ReSAKSS ECA East & Central Africa
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TRENDS AND OUTLOOK REPORT ON KEY AGRICULTURE AND RURAL DEVELOPMENT INDICATORS IN KENYA

September, 2011

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The Regional Strategic Analysis and Knowledge Support System (ReSAKSS) is an Africa-wide network of regional nodes supporting implementation of the Comprehensive Africa Agriculture Development Programme (CAADP). ReSAKSS offers high-quality analyses and knowledge products to improve policymaking, track progress, document success, and derive lessons for the implementation of the CAADP agenda and other agricultural and rural development policies and programs in Africa.

ReSAKSS is facilitated by the International Food Policy Research Institute (IFPRI) in partnership with the Africa-based centers of the Consultative Group on International Agricultural Research (CGIAR), the NEPAD Planning and Coordinating Agency (NPCA), the African Union Commission (AUC), and the Regional Economic Communities (RECs). The Africa-based CGIAR centers and the RECs include: International Institute of Tropical Agriculture (IITA) and the Economic Community of West
African States (ECOWAS) for ReSAKSS–WA; the International Livestock Research Institute (ILRI) and the Common Market for Eastern and Southern Africa (COMESA) for ReSAKSS–ECA; and the International Water Management Institute (IWMI) and the Southern African Development Community (SADC) for ReSAKSS–SA.

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Executive Summary

This annual trends report for agricultural and rural development indicators is a monitoring and evaluation tool. It can be used to facilitate critical assessment of the progress being made in implementing and achieving the goals of Comprehensive African Agriculture Development Program (CAADP) and other national developmental goals. CAADP aims at helping African countries to achieve high economic growth through agriculture-led development. The agricultural sector in Kenya contributes significantly to the national Gross Domestic Product (GDP) and employment. It provides a livelihood base for the majority of the population that live in the rural areas.

The country has over the years formulated and implemented policies and strategies to enhance productivity and increase growth in the agriculture sector. Most recently the country adopted the Agricultural Sector Development Strategy (ASDS 2010-2020), as its CAADP compact to guide public and private efforts in overcoming the outstanding challenges. The report tracks the country's implementation of the CAADP process; it further explores the trends in agricultural investment, overall and sub-sector agricultural growth performance, and agricultural trade performance. The report also explores the poverty, hunger, food and nutrition security and the linkages between agricultural investments, economic growth, poverty and hunger outcomes.

Kenya has completed the process of preparing the CAADP compact which was signed on 24th July 2010. Subsequently, the country completed the first medium term investment plan (MTIP 2010-2015) which was launched in September 2010. The MTIP was developed through a consultative process. According to the plan, the state is expected to provide about 65% of the total development funding cost equivalent to about Ksh 161 billion. This funding requirement is substantially high to be financed through the existing government expenditure framework hence the proposal to establish an Agricultural Development Fund (ADF). A comprehensive monitoring and evaluation mechanism is being developed under the coordination of Agriculture Sector Coordinating Unit (ASCU).

The budgetary allocation to the Agricultural score remains far below the CAADP target of 10 percent. It currently stands at around 4.8 percent although in absolute terms it has increased over the years. However, there are also concerns about the current absorptive capacity which is estimated at 67 percent of the allocated funds, with Ministries of Livestock Development, Fisheries Development and Lands being the worst hit. Nonetheless, the government has committed to increasing the sector funding gradually towards the CAADP target. It is also impressive that the government expenditure in the sector as a proportion of the agricultural GDP has been increasing, rising from 6.3 percent in 2003/04 to 12.4 percent in 2007/08.

In recognition of the critical role of the private sector in commercialization of agriculture, the government has developed a framework for Public-Private-Partnership within the National Economic and Social Council (NESC), National Business Agenda (NBA), the budgetary Process' Sector Working Groups (SWG), Ministerial Stakeholders Forum (MSF) and Ministerial Taskforces (MTFs). The private sector plays a key role in distribution of agricultural inputs, manufacture and distribution of agricultural outputs. As a result, the government is implementing various initiatives to address the challenges encountered by the private sector players in agriculture. Among the key private sector players in agriculture are the Multinational Corporations which contribute up to 60 percent of output in tea and sugar sub-sectors.

Working side by side with the government and the private sector are donor agencies which provide budget support, albeit on a declining trend. Most importantly, the donors spearhead new initiatives and support pilot projects in addition to engaging in consultative processes with the government to identify and support government programmes.

The agricultural sector in Kenya has performed poorly in the recent past. Between 2005 and 2008, the sector had a declining GDP growth which hit a low of - 4% in 2008. The trend was not any different in the production of food crops. The declining growth was attributed to adverse weather conditions, low and declining productivity due to mismanagement and low technology adoption, and the political violence of early 2008. Since 2009, the sector has registered positive and increasing growth.

Agricultural exports still dominate the country's exports with the EU providing the largest market for Kenya's exports. The East African Community (EAC) and the rest of

COMESA are the second and third largest markets for Kenya's exports respectively. On the other hand, agricultural imports constitute about 10% of total imports and have been on an increasing trend. Dominating agricultural exports are tea (21%), horticulture (21%), coffee (4%) and tobacco (3%) while major agricultural imports include maize, wheat, rice and sugar. Besides formal trade, there is a substantial volume of informal trade taking place between Kenya and her neighbors. The country's agricultural trade balance has been steadily increasing, rising by 110 percent between 2001 and 2008. This indicates that the country has a competitive edge in the sector and could benefit greatly by increasing investment in the same. It is also good for food security, especially given the fact that food trade balance has also been on the rise over the years.

Poverty remains prevalent in Kenya, both in terms of incidence and depth. For the period 1997-2005 only marginal declines have been recorded; with a marginal increase in urban poverty. The current projections indicate that the country will not achieve Millennium Development Goal (MDG) 1 by 2015. Currently about 50 percent of the Kenyan population is food insecure, with the country's global hunger index standing at an alarming level of 20.20 in 2009. Expenditure on food dominates the budget of most Kenyan households, particularly in the rural areas, an indication of high levels of income poverty and probably high food prices. The prevalence of underweight children and under-nourished population remains high with marked regional differences in the country. However, national averages indicate that proportion of stunted children declined from 36.9 percent in 1996 to 34.7 percent in 2006. Underweight children dropped from 22.3 percent to 20.9 percent in the same period.

Investments simulations for Kenya indicate that the agricultural sector offers significantly higher growth and poverty reduction prospects compared to non-agricultural sectors. There is, therefore, need to continue intensifying the current efforts to invest in the sector. Furthermore, in order for these investments to achieve the highest impact on the rural poor, they need to be targeted at specific activities with the highest multiplier effects. These activities include irrigation, research and extension, rural roads and market interventions. Although different activities have different impacts in different regions, investment in food crop production has been found to yield significant benefits for the country in general. Production of industrial crops can also contribute to reducing the severity of rural poverty. The implication of this is that the country should not have a uniform

agricultural investment plan for all regions—each region should have intervention plans designed to address its prevailing circumstances and unique challenges.

In all, poverty, unemployment and food insecurity remain key development challenges in the country. Rural areas are the worst affected and as population increases efficiency-enhancing interventions in agricultural production will be critical. To achieve this, the government and the private sector should scale up investment in the agricultural sector, targeting technology development and adoption, input availability and affordability, careful crop and livestock selection and breeding, agricultural product value addition and marketing, and infrastructural development. Meeting the CAADP target could be one step forward but evidence-based targeting of agricultural expenditure would be even more critical and urgent.

1.0 INTRODUCTION

1.1 Structure of the report

This report is organized in seven chapters. Chapter one provides an introduction to the agricultural sector in Kenya and the ongoing Comprehensive African Agriculture Development Program (CAADP) processes in Kenya. It gives details on the efforts taken by the country so far in domesticating the continental process. Chapter two presents trends in agricultural investments in the country. Chapter three provides an overview of agricultural growth performance including selected agricultural sub-sector performance. Chapter four provides information on agricultural trade performance while Chapter five presents a discussion on the links between poverty, hunger, food and nutrition security. Chapter six explores the linkages between agricultural investment, growth, poverty and hunger in the country. Chapter seven is the final section which contains a summary, conclusions and policy recommendations.

1.2 Significance of the report

The annual trends report for agricultural and rural development indicators is a monitoring and evaluation tool that can facilitate critical assessment of the progress being made in implementing and achieving the goals of CAADP and other national developmental goals. CAADP is a common framework for agricultural development and growth for African countries based on the recognition that African economies are highly dependent on agriculture which is critical to reducing food insecurity and poverty.

The CAADP framework embraces an integrated form of commercialization and market-led growth of the agricultural sector, the pursuit of increased productivity, overall growth targets as well as strategies to address needs of the vulnerable rural population. At the continental level, New Partnership for Africa's Development (NEPAD) secretariat manages the overall accountability of CAADP implementation. At the country level the CAADP compact is the document that provides strategic benchmarks agreed upon for implementation, based on national priorities within the

existing strategies. This report provides information that may be used to monitor CAADP and other key agricultural and socio-economic indicators. It relies heavily on country level data and only resorts to international sources where these are unavailable.

1.3 CAADP implementation process in Kenya

The agricultural sector is an important economic contributor to the GDP and employment in the country. It contributes about 24 per cent of GDP and provides about 70 per cent of total employment in the country (KIPPRA, 2009). It is estimated that about 69 per cent of all households are engaged in farming activities and an estimated 84 percent of rural households keep livestock. Through cross-linkages with agro-based sectors and associated industries, the sector also indirectly contributes a further 27 per cent of the country's GDP. The sector is also vital in achieving the national goal of food security.

CAADP is an initiative by the African leaders that aims at helping African countries to achieve high economic growth through agriculture-led development. CAADP was endorsed by African leadership in 2003 and it aims at achieving a 6% annual growth rate for the agriculture sector by the year 2015. The overall aim of CAADP is to eliminate hunger and reduce poverty through agriculture by increasing public investment in agriculture to at least 10% of the national budget. Implementation of CAADP at the individual country level involves the alignment of national agricultural policies, strategies and investments with CAADP principles and targets. In essence the implementation process does not necessarily require starting new processes but rather it builds on on-going processes.

