	2.7	-7.2	1.4	5.2	5.3	5.1
Seychelles	11006.7	9114.2	10477.5	10914.8	12252.6	13677.8	2.0	1.8	4.9	-1.5	2.1	6.2
Sudan	756.3	585.5	650.7	769.9	950.7	931.0	2.9	0.6	3.4	3.6	3.5	-8.7
Swaziland	2227.7	2034.1	2152.8	2248.4	2416.1	2400.1	1.0	0.8	0.8	1.4	0.8	-2.1
Tanzania	336.4	280.0	282.5	327.6	401.1	453.6	2.6	-1.6	1.6	4.3	3.8	3.5
Uganda	290.4	210.5	254.8	290.6	358.3	401.3	3.5	3.3	2.7	3.3	4.6	1.5
Zambia	636.3	630.3	567.9	590.7	680.4	769.0	0.9	-3.5	-0.5	2.1	3.4	3.7
Zimbabwe	564.3	652.9	692.7	569.8	401.4	415.3	-3.1	-1.2	0.7	-8.8	-4.2	4.9

Notes: Blank cells indicate missing values. Regional aggregate values are calculated as weighted summations. The weights are computed using a country's GDP as a share of regional GDP. Annual average level is in USD/person per year and the change is in percentage. Sudan includes South Sudan because the data has not been disaggregated for the two countries.

Source: Calculation by the authors based on data from the World Bank (2013).

Appendix 3: Population undernourished (in millions) 1990–2012

	1990–1992	1991–1993	1992–1994	1993–1995	1994–1996	1995–97	1996–1998	1997–1999	1998–2000	1999–2001	2000–2002	2001–2003	2002–2004	2003–2005	2004–2006	2005–2007	2006–2008	2007–2009	2008–2010	2009–2011	2010–2012
World	1000	989	983	967	949	931	920	914	911	919	922	923	915	910	898	884	871	867	868	869	868
Africa	175	178	181	184	187	190	194	198	202	205	208	209	209	209	210	212	216	220	225	231	239
Sub-Saharan Africa	170	173	176	179	183	186	190	193	197	200	203	204	205	205	205	208	211	216	221	227	234
COMESA	86	90	94	96	100	104	107	111	114	114	118	121	122	124	127	129	131	134	136	141	147
EAC	29	29	31	32	34	36	36	37	37	38	40	41	41	42	43	44	45	46	48	50	52
ASARECA	84	88	91	92	93	95	94	97	98	98	100	101	101	102	103	105	108	111	113	117	121
IGAD	66	70	71	71	70	71	70	72	72	71	73	74	74	74	75	77	79	81	82	84	87
Egypt	—	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Burundi	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5	6	6	6	6	6
DRC	2	3	5	7	11	14	17	19	21	22	23	25	26	27	28	28	29	30	31	33	34
Eritrea	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	4
Ethiopia	34	38	39	39	38	38	37	37	37	36	36	36	36	36	35	35	35	35	34	34	34
Kenya	9	9	9	9	9	9	9	9	10	10	11	12	12	12	12	12	12	12	13	13	13
Madagascar	3	3	4	4	4	4	4	4	5	5	5	5	5	5	5	5	5	6	6	7	7
Malawi	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4
Rwanda	4	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	3
Somalia	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6
Sudan	11	11	10	10	10	10	10	11	11	11	11	11	11	11	12	13	14	15	16	17	18
Uganda	5	5	6	6	6	7	7	7	6	6	7	7	7	7	8	9	9	10	10	11	12
Tanzania	8	9	10	11	12	12	12	13	13	14	14	14	14	14	14	14	14	15	16	17	18
Zambia	3	3	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	6	6	6
Zimbabwe	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	4	4	4

Notes: Sudan includes South Sudan because the data has not been disaggregated for the two countries.

Libya, Djibouti, Swaziland, Comoros, Mauritius, and Seychelles are missing because of data unavailability.

The indicator is calculated on three-year averages. Regional estimates for COMESA, EAC, ASARECA and IGAD are calculated by summing up the number of undernourished people in each of the countries for the members of the region.

Source: FAO (2012).