Kenya has over the years formulated and implemented policies and strategies to enhance productivity and increase growth in the agriculture sector. Most recently in 2008 Kenya launched the country's development blue print; the Vision 2030. The vision aims at transforming the country into a middle income country providing a high quality of life to all its citizens by the year 2030. To align its development goals

with the Vision 2030, the agricultural sector developed a strategy, the Agricultural Sector Development Strategy (ASDS), to guide public and private efforts in overcoming the outstanding challenges. This strategy also aims at ensuring food and nutritional security for all Kenyans as well as increasing incomes and employment, in the rural areas. ASDS is envisaged to position the agricultural sector as a key driver in achieving the 10 per cent annual economic growth rate envisaged under the Vision 2030. The process of developing the strategy was consultative and it involved the sector ministries, donors, private sector and other key holders. As noted in GoK (2010), the strategy's development process meets the step by step requirement for CAADP compact development. It therefore means that the Kenya CAADP compact is the agreement and commitment to implement the common vision (i.e. ASDS) as a means of addressing the agricultural development agenda. The President of the Republic of Kenya, officially launched the Kenya ASDS on 24th July 2010 and witnessed the signing of the CAADP.

ASDS will be implemented on the basis of 6 thematic areas which include:- i) Sustainable land and natural resource management; ii) Agribusiness, access to markets and value addition; iii) Food and nutrition security; iv) Research and extension; vi) Legal, regulatory and institutional reforms and vii) Inputs and financial services. These six thematic sectors encompass all the four pillars under the CAADP.

The first CAADP pillar aims at extending the area under sustainable land management and water management. The aim is to make agricultural development sustainable through introduction of sustainable land management projects and to reverse land degradation especially among the smallholders so as to improve productivity. Also considered important under this pillar is the restoration of ecosystem functions and diversity of agricultural landscape. The objectives of this pillar are directly addressed in the ASDS first thematic area on Sustainable Land and Natural Resource Management (SLNRM).

The second CAADP pillar of improving rural infrastructure and access to markets so as to accelerate growth in the agricultural sector through commercialization is

covered under the ASDS second theme on agribusiness, access to markets and value addition. The third CAADP pillar of increasing food supply and reducing hunger is anchored in the food and nutrition security thematic area of the ASDS. The thematic working group (TWG) under this pillar has already developed a National Food and Nutrition Security policy with its implementation strategy. The fourth pillar of CAADP on agricultural research, technology dissemination and adoption is addressed in the research and extension thematic area of the ASDS. In addition to the four CAADP pillars, ASDS has two additional thematic areas; the legal, regulatory and institutional reforms thematic working group seeking to create an enabling environment for a competitive agricultural sector. It is currently developing an agricultural sector reform bill which will consolidate and harmonize existing legislation in the sector. In addition, the TWG on Inputs and Financial Services is integrated in CAADP's third pillar.

1.3.1 Coordination of CAADP activities

At the national level the implementation of the CAADP process is coordinated by the agricultural sector coordinating unit (ASCU). ASCU is generally accepted as a secretariat of the agricultural sector ministries, by both public and private sector stakeholders as well as development partners. It coordinates the implementation of the ASDS by spearheading the policy reforms and providing linkage and collaboration between sector stakeholders. It also creates an enabling forum for sector wide consultation from grassroots to the national level and promotes increased participation of the private sector. To ensure successful implementation of the country CAADP process, ASCU will play the role of the country CAADP team and continue to fast track priority intervention areas through the thematic working groups.

1.3.2 Funding for the CAADP process

However, despite the efforts so far, Kenya has not met some key requirements of the CAADP goals but it is working progressively towards achieving them. The government has committed itself to increase the budget allocation for the agriculture sector from the 4.5% in 2008/09 to 8% of the national budget. There is

need for government to back its commitment in the agricultural sector by increasing funding to a minimum of 10% of the national budget. The CAADP country process requires prioritizing investments and costing options to focus on the best returns for an investment plan and ensure the necessary conditions to meet set objectives. Similarly, the agricultural sector has developed the first Medium Term Investment Plan (MTIP) 2010-2015. This was done through a consultative process, involving both the public and private sector stakeholders to identify priority investment areas. The MTIP contains detailed budgets for the subsector investment projections. To finance the MTIP plan, the government of Kenya will provide Ksh161.22 billion (65.3 percent) of the total development budget cost, and request development partners and the private sector to provide an estimated Ksh 77 billion (31.2 percent) and Ksh 2.56 billion (1 percent), respectively. This leaves a gap in funding of ksh 6.23 billion (2.5 percent) of the total cost (CAADP, 2010).

Already, measures to mobilize resources for the sector have been put in place. The development of investment plans under CAADP by African countries, may still find a challenge of funding through the Medium Term Expenditure Framework (MTEF) process as the prevailing ceilings may not allow disbursement of huge amounts of investment funds. Therefore, the agricultural sector ministries have proposed the establishment of an Agricultural Development Fund (ADF), with an annual funding equivalent to 2.8 percent of the projected average government expenditure translating to Kshs 17.5 billion in the next three years. This is additional to the 8 percent of total budgetary allocation that has already been agreed upon.

The country's MTIP 2010-2015 has five strategic focus areas:

a) Increasing productivity and promoting commercialization and competitiveness in all areas of agriculture such as crop production, livestock production, fisheries and forestry;
b) Increasing market access by promoting cooperatives and agribusiness;

c) Developing and properly managing national water resources, land resources, forestry and wildlife in a sustainable fashion;
d) Reforming agricultural services, credit, regulatory, processing and manufacturing for efficiency and effectiveness; and
e) Deepening private sector participation in agricultural development (Republic of Kenya, 2010).

1.3.3 Monitoring and evaluation

In recognizing the need to effectively measure the impacts of implementing the CAADP programs, the agricultural sector is developing a comprehensive sector-wide Monitoring and Evaluation (M&E) framework through a consultative process under the coordination of ASCU (The Kenya CAADP Compact, 2010). The Government of Kenya has already established a National Integrated Monitoring and Evaluation System (NIMES) whose objective is to measure efficiency of government programmes and the effectiveness of policies. The implementation of activities within the CAADP framework will be linked to NIMES through the sector-wide M&E framework to ensure proper accountability of public resources and measurement of impact.

This will be achieved through provision of regular information from the various sub sectors. In addition the process will be linked to the African Peer Review (APR) mechanism at the continental level. In addition, the agricultural sector in Kenya holds a biennial conference that brings together stakeholders from both the public and private sector. This process is the equivalent of the CAADP roundtable meeting. This National Forum provides a platform for reviewing progress in the sector.

1.4 Selected policy instruments in the agricultural sector

The government of Kenya has, over the years used tariff and non-tariff measures to regulate trade in the agricultural sector. This section examines these measures and the impacts they have had on the sector.

1.4.1 Tariffs

Kenya's custom taxes have over the years been reformed by restricting duty exemptions, encouraging exports, reforming the tariff structure and strengthening the administration of customs duties. These reforms were broadly aimed at encouraging free market competition and increasing levels of foreign direct investment. During the early period of tax reforms (1987 to 1998), the top tariff rate was reduced systematically from 170% to 25%, while the rate bands were reduced from 24% to 5% (including duty free). As a result of these changes, the simple average rate fell from 40% to 16% (Muriithi and Moyi, 2003).

As part of the reforms most import license controls were dismantled in the mid 1990s. Kenya operates six export processing zones, where manufacturers gain a 10-year corporate tax holiday (25% thereafter), a 10-year withholding tax holiday on dividend remittance, duty and VAT exemption on all imports except motor vehicles, and exemption from most other regulatory schemes. The Manufacturing under Bond (MUB) program gives similar incentives to companies not located in the export processing zones.

Trade in agricultural products is hampered by the country's high tariffs and Value Added Tax (VAT) although these are occasionally altered in the light of domestic supply and demand realities. On average, the country's tariff rate is 12.6 percent (WTO, 2008). Being a member of the EAC, Kenya applies the EAC Customs Union Common External Tariff, categorized in three tariff bands— zero duty for raw materials and inputs; 10 percent for processed/manufactured inputs; and 25 percent for finished products. A group of products described as sensitive which includes milk and milk products, corn, popcorn, rice, wheat, and wheat flour attract tariff rates of more than 25 percent. The aim is to promote domestic production by enabling domestic producers to access inputs more cheaply while insulating them from international competition for domestic market access. Farmers are beneficiaries of these measures.

For food security, the government allowed duty-free importation of white maize from November, 2008 up to June, 2010. Products such as bread, wheat flour, milk, rice, and corn flour were also zero-rated. In August, 2008, export of maize was banned to ensure adequate supply of maize meal which was then dwindling. Overall, while average tariffs have been falling, tariffs on agricultural products have increased over the years. Average tariff rates on food and livestock have increased to about 35 percent, with much higher rates on sugar and a few other specific agricultural products (Winter-Nelson and Argwings-Kodhek, 2007).

Agricultural producers have benefitted from zero-rating of fertilizer since 2008. Other than the 2.25% import declaration fee, there are no taxes imposed on import of fertilizer (AGRA, 2010). However, it would be wrong to assume that importation and local production of fertilizer do not attract any levies at all. Table 1.1 outlines the various categories of taxes and levies charged on fertilizer in the country.

Table 1.1: Taxes and Levies on fertilizer

Imported fertilizer	
Type of tax/levy	Tariff
Pre-inspection verification of conformity (PVoC)	0.475% FOB value
Port tariff	USD 5 per ton
Import Declaration fee (IDF)	2.25% of CIF
VAT (refundable)	16% of the package material and on such services as off-loading, bagging and transport
Incentive for labour (paid to reduce inefficiencies at the port)	USD 10 per ton
Locally-manufactured fertilizer	
VAT (refundable)	16% on raw material (rock phosphate & sulphur)
Excise duty	125% on poly-ethylene materials
IDF	2.25% CIF value

Source: AGRA, 2010

Like fertilizer, seed is zero-rated in terms of import duty. Seed importers pay 2.25% IDF and 16% VAT on transport besides levies charged by the Kenya Plant Health Inspectorate Service (KEPHIS).

1.4.2 Non-tariff measures

The volume of intra-regional trade among the EAC countries remains low despite the reduction of tariff barriers to trade. This implies that trade, to a large extent, may still be restricted by Non-tariff barriers (NTBs). These NTBs impose high transaction costs on traders and discourage development of intra-regional trade. NTBs include weighbridges, security, customs clearance, road toll stations, branding (e.g. of cattle), standards and certification, and bribes (Karugia et al., 2009). Other NTBs include trade licenses which include business license, road transport license, and livestock clearance license. For instance, the cost of NTBs on maize import in Kenya from Uganda and Tanzania has been estimated at US$0.09 per ton per kilometre while that of beef trade has been estimated at US$0.17 per ton per kilometre (Karugia et al., 2009).