Appendix 4: Depth of the food deficit

	1999– 01	2000– 02	2001– 03	2002– 04	2003– 05	2004– 06	2005– 07	2006– 08	2007– 09	2008– 10	2009– 11	2010– 12	2011– 13
World	105	106	104	103	101	99	95	93	91	90	88	85	83
Africa	176	176	173	172	168	164	160	159	158	156	154	150	145
Sub-Saharan Africa	213	213	209	207	201	197	192	191	189	186	184	179	173
Egypt	9	8	9	11	12	13	11	10	9	10	10	9	8
Libya	9	9	10	9	9	8	8	8	9	10	10	9	8
Burundi	485	491	500	517	549	580	599	603	605	605	604	597	581
Comoros	685	676	615	586	574	572	558	554	578	615	653	661	655
Djibouti	399	377	367	347	321	287	244	214	189	175	156	147	143
Eritrea	658	669	657	661	653	657	645	638	606	579	543	512	488
Ethiopia	496	472	452	441	418	404	391	381	370	348	335	322	314
Kenya	213	227	236	245	228	202	179	181	181	179	170	172	166
Madagascar	210	222	227	231	213	199	183	185	189	194	198	191	176
Malawi	170	170	174	182	180	169	155	145	141	143	143	136	119
Rwanda	424	344	319	320	333	330	314	304	273	240	210	195	201
Seychelles	52	64	67	67	55	51	47	48	51	52	51	49	49
Sudan (former)	196	183	174	182	199	217	232	252	275	293	306	322	
Swaziland	122	113	109	97	98	108	126	143	158	194	229	259	262
Uganda	165	161	155	154	160	173	184	194	198	203	214	210	192
Tanzania	283	291	287	277	263	254	244	246	246	253	243	236	221
Zambia	305	326	322	323	326	339	361	374	368	345	329	325	306
Zimbabwe	353	347	331	331	326	316	294	281	264	257	247	245	226

Notes: The average intensity of food deprivation of the undernourished, estimated as the difference between the average dietary energy requirement and the average dietary energy consumption of the undernourished population (food-deprived), is multiplied by the number of undernourished to provide an estimate of the total food deficit in the country, which is then normalized by the total population.

Source: FAO (2013).

Appendix 5: Food aid trends (1990–2011)

	Annual average level 1990–2011	Annual average level 1990–1995	Annual average level 1995–2000	Annual Average level 2000–2005	Annual Average level 2005–2010	Annual Level 2011	Annual average change 1990–2011	Annual average change 1990–1995	Annual average change 1995–2000	Annual average change 2000–2005	Annual average change 2005–2011
COMESA	2594250	3239519	2734005	2734005	2743491	1673610	-0.9	-9.3	7.4	5.2	-7.1
EAC	545120	449290	603043	603043	608914	432046	2.2	36.9	-2.2	-0.6	-11.3
IGAD	1809859	1711331	2142179	2142179	2310989	1491475	2.4	-2.3	21.0	4.3	-5.2
ASARECA	2044744	1883198	2463690	2463690	2440950	1594048	1.7	4.1	11.3	3.4	-5.9
Burundi	38004	32513	54564	54564	57012	25978	13.5	118.0	-30.6	36.2	-18.8
Comoros	2340	5506	0	0	1280	0		6.9			
DRC	80369	71322	74308	74308	128731	130499	6.3	-3.2	-10.8	10.6	9.7
Djibouti	11506	11695	12440	12440	13586	7127	0.2	11.8	-4.6	3.4	-8.9
Egypt	223799	745030	17766	17766	8901	9191	-25.0	-38.6	-29.7	-18.6	-18.4
Eritrea	111909	97288	261026	261026	48507	13023			14.1	-0.6	
Ethiopia	902878	838181	1132209	1132209	1008481	749679	1.5	-5.7	20.8	-2.8	2.6
Kenya	190004	175526	197151	197151	249494	256877	4.4	7.1	31.3	-15.5	1.7
Libya	1683	0	0	0	0	37028					
Madagascar	38603	40439	48030	48030	37214	37508	-0.1	-9.4	5.2	-1.1	-8.9
Malawi	146971	291579	100809	100809	113091	42042	-6.5	-0.5	-26.0	26.5	-23.1
Mauritius	1377	4907	0	0	0	0					
Rwanda	126414	121589	80413	80413	29297	12274	-7.5	114.3	-8.8	-25.0	-23.0
Seychelles	212	195	0	0	583	0					
Somalia	109055	138896	36231	36231	181042	163876	2.6	-3.5	13.0	7.9	11.9
South Sudan	1292	0	0	0	51	28126					
Sudan, the	364573	386678	345073	345073	609053	203168	3.0	-17.0	24.8	35.2	-16.1
Swaziland	10504	13380	10261	10261	11239	13896		4.0			-14.2
Tanzania	72056	56595	112867	112867	72337	67317	3.4	40.0	-8.1	6.2	-15.3
Uganda	118642	63067	158048	158048	200774	69600	6.0	9.7	10.2	33.7	-22.8
Zambia	82894	156269	89680	89680	58198	3005	-5.4	0.3	4.4	27.2	-46.5
Zimbabwe	140275	184355	152226	152226	167999	34589	9.7	2.0	36.2	174.9	-11.5

Notes: Blank cells indicate missing values.

Source Calculation by the authors based on WFP (2013).