Road blocks and the cumbersome clearance procedures that come with them constitute a major component of NTBs in the entire EAC, and are fertile grounds for corruption (Karugia et al., 2009). Kenya has had the highest number of road blocks among the EAC countries. The northern corridor alone had 45 road blocks until 6th February, 2009 when they were reduced to 15 (Republic of Kenya, Ministry of East African Community, 2009).

To tackle the NTB and increase the volume of intra-regional trade, the Kenya government has committed to improving the condition of roads, reducing road blocks by 68%, modernizing weighbridges and reducing their number, tackling insecurity along the highways and fighting corruption.

1.4.3 Subsidies

Government spending is one of the most direct and effective methods of enhancing agricultural development. It is, however, low in the country currently. The worsening current account deficit arising from the combined effects of food, energy and financial crises continues to make it difficult for the government to meet its expected agricultural investment target.

While farmers in the rich countries continue to receive more subsidies, poor farmers in Kenya and the rest of sub-Saharan Africa lack comprehensive support packages. This goes against expectations because it is in the developing countries that agriculture plays a more critical role in development. For example, the share of agriculture in the GDP is extremely low in many of the Organization for Economic Cooperation and Development (OECD) countries, ranging from 1% for United States of America, United Kingdom and Germany, to 2% for Japan, Italy and France. Farmers in these countries, however, receive the highest level of subsidies, in some cases as high as 62% of gross farm receipts. Estimates of agricultural subsidies as shares of agricultural GDP are high: USA (25%); UK (22%); Italy (20%); Germany (30%) and France (29%). This compares poorly with the developing countries, Kenya included (Figure 1.1).

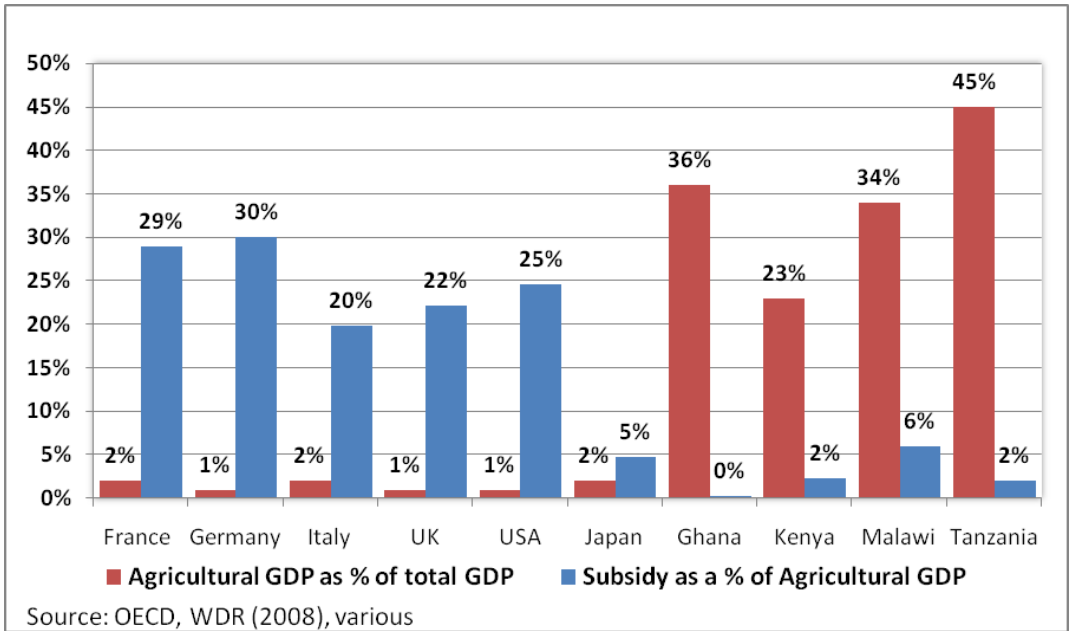


Figure 1.1: Agricultural GDP and Subsidies in selected OECD and SSA Countries

In all the selected OECD countries, agricultural subsidy as a percentage of agricultural GDP is higher than agricultural GDP as a percentage of total GDP.. The reverse is true for Sub-Saharan countries. Notably, Malawi which spends relatively more on agriculture in general and fertilizer program in particular, is indeed more food secure than Kenya. A lesson that may be drawn from this is that, while increasing

agricultural expenditure is critical, proper targeting of such expenditures is even more important.

Currently, the government is providing agricultural subsidies indirectly through projects. The National Accelerated Agricultural Input Programme (NAAIP), initiated by the government in 2007 is one such channel. The aim of NAAIP is to promote food security, agricultural input use, input market development, and agricultural productivity. The programme targets reaching 2.5 million smallholders with maize seed and fertilizers.

Under the programme, disadvantaged households are issued with vouchers redeemable through private input sellers eligible for credit guarantees (FAO, 2009). The main limitation of the NAAIP is that it has been targeting only maize farmers, ignoring other smallholders who engage in production of other equally important crops. The scheme is also seen to be poorly structured and harmful to fertilizer importers (AGRA, 2010).

Other projects through which farmers and households are assisted include:

a) Smallholder Dairy Commercialization Programme whose aim is to build capacity of the small scale dairy producers and traders. The project also offers technical assistance to farmers in preparation for ultimate privatization of service provision;
b) Arid and Semi-Arid Lands (ASAL)-Based Rural Livelihood Project which aims at improving rural livelihoods and food security through improved livestock productivity, marketing and support for drought management and food security initiatives in the Arid and semi-arid areas;
c) Economic Stimulus Programme (ESP) whose broad aim has been to protect the various sectors of the economy from recessionary forces. For the agricultural sector, ESP is meant to increase availability and accessibility of maize and rice volumes, and to increase and stabilize Strategic Grain Reserves in the country through increased land under irrigation, and expansion of irrigation infrastructure. Through the programme, the government facilitated acquisition of farm inputs to the tune of Kshs193

million in the 2009/10 financial year. Through the same programme, fish farming is being enhanced with 200 fish ponds being constructed in each of the 140 constituencies identified; and

d) Njaa Marufuku Kenya which targets spending up to Kshs 8 billion nationwide to improve food security situation in the country by 2015 (GoK, Economic Review of Agriculture, 2010)

2. AGRICULTURAL INVESTMENT TRENDS AND OPPORTUNITIES

This section examines the volume and trends of investment in the Agriculture and Rural Development sector in the country by both the government and private sector players. According to Kenya Investment Authority (see www.investmentkenya.com) the agriculture sector in Kenya offers many investment opportunities including intensified irrigation, value added processing, seed production, manufacture of sprayers and pesticides, veterinary services, construction of dams and bore holes, installation of irrigation systems and services. In addition there are opportunities support services, such as cold storage facilities and refrigerated transport for horticultural and other perishable products. In the horticulture sector, which is one of fastest growing sector, there are opportunities for the production and export of cut flowers, French beans, pineapples, mushrooms, asparagus, mangoes, macadamia nut among others. Opportunities also exist in sectors such as fisheries, poultry and livestock.

2.1 Public Sector Participation in Agricultural Sector

Development and resource allocation in the Agricultural sector in Kenya is guided by the Strategy for Revitalizing of Agriculture (SRA) (2004), Agricultural Sector Development Strategy (ASDS) (2009) and the country's development blue print, the Vision 2030. The key objectives include:

a) Transforming institutions for effective and efficient management of the sector;

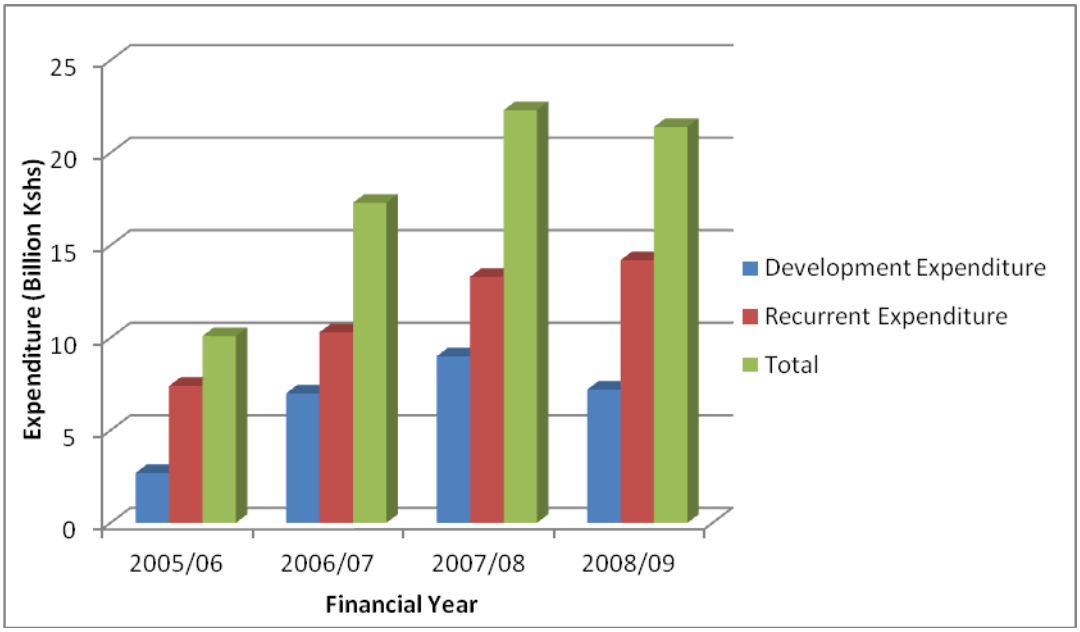
b) Enhancing productivity through improved access to modern inputs and agricultural services;

c) Land use transformation;

d) Extension of agricultural activities to arid and semi-arid areas; and

e) Value-addition for increased market access and profitability.

Contrary to the Maputo Declaration which envisaged increased resource allocation to the agricultural sector to 10 per cent of GDP by the year 2010, Kenya's allocation remains low, estimated at a paltry 4.3 percent. Lately, however, these allocations have shown positive growth (Figure 2.1).



Source: Ministry of Finance, Appropriation Accounts, 2005/06-2008/09

Figure 2.1: Trends of Expenditure in Agriculture and Rural Development Sector

Government expenditure in the Agriculture and Rural Development Sector has been rising steadily over the years. It increased from Kshs 16.5 billion in 2003/04 to Kshs 22.4 billion in 2007/08 (GoK, Public Expenditure Review, 2010). This rise, however, was disrupted in 2008/09 perhaps due to the post-election crisis and the subsequent expansion of the size of the government in 2008. About Kshs1.8 billion of public spending in agriculture was also transferred to the Ministry of Special Programmes for food security expenses (MOA, 2009).

Despite the rise in budgetary allocation to the sector, the capacity of the sector to absorb the allocated funds remains a major constraint. It is estimated that only 67 percent of the allocated funds are absorbed (KIPPRA, 2009). Ministries of Livestock Development, Fisheries Development and Lands are the worst hit in this respect.

While the government expenditure on the agricultural sector has increased in real terms, as a percentage of total government spending, it has stagnated at 4 percent. However, the sector's allocation as a proportion of GDP increased from 1.4 percent in 2003/04 to 1.6 percent in 2007/08. As a proportion of agricultural GDP, the sector expenditure rose from 6.3 percent in 2003/04 to 12.4 percent in 2007/08, averaging

at 8.5 percent which is higher than Sub-Saharan 2005 average of 6.4 percent but lower than Asia's 10.2 percent (GoK, Public Expenditure Review, 2010). Table 2.1 gives a summary of government expenditure in the agricultural sector between 2003/04 and 2007/08.

Table 2.1: Government Expenditure in the Agricultural Sector

	2003/04	2004/05	2005/06	2006/07	2007/08
Total Agricultural Expenditure (billion Kshs)	16.5	16.3	18.6	20.6	28.5
Total Government Expenditure (billion Kshs)	376.3	379.8	432.6	508.8	658.1
Fiscal data GDP series (billion Kshs)	1164.2	1302.6	1455.5	1685.1	1832.8
Fiscal agricultural GDP (billion Kshs)	262	248.2	251.5	246.5	229.5
As percentage of total government expenditure	4.4	4.3	4.3	4.1	4.3
As percentage of agricultural GDP	6.3	6.6	7.4	9.9	12.4
As percentage of GDP	1.4	1.3	1.3	1.2	1.6

Source: GoK, Public Expenditure Review, 2010

2.2 Private Sector Participation in the Agricultural Sector

Private players in the agricultural sector in Kenya include profit-motivated and not-for-profit non-state actors. They include farm households, farmer groups, farm companies, commodity associations, agri-business firms, farmers' cooperatives, agricultural input dealers, agricultural processors, agricultural warehouse service providers, transporters, agricultural packaging agents, agricultural financial service providers and development partners. Others include insurers, technical/professional service providers, Non-Governmental Organizations (NGOs), Faith-Based Organizations (FBOs), Community-Based Organizations (CBOs) and other resource mobilization organizations.

Kenya Private Sector Alliance (KEPSA), a coalition of private sector institutions, coordinates most of the private sector activities. It is this body that leads private sector engagements with the government in pursuit of improving the business

environment; accelerating public sector institutional transformation, promoting the private sector cultural change; facilitating growth through trade expansion; improving productivity and competitiveness of enterprises and supporting entrepreneurship and development of micro and small enterprises in line with the National Development Agenda.

Agricultural producers also are coordinated by an umbrella body, the Kenya National Federation of Agricultural Producers (KENFAP). On the other hand, commercial agricultural service providers are coordinated by the Kenya National Federation of Cooperatives (KNFC). It is KENFAP that currently chairs the Agricultural Sector Board of KEPSA. This makes it the private sector focal point in various consultations and functions under the Public Private Partnership (PPP) implementation initiative.

Private sector in agriculture is the engine for re-engineering agriculture towards increased productivity, agribusiness and development of support or infrastructure. The private sector initiative derives its legitimacy and power from the Public Private Partnerships (PPP) in the framework of the National Economic and Social Council (NESC), National Business Agenda (NBA), the budgetary Process' Sector Working Groups (SWG), Ministerial Stakeholders Forum (MSF) and Ministerial Taskforces (MTFs) created through Kenya Gazette Notice No. 7699 of 24 September 2004. The initiative seeks to promote efficiency and effectiveness in service delivery by tapping private sector strengths and building synergies through dialogue, collaboration and networking.

One of the most critical roles of the private sector is the distribution of inputs and outputs. For instance small and large scale traders play a significant role in the market for staple crops in Western, Nyanza and Central regions of the country as illustrated in Table 2.2.

Table 2.2: Buyers of major staples in Western, Nyanza and Central Regions

Staple	Buyer	Percentage of total

		quantity sold
Maize	Traders	74.1
	NCPB	0.4
	Processors	0.3
	Consumers	21.7
	Institutions	3.5
Cassava	Traders	53.3
	Consumers	46.7
Sorghum	Traders	51.9
	Consumers	48.1
Millet	Traders	78.9
	Processor	2.4
	Consumers	18.8

Source: Alliance for a Green Revolution in Africa (AGRA), 2010

This underscores the importance of the private sector in commercialization of the agricultural sector. Given this important role, the private sector is critical for improving food security by distributing staple crops from source regions to areas of scarcity.

The private sector also plays a key role in importation, manufacture and blending of fertilizer. For instance Single Super Phosphate (SSP) is manufactured by KEL chemicals in Thika. Fertilizer blending is done by Athi River Mining Ltd and MEA Ltd. About 64 firms engage in fertilizer import, key ones being YARA, MEA Ltd, Pisu and Company Ltd, Mijingu, Export Trading and Athi-River Ltd (AGRA, 2010). Besides the fertilizer importers, there are about 500 fertilizer distributers in the country, spread in various parts of the country. Seventy of these distributors are large scale, each handling approximately 100 MT of fertilizer per year (AGRA, 2010).

Another important area where the private sector continues to play a critical role is the production, importation and distribution of seeds. Currently, there are about 79 registered seed companies, some of which are members of the Seed Trade Association of Kenya (STAK) which accounts for 90% of formal seed business in the country (AGRA, 2010). Among the seed importers are multinational companies such as Monsanto, Regina Seed and PANNAR. There are also about 5,600 agro-dealers registered with KEPHIS to sell certified seeds.

2.2.1 The challenges of private sector participation in the agricultural sector

Private sector involvement in commercialization of agriculture faces various hurdles as identified in the Agricultural Sector Development Strategy (ASDS) 2010-2020. Foremost, the agricultural producers are disorganized, leaving them vulnerable to market power and unable to negotiate prices or hedge against agricultural risk. Thus, the farmers, particularly the small scale producers who dominate the sector, suffer price fluctuations, high input prices, limited access to proper storage facilities leading to large post-harvest losses, limited access to affordable credit, and lack of timely and appropriate information. The smallholder organizations that exist are too weak to effectively engage the government and non-governmental institutions.

Producer organizations, weakened by financial constraints, low technical and administrative capacity, weak legal and institutional framework, low geographical coverage and membership, and political interference, are unable to deliver desirable and sustainable results. On the other hand, agribusiness firms face a myriad of challenges ranging from high cost of doing business, counterfeit/sub standard goods to poor protection of intellectual property rights. Financial institutions, on their part, have low geographic coverage and experience increased levels of defaulting and shortfalls in prudent financial management.

Agricultural productivity and competitiveness are hampered by poor physical infrastructure, high cost of energy, and low information and communication technology development. Trade facilitation and market access under negotiated bilateral and multilateral trade agreements, cumbersome documentation, long processing time at entry points, and ineffective monitoring and evaluation mechanisms also hinder business development.

2.2.2 Addressing the challenges

The government, in ASDS, promises to tackle the above bottlenecks by instituting legal and institutional reforms, facilitating organization of smallholders' associations at various levels, strengthening capacity of producer organizations, and promoting private sector participation in transformation of agricultural services.

Irrigation is yet another intervention avenue that the government has identified. This is critical given the fact that about 80 percent of the country's land area is either arid or semi-arid. Irrigation and drainage potentials of the country are estimated at 1.3 million hectares and 600,000 ha, respectively. Of the total irrigation potential, 540,000 ha can be developed with the available water resources while the rest will require water harvesting and storage.

Currently 114,600 ha of irrigation area and 30,000 ha of drainage area have been developed. Smallholder schemes cover approximately 49,000ha, (43%); Public/National schemes cover 20,600ha, (18%) while Private schemes cover 45,000ha, (39%) (GoK, 2009). The irrigation schemes are spread in various parts of the country and most of them have not met the targeted land area (Table 2.3)

Table 2.3: Irrigation Projects in Kenya

Projects	Managing Institution	Crop	Target acres	Achieved acres
Bura	NIB	Maize	5000	4800
Hola	NIB	Maize	1125	1240

Bura	NYS	Maize	3000	432
Hola	NYS	Maize	1375	20
Perkerra	NIB	Maize	600	600
TDIP	TARDA	Maize	2500	550
Kibwezi	NIB	Maize	500	500
Ahero	NIB	Rice	3000	2500
West Kano	NIB	Rice	2250	2250
Bunyala	NIB	Rice	1200	1600
Mwea	NIB	Rice	10000	18000
S.W. Kano	NIB	Rice	3000	2000
TDIP	TARDA	Rice	1500	Nil

Source: GoK, Economic Review of Agriculture, 2010

The irrigation projects in the country are managed mainly by the National Irrigation Board (NIB), National Youth Service (NYS) and Tana and Athi River Development Authority (TARDA). It is clear that most of the projects still fall below their targeted capacity.

Development of irrigation schemes has been slowed down by limited financial resources, lack of a national plan and policy, limited research on irrigated crops, inadequate physical infrastructure, mismanagement, land tenure insecurity, and poor farmer participation in some of the smallholder schemes. Consequently, the government seeks to finalize the national irrigation policy and legal framework, intensify and expand irrigation, increase and improve rain water harvesting and storage for agriculture and rehabilitate and protect the main water towers.

Besides the irrigation infrastructure, the government of Kenya has also endeavoured to improve market access by improving the quality and quantity of physical infrastructure services. Some of the milestones include: reducing the proportion of road network in poor condition from 43 percent in 2003 to 28 percent in 2008; reconstruction and rehabilitation of 1581 kms of roads; periodic maintenance of 1380 kms of roads; completion of 932 kms of new road sections; and improvement

of 5682 kms of rural access roads (Republic of Kenya, Public Expenditure Review, 2010).