Appendix 6: Stunting among children under the age of five (%)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Egypt	34.9		31.3		34.9		30.9	26.3		24.6			20.3		23.8			30.7			
Libya					20.7												21.0				
Sudan																					
Burundi										63.1					57.7						
Comoros		39.2				41.4				46.9											
DRC					51.0						44.4						45.8				
Djibouti						31.7						26.5				32.6					
Eritrea			69.6		44.4							43.7									
Ethiopia										57.4					50.7						44.2
Kenya			40.2	39.8				37.0		41.0			35.8			40.9			35.2		
Madagascar		60.9	54.1		55.2		55.5							52.8					49.2		
Malawi		55.8			53.8			63.6		54.6				52.5		53.2			48.8	47.8	
Mauritius					13.6																
Rwanda		56.8				47.8				48.3					51.7					44.3	
Seychelles																					
Sudan*			38.6							47.6						37.9					
Swaziland										36.6						29.5		40.4			
Uganda					45.0					44.8						38.7					
Tanzania	49.7					49.7			48.3					44.4						42.5	
Zambia		46.4			58.1	48.6			57.9			52.5					45.8				
Zimbabwe				28.9					33.7						35.8					32.3	

Notes: Sudan* represents former Sudan.

Appendix 7: Poverty gap at national poverty line

Country	Years	Poverty gap at national poverty line (%)
Burundi	2006	23.4
Comoros	2004	16.3
DRC	2006	32.2
	1995	12.9
	1999	11.9
Ethiopia	2004	8.3
	2011	7.8
Egypt	1996	3.4
	2000	3
	2005	3.6
Kenya	2005	16.3
	1998	23.4
Malawi	2004	17.8
	2010	18.9
	1993	30.3
	1997	33.6
	1999	32.8
Madagascar	2001	34.9
	2002	47.6
	2004	31.6
	2005	26.8
Sudan	2009	16.2
Rwanda	2006	24
	2011	14.8
Swaziland	2001	32.9
	2010	30.4
Tanzania	2007	9.9
Uganda	1992	20.9
	1996	13.7
	1999	10
	2002	11.9
	2005	8.7
	2009	6.8
Zambia	2010	28

Notes: The table indicates figures for the most recent statistics for each country.

*Source: Calculation by the authors based on World Bank (2013).

Appendix 8: Cereal yields (t/ha) in the COMESA region (1990–2012)

Country	Years	Poverty gap at national poverty line (%)
Burundi	2006	23.4
Comoros	2004	16.3
DRC	2006	32.2
	1995	12.9
	1999	11.9
Ethiopia	2004	8.3
	2011	7.8
Egypt	1996	3.4
	2000	3
	2005	3.6
Kenya	2005	16.3
	1998	23.4
Malawi	2004	17.8
	2010	18.9
	1993	30.3
	1997	33.6
	1999	32.8
Madagascar	2001	34.9
	2002	47.6
	2004	31.6
	2005	26.8
Sudan	2009	16.2
Rwanda	2006	24
	2011	14.8
Swaziland	2001	32.9
	2010	30.4
Tanzania	2007	9.9
Uganda	1992	20.9
	1996	13.7
	1999	10
	2002	11.9
	2005	8.7
	2009	6.8
Zambia	2010	28

Sources: Calculation by the authors based on data from FAOSTAT.

Technical notes for all tables

1.   To control for year-to-year fluctuations, point estimates are avoided in the tables.

2.   Annual average level and annual average change for 1990–2010 include data from 1990 up to the most recent year that is measured and available.

3.   Annual average level is a simple average over the years shown, inclusive of the years shown.

Annual average change for all indicators except GDP growth rates (and others with possible negative values) is annual average per cent change from the beginning to the end years shown by fitting an exponential growth function to the data points.

When we show aggregate growth rates over a period (for example 1990–1995), they are derived using the least-squares method. Least-squares growth rates are used wherever there is a sufficiently long time series to permit a reliable calculation. No growth rate is calculated if more than half the observations in a period are missing. The least-squares growth rate, r, is estimated by fitting a linear regression trend line to the logarithmic annual values of the variable in the relevant period. The regression equation takes the form:

$\ln X_t = a + bt,$

This is equivalent to the logarithmic transformation of the compound growth equation:

$X_t = X_o (1 + r)t.$

In this equation X is the variable, t is time, and $a = \ln X_o$ and $b = \ln (1 + r)$ are parameters to be estimated. If b* is the least-squares estimate of b, the average annual growth rate, r, is obtained as - 1 and is multiplied by 100 for expression as a percentage. Least-squares calculations are done in Excel using the LOGEST function.

The calculated growth rate is an average rate that is representative of the available observations over the entire period. It does not necessarily match the actual growth rate between any two periods.

4.   Values for the regional aggregations (COMESA, EAC, ASARECA and IGAD [see introduction]) are calculated by weighted summation. The weights vary by indicator; if a weight was used, the specific weight used is listed under each table, and weights are based on each country's proportion in the total value of the indicator used for the weighing measured at the respective aggregate level. Each country i's weight in region j (wij) is then multiplied by the country's data point (xi) and then summed up for the relevant countries in the region to obtain the regional value (yj) according to: $y_j = \Sigma_i w_{ij} x_i$.