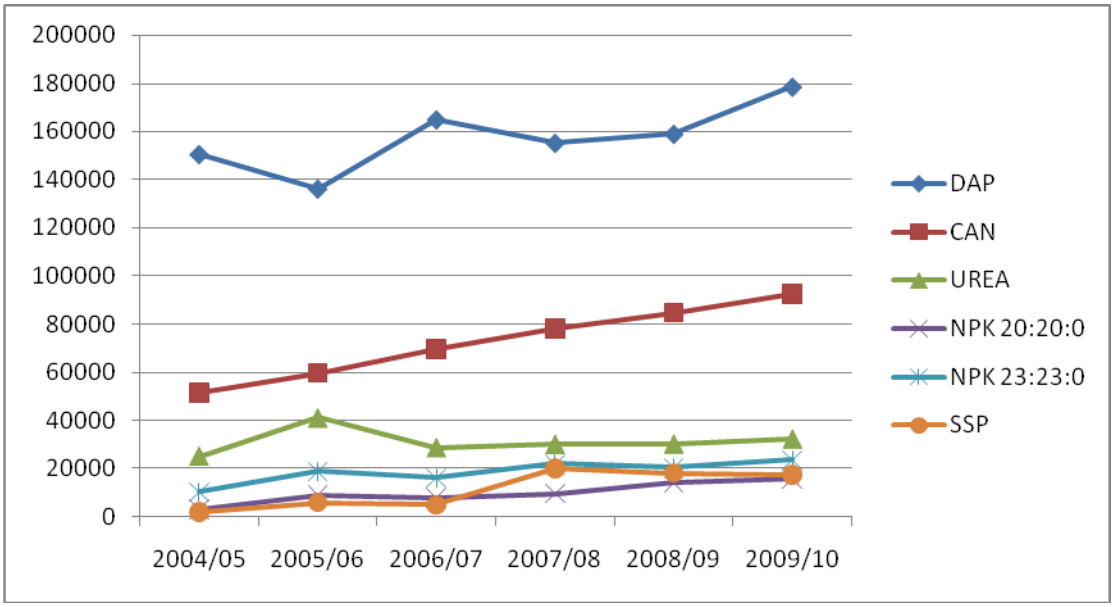
The government is also transforming land ownership and management to promote public and private investment in agriculture. For a long time, land has been a subject of controversy and has been widely used in an uneconomic manner, perhaps due to lack of a National Land Policy. This has resulted in deterioration in land quality, squatting, landlessness, under-utilization and abandonment of agricultural land, tenure insecurity and conflict. The National Land Policy, which has now been adopted, is expected to be followed by a National Land Use Policy to address rapid urbanization, inadequate land use planning, unsustainable production, poor environmental management, and inappropriate ecosystem protection and management. The government proposes to undertake development of GIS-based land registry, formulation and implementation of land use master plan, settlement of the squatters, and investment in institutions and infrastructure (GoK, 2009).

2.3 Investment in inputs

Agricultural inputs are diverse and varied, depending on the scale of production, agro-ecological zone and type of crops grown. It is, therefore, not possible to comprehensively cover all of them. This section will, thus, examine only two inputs—inorganic fertilizer and improved seed varieties.

2.3.1: Adoption and intensity of Fertilizer use

Figure 2.2 shows the annual fertilizer off-take for the financial years from 2004/05 to 2009/10.

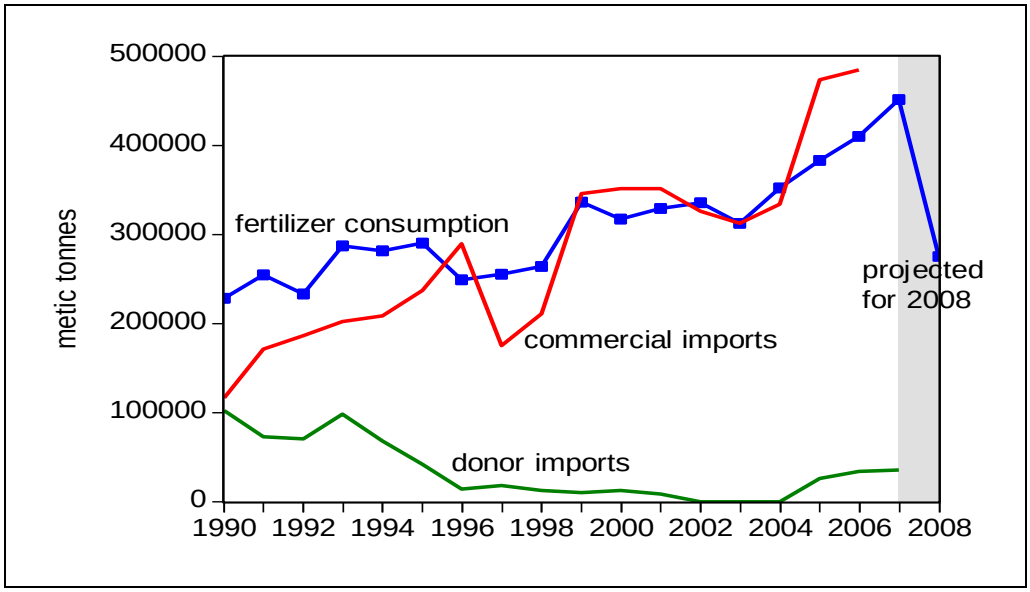


Source: GoK, Economic Review of Agriculture, 2010

Figure 2.2: Annual off-take of selected fertilizer types (in tons)

Trends indicate that investment in fertilizer has been on the rise despite remarkable fluctuations in some cases. DAP, a fertilizer used for planting, and CAN used for top dressing dominate the other types of fertilizer. Use of CAN has been on a steady rise since 2004/05. Fluctuations in the use of DAP has been attributed to occasional steep increases in its domestic price as was witnessed in 2008/09.

Much of the fertilizer used in the country is imported, either by private firms or through donor support. Figure 2.3 indicates the trends in the quantities imported and consumed for the period 1990-2008.



Source: Ariga et al., (2008)

Figure 2.3: Trends in fertilizer consumption, commercial imports, and donor imports, 1990-2007, with projections for 2008

The trends indicate that the donors substantially supported the agricultural sector in terms of fertilizer imports between 1990 and 1993. Thereafter, this support started to decline, reaching an all time low between 2002 and 2004. The drop in donor support for fertilizer imports has been replaced by a rise in commercial imports of fertilizer.

On average, fertilizer uptake has been on an upward trend in the period of reference, only showing mild fluctuations due to changes in fertilizer prices. It is in this light that the government seeks to implement strategies that will reduce fertilizer prices (Republic of Kenya, 2007). It is encouraging that the rise in inorganic fertilizer use in the country is occurring among smallholder farmers and across all agro-ecological zones (Table 2.4) however the rate of application remains below the recommended level.

Table 2.4: Percentage of households using inorganic fertilizer by agro-ecological zone

Agro-ecological zone	1997	2000	2004	2007
Coastal lowlands	2.7	6.8	8.0	12.3
Eastern lowlands	35.2	48.3	56.6	56.6
Western lowlands	5.9	11.8	15	30.5
Western transitional	58.1	77	85.8	87.8
High potential maize zone	86.1	90.5	90.5	93.6
Western highland	91.5	89.9	92.2	94.6
Central highlands	99.2	99.6	97.1	97.9
Marginal rain shadow	27	35.1	32.4	54.1
Overall	63.9	69.9	71.9	76.3

Source: AGRA, 2010

This indicates that the rising fertilizer uptake has the potential of ameliorating household poverty, and improving national food security situation through increased agricultural production. The fact that this is happening across all the agro-ecological zones is a pointer to the fact that obstacles to inorganic fertilizer adoption are gradually weakening. Perhaps what remains is to ensure that households use recommended quantities of fertilizer— 50kg of DAP and 60 kg of CAN per acre for maize production (KARI as cited by AGRA, 2010).

2.3.2: Adoption of improved seed varieties

Adoption of improved maize varieties is fairly high, standing at an average of 65% of farm households. For other food crops, adoption of improved varieties is very low, ranging between 0 and 6%. Regional differences also exist in adoption rates with Nyanza recording the lowest proportion of farm households planting improved maize varieties (Table 2.5).

Table 2.5: Adoption and intensity of use of improved seed varieties of staples

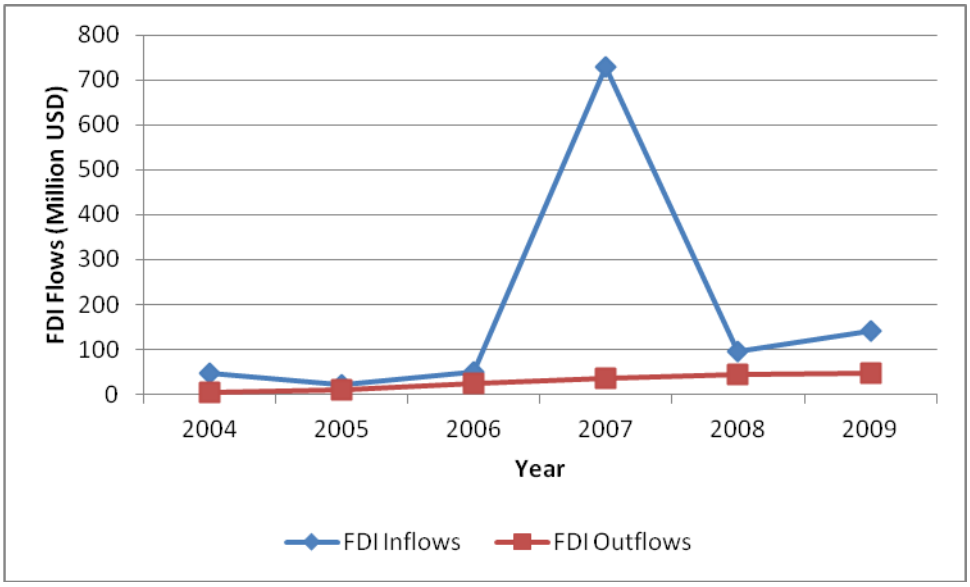
Staple	Western		Nyanza		Central		Overall	
	% of hholds	% of Area	% of hholds	% Area	% of hholds	% Area	% of hholds	% Area
Maize	77	71.1	29.6	21.8	77.2	67.3	65.1	56.9
Beans	1.7	1.3	1.3	1.2	2.9	1.7	2.0	1.4
Sorghum	2.7	2.7	4.2	4.2	14.3	11.9	4.4	4.2
Millet	1.8	1.8	0.0	0.0	0.0	0.0	1.4	1.4
Bananas	1.8	1.8	0.8	0.8	10.4	8.5	5.5	4.6
Cowpeas	1.0	0.9	0.0	0.0	2.5	2.1	1.1	0.9
Cassava	1.3	1.3	3.1	3.1	0.0	0.0	0.4	0.3
Irish potatoes	0.0	0.0	0.0	0.0	1.9	1.4	1.8	1.3
Sweet potatoes	1.2	0.9	1.9	1.4	3.3	3.3	1.7	1.4
Soya beans	5.7	5.7	0.0	0.0	0.0	0.0	4.1	4.1
Pigeon peas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: AGRA, 2010

The fact that not all the area under a given staple is planted with improved seed variety indicates that the intensity of adoption is still low.

2.4 Agricultural Foreign Direct Investment (FDI) in Kenya

Generally, FDI inflows into Kenya have been less than $100 million per annum for the period 2003-2008 except in 2007 when it surged to $728 million (Figure 2.4). The rise in 2007 was stimulated by privatisation of state-owned telecommunications and railway companies. Horticulture and floriculture, garments, tourism, banking, and telecommunications were the main FDI attractions.



Source: African Economic Outlook, 2010.

Figure 2.3: FDI flows in Kenya, 2004-2008

Contract farming is yet another way in which the Multinational Corporations (MNCs) participate in agriculture. For the MNCs, contract farming offers better control over quality than spot markets, and is less capital-intensive, less risky and more flexible than typical FDI. Contract farming is also advantageous to the farmers because agricultural risk is shared with the MNC making income more predictable and access to market guaranteed. In addition the MNCs may offer support in the form of credit facilities and technical assistance. In Kenya, the share of contract farming in industrial crop output is high—60 percent in tea and sugar production.

It is also noticeable that FDI outflows have been steadily rising from 2003 to 2008. While these may not necessarily be agricultural, they indicate development of an entrepreneurial class in the country, which is a driver of poverty alleviation and employment creation.

2.5 The role of Development Partners and international Organizations

Development partners, either on bilateral or multilateral basis, have supported the agricultural budget for many years. Currently, however, the role of these partners in funding agricultural sector budget has declined, with the government meeting about 90 percent of the agricultural budget. The average donor support to the agricultural

sector, excluding activities implemented directly by donor agencies in partnership with private and non-governmental organizations, was Kshs 1.1 billion between 2003/04 and 2007/08 (GoK, Public Expenditure Review, 2010).

Development partners, however, continue to play an important role, particularly in spearheading new initiatives and carrying out pilot projects. Projects relating to provision of innovative ways of extension service and projects which target aspects of value addition and market orientations have become key focus areas for most development partners. Of particular importance has been the development partners' support to the agricultural reform process. It is believed that donor support to the agricultural sector outside the government financial system is substantial although there are data challenges to capture this.

Donor countries work closely with the government of Kenya and engage in consultative processes to support Kenyan-owned programmes, rather than stand-alone projects of their own choice. In general there is a shift towards programme support, thereby strengthening sector-wide approach to development. The major donor countries with presence in the country's agricultural sector are indicated in Table 2.6:

Table 2.6: Summary of agriculture sector projects funded by different countries in Kenya

Donor country	Agricultural project supported
Germany	Private Sector Development in Agriculture (PSDA)
Denmark	Agriculture Sector Program Support (ASPS)
Sweden	National Agriculture and Livestock Extension Programme (NALEP - SIDA), and Lake Victoria Environment Management Program (LVEMPII)
Japan	Small holder Horticulture Empowerment Project (SHEP), Community Agricultural Development Project in Semi Arid Lands (CADSAL)
European Union (EU)	Kenya Arid and Semi arid Lands Research program, National Accelerated Agriculture Input Access Program (NAAIAP), Lake Victoria Environment Management Program (LVEMPII)
United States of America	Feed the Future projects and programmes
United Kingdom	Kenya Land Reform; Agricultural Policy Reform

Source: Republic of Kenya, Economic Review of Agriculture, 2010

International organizations also play an important role in promoting agricultural development in Kenya. For instance, the World Food Programme's (WFP) Purchase for Progress (P4P) offers markets to producers of staple crops purchased for the food aid kitty. The essence of the programme is to promote smallholder marketing of staple crops, and to build their capacity to meet market demand. The World Bank,

on the other hand, supports projects such as the Arid Lands Resource Management Project (ALRMP), Kenya Agricultural Productivity & Sustainable Land Management (KAPSLM), Kenya Agricultural Productivity Project (KAPP), and National Accelerated Agriculture Input Access Program (NAAIAP).

The African Development Bank (ADB) also supports a number of projects in the country—Small Holder Horticulture Development Project (SHDP), Green Zones Development Support Project (GZDSP), and National Accelerated Agriculture Input Access Program (NAAIAP).

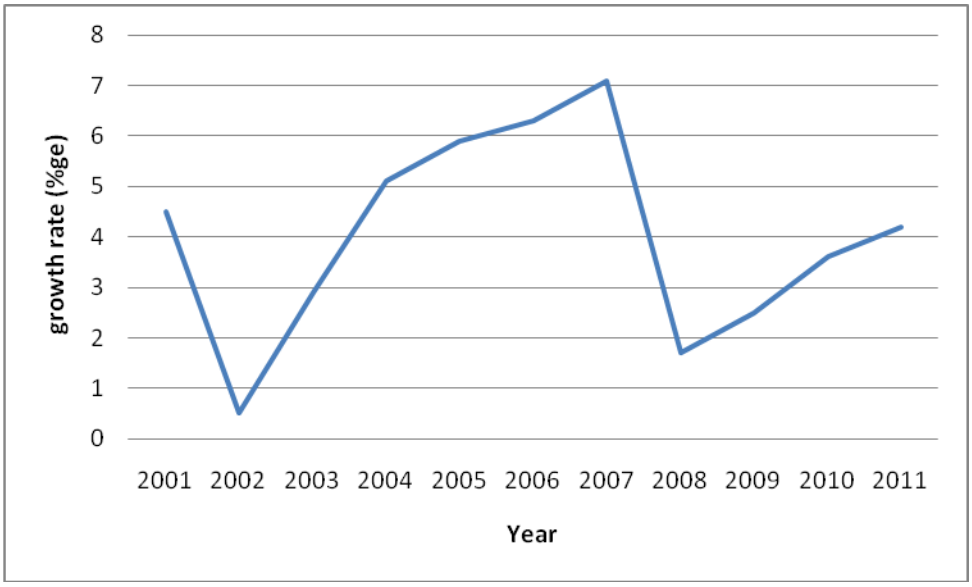
3. AGRICULTURAL GROWTH PERFORMANCE

This section reviews the general economic performance of the Kenyan economy over time before discussing the agricultural sector which is the engine of the economy.

3.1 Economic Growth

Kenya's economic performance improved in 2009, recording 2.6 percent growth compared to 1.6 percent growth in 2008. The tourism sector contributed significantly to this growth while building and construction, and service sectors registered slow growth. Agriculture and manufacturing realized negative growth. The 2.6 percent decline in agricultural production in 2009 was nonetheless better than the 2008 decline of 4.1 percent (GoK, 2010). This decline in performance mainly resulted from poor growth in tea, sisal, rice, pyrethrum and horticultural produce, and was attributed to unfavourable weather. The manufacturing sector's output increased by a paltry 2 percent, lower than the 3.5 percent recorded in 2008 due to demand-side constraints.

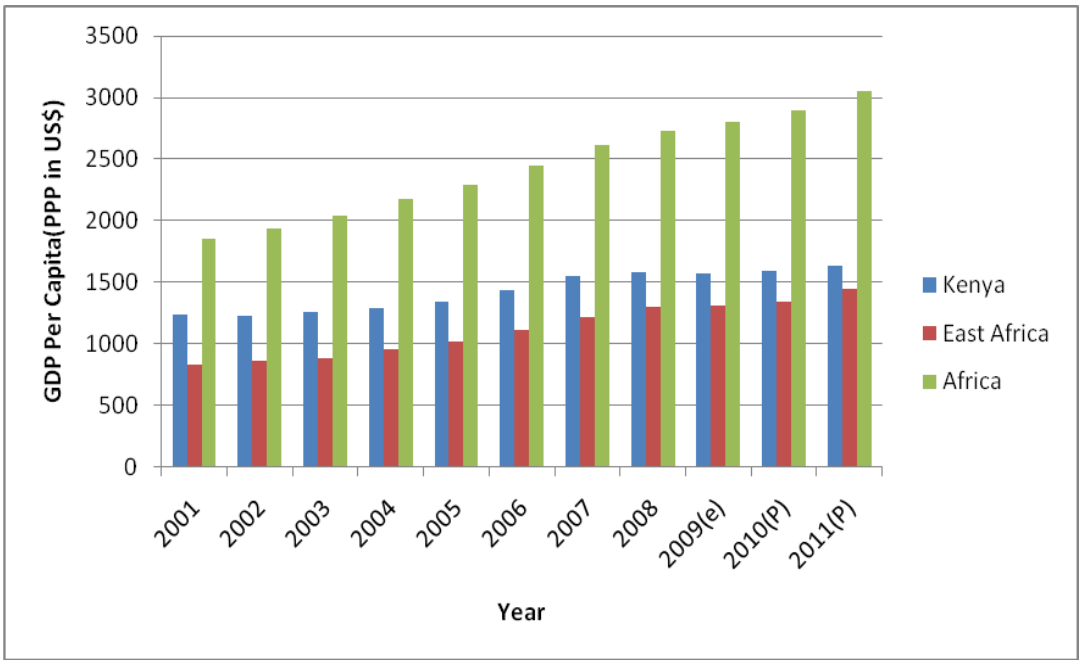
Generally, the economy grew between 2003 and 2007, recording GDP growth of 2.9, 5.1, 5.9, 6.3 and 7.1 percent in 2003, 2004, 2005, 2006 and 2007, respectively. This trend, however, was reversed in 2008 after the post-2007 election violence when the country recorded a GDP growth of 1.7 percent. The GDP growth of 2.5 percent in 2009 is an indication of economic recovery and the positive trend is projected to continue in 2010 and 2011, with growth rates of 3.6 percent and 4.2 percent, respectively (African Economic Outlook, 2010). Figure 3.1 indicates the trends of GDP growth for the country between 2005 and 2009.



Source: African Economic Outlook, 2010

Figure 3.1: Kenya's Real GDP growth rate, 2000-2011

The trends indicate that Kenya continues to enjoy a per capita GDP higher than East Africa's average but lower than the continent's average (Figure 3.2).



Source: African Economic Outlook, 2010

Key: e=estimated, p=projected, ppp=purchasing power parity

Figure 3.2: Kenya's GDP per capita Compared with E. Africa and Africa for the period 2001-2011

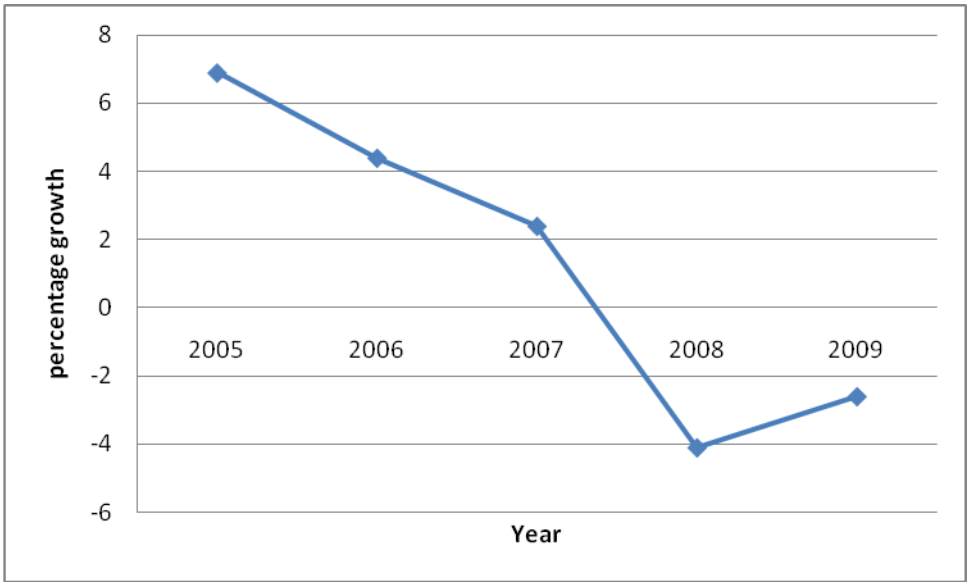
The country falls far below the continent average in terms of per capita GDP and has to work consistently hard to bridge the gap. This may be achieved through improved governance structures and pro-poor initiatives, otherwise projections indicate that the gap could be widening.

3.2 Agricultural Sector Performance

The critical role of the agricultural sector in Kenya's economy cannot be over-emphasized. The sector contributes about 25 per cent of Gross Domestic Product (GDP) and about 80 per cent of the population relies on it for livelihood. In the year 2009, the sector was affected by below normal rains in most of the areas although a few areas received above normal rains. Indeed, the sector contracted by 6.7 percent in 2008 and 2009 combined although this was projected bounce back to 5 percent in 2010 (World Bank, 2010). This implies that the CAADP target of 6 percent agricultural growth is still elusive for the country.

As a result, prices of most agricultural products increased, leading to a 3.3 percent increase in the value of aggregate marketed crops from Kshs 148 billion in 2008 to Kshs 153 billion in 2009, mainly attributable to sale of perennial and annual cash crops (GoK, Economic Review of Agriculture, 2010). The value of marketed livestock also increased by 16.3 percent from Kshs 30.6 billion in 2008 to Kshs 35.6 billion in 2009 mainly due to destocking by the pastoralists as a result of the drought. Similarly, the value of marketed cereals declined by 13.4 percent, from Kshs 13.3 billion in 2008 to Kshs 11.6 billion in 2009.

From 2005 to 2008, the rate of growth of agricultural GDP was on a declining trend (Figure 3.3).



Source: Economic Survey, 2010

Figure 3.3: Kenya's Agricultural GDP Growth Rate, 2005-2009

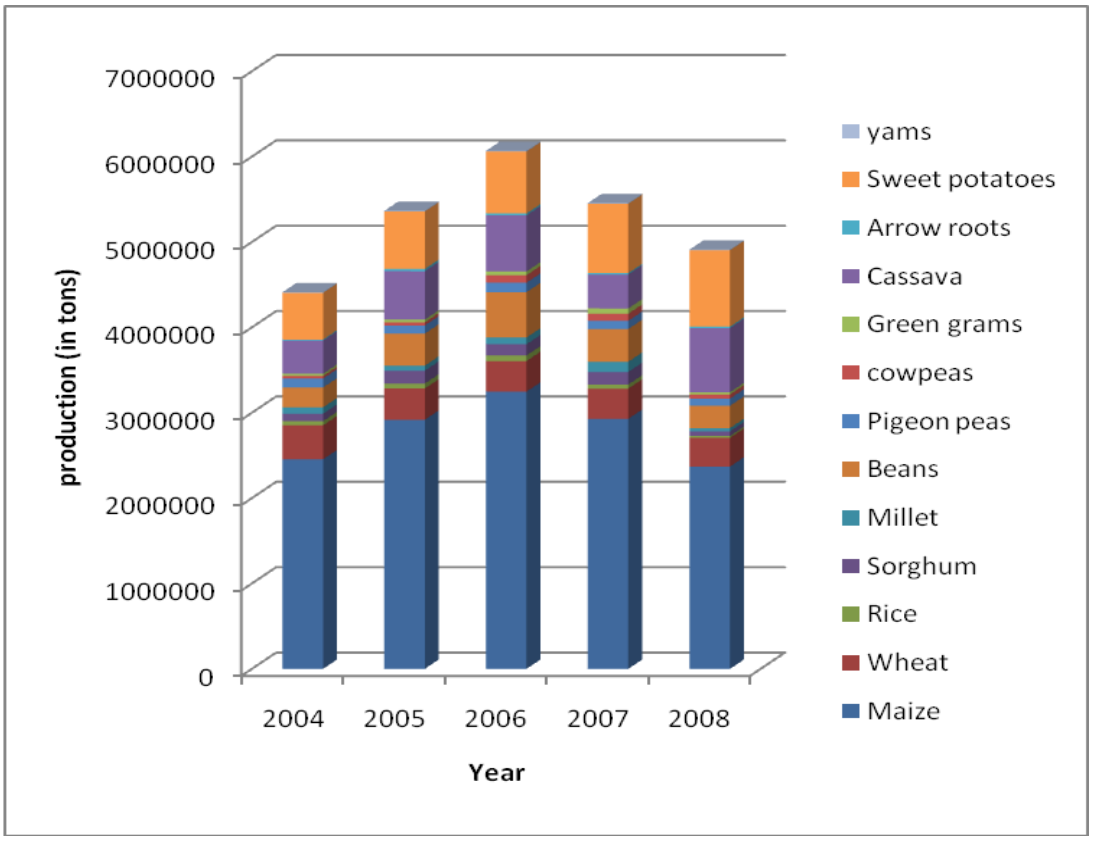
The declining rate of agricultural GDP growth could be attributed to a host of factors: fluctuating weather conditions, low levels of technology adoption, fluctuating world market prices of the main cash crops and land fragmentation (GoK, 2007).

In 2008, the negative growth was also associated with the post-2007 election disturbances while in 2009 it was mostly associated with adverse weather. Crops that recorded low production included maize, tea, sisal, pyrethrum, rice and horticultural produce. Maize production grew only marginally, tea production dropped by 9.2 percent while marketed horticultural produce dropped by 6.4 percent (GoK, 2010). Increased production was realized in coffee, wheat, sugarcane and livestock.

Grouping the crops into three broad categories of food crops, industrial crops and horticultural crops, the following section examines the sector performance over the years.

3.2.1 Food Crops Production

Production of food crops is concentrated in the high and medium potential areas. The arid and semi-arid lands which form approximately 80 percent of the country's total land area support mainly livestock production. Among the food crops are maize, wheat, rice, sorghum, millet, cassava, beans, and sweet and Irish potatoes. Figure 3.4 illustrates the trend of production of some of the food crops in the country between 2005 and 2008.



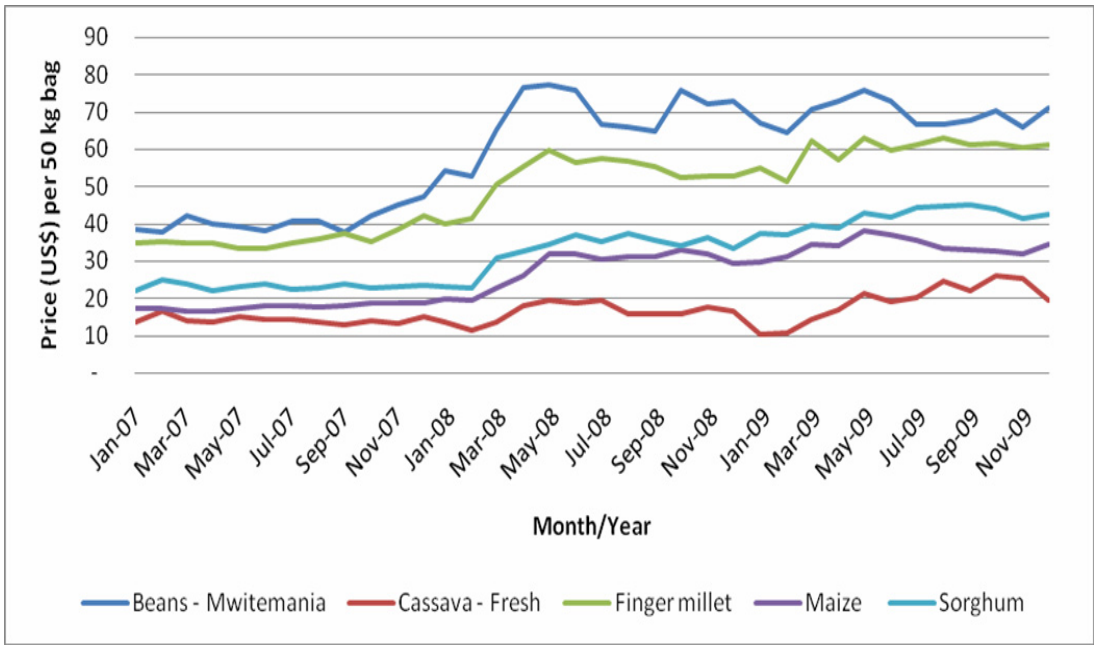
Source: GoK, Economic Review of Agriculture, 2010

Figure 3.4: Food crop production in Kenya, 2005-2008

Trends indicate that food crop production rose steadily from 2005 to 2006. Thereafter, a declining trend set in due to post-election crisis of 2008 and the drought of 2009. Overall, maize dominates this category of crop production. Other important food crops include sweet potatoes, cassava, beans and wheat, respectively. Irish potatoes are also important although they are normally recorded in national statistics under the broad category of vegetables which does not allow

disaggregation. Interestingly, when the production of all the other food crops declined in 2008, output of cassava and sweet potatoes increased remarkably, perhaps because of their perennial nature. This underscores the significance of the two crops for food security in years of low production of the annual food crops. Wheat production has been marginally declining over the years and could require policy intervention before things move to worse.

Among the food crops, pulses tend to be the most profitable to the households followed by cereals, especially the finger millet, sorghum and maize. Roots and tubers fetch the lowest prices. Like elsewhere in the world, food crop prices rose steeply in 2007 and 2008 before stabilizing or dropping in 2009. According to Food and Agriculture Organisation of the United Nations (FAO) the food price index rose by 9 percent in 2006 and 23% in 2007. Figure 3.5 illustrates this for the Kenyan situation.

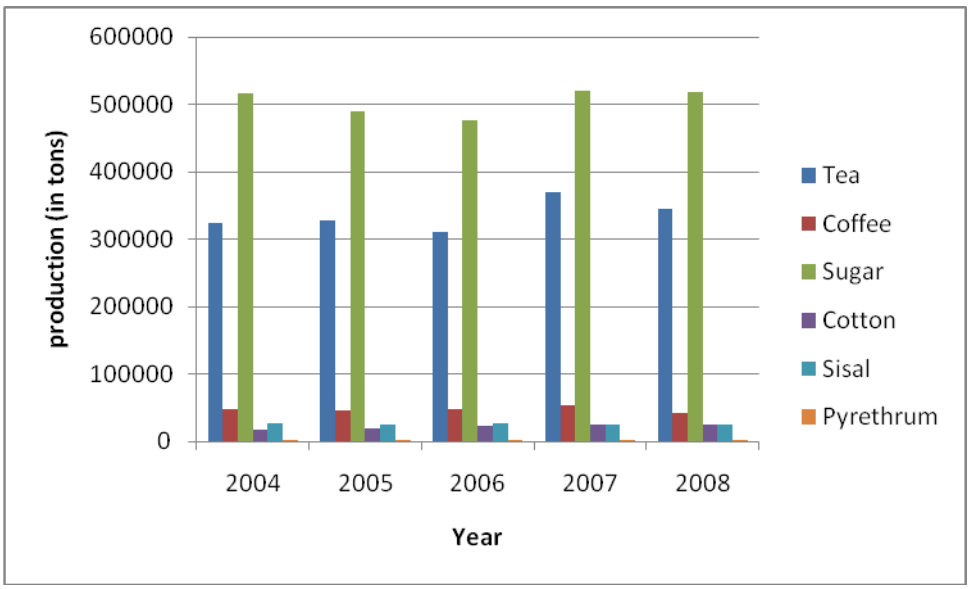


Source: AGRA, 2010

Figure 3.5: Monthly average wholesale price of food crops (in US$), 2007-2009

3.2.2 Production of Industrial crops

In this category of crops sugar consistently dominates in terms of tonnage output. It is followed by tea, coconut and coffee. Pyrethrum, which was initially a very important cash crop, is quickly fading away, a situation that merits an empirical analysis for appropriate policy recommendations. Figure 3.6 shows how various industrial crops have performed overtime.



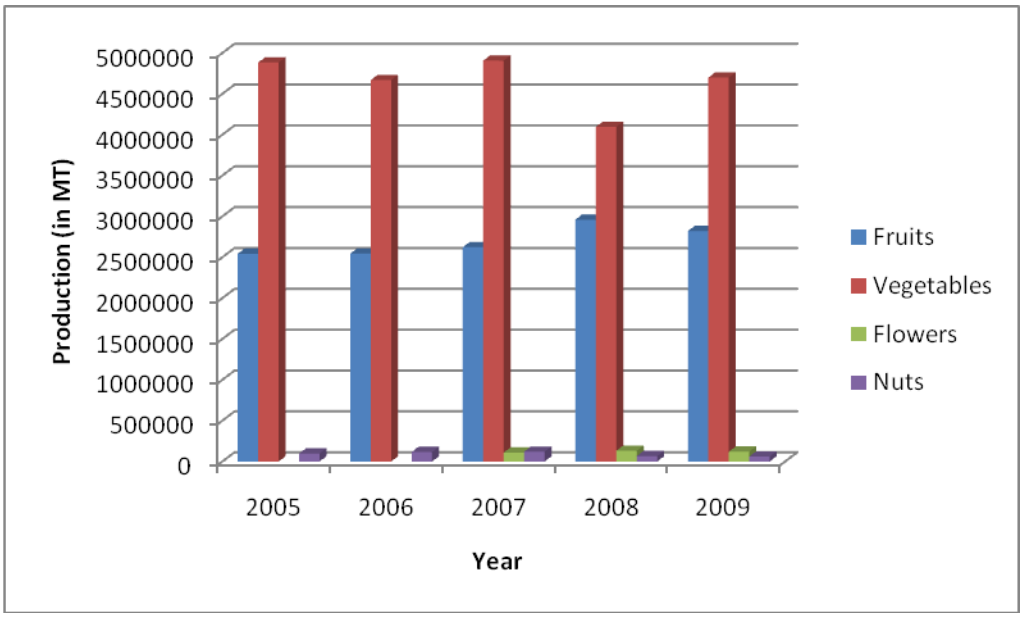
Source: GoK, Economic Review of Agriculture, 2010

Figure 3.6: Output of industrial crops (in tons), 2005-2009

Production of most of the industrial crops has been stable, with minor fluctuations attributable mainly to weather. For instance, decline in tea production between 2007 and 2008 was attributed to dry weather in the first half of the year, low amounts of rainfall and some cases of frost that affected parts of the western area in the Rift Valley. Cotton production increased steadily from 2005 to 2007 after which it took a downward trend. Dwindling cotton production is blamed on low prices. Pyrethrum production has also been on a downward trend, averaging only 800 tons between 2005 and 2009, a situation that has largely been attributed to unfavourable prices (GoK, 2010).

3.2.3 Horticultural Crops

Horticultural crops broadly include fruits and nuts, vegetables and cut flowers. Most of these crops are exported although small quantities are consumed locally. Figure 3.7 shows the production trends of horticultural crops between 2005 and 2009.



Source: GoK, Economic Review of Agriculture, 2010

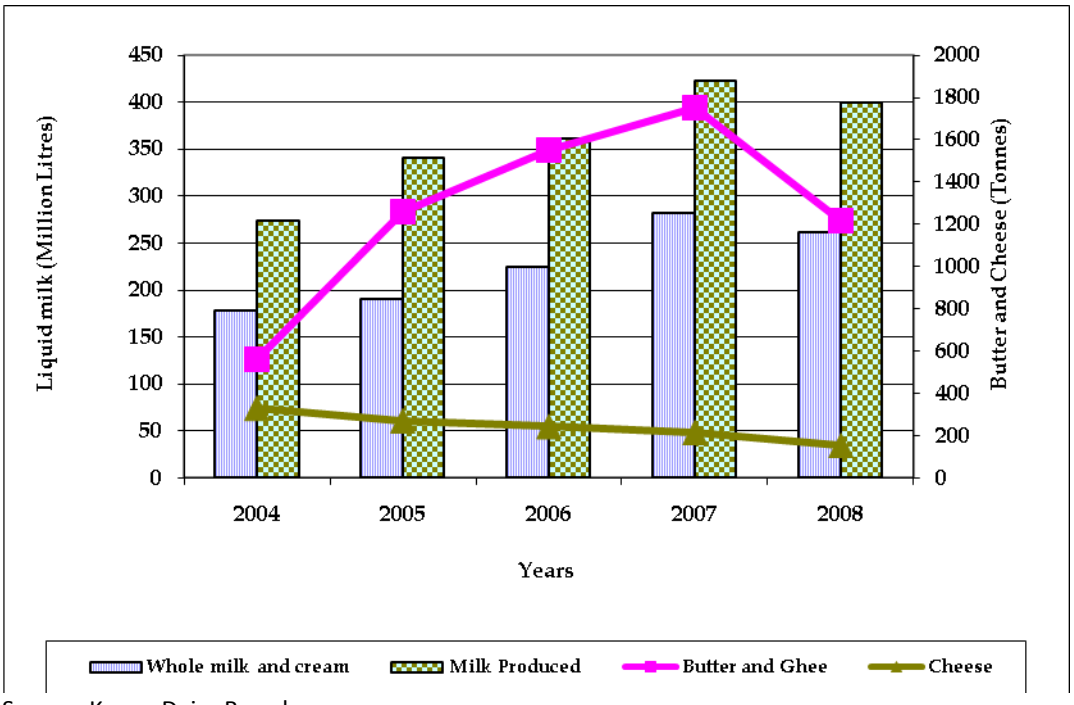
Figure 3.7: Trends in Horticultural Production in Kenya[1]

Horticultural industry has performed relatively well, registering a steady rise in production of fruits by an average annual rate of about 3 percent between 2005 and 2009. Vegetable production dominated horticultural production throughout the period of reference despite exhibiting year-to-year fluctuations and recording a marginal average annual decline rate of about 0.3 percent. Cut flower production exhibited a steady rise from 2007 to 2009 while production of nuts recorded an upward trend from 2005 to 2007 before dropping in 2008 and 2009.

[1] Production figures for flowers for 2005 and 2006 missing

3.2.4 Dairy and Meat Production

Between 2004 and 2008, milk production increased by about 48 percent from 2.7 billion litres in 2004 to about 3.99 billion litres in 2008. The rising trend was consistent from 2004 to 2007 after which a slight drop was experienced in 2008 possibly due to post-election crisis which affected Rift Valley province where most of the dairy production is located. The decline in production continued in 2009 when output dropped by 5 percent largely due to drought (GoK, Economic Review of Agriculture, 2010). In 2010, however, the industry bounced back strongly, leading to waste of large volumes of milk due to inability of the processors to cope with the supply. Figure 3.8 illustrates the trends in output of milk and related products for the period between 2004 and 2008.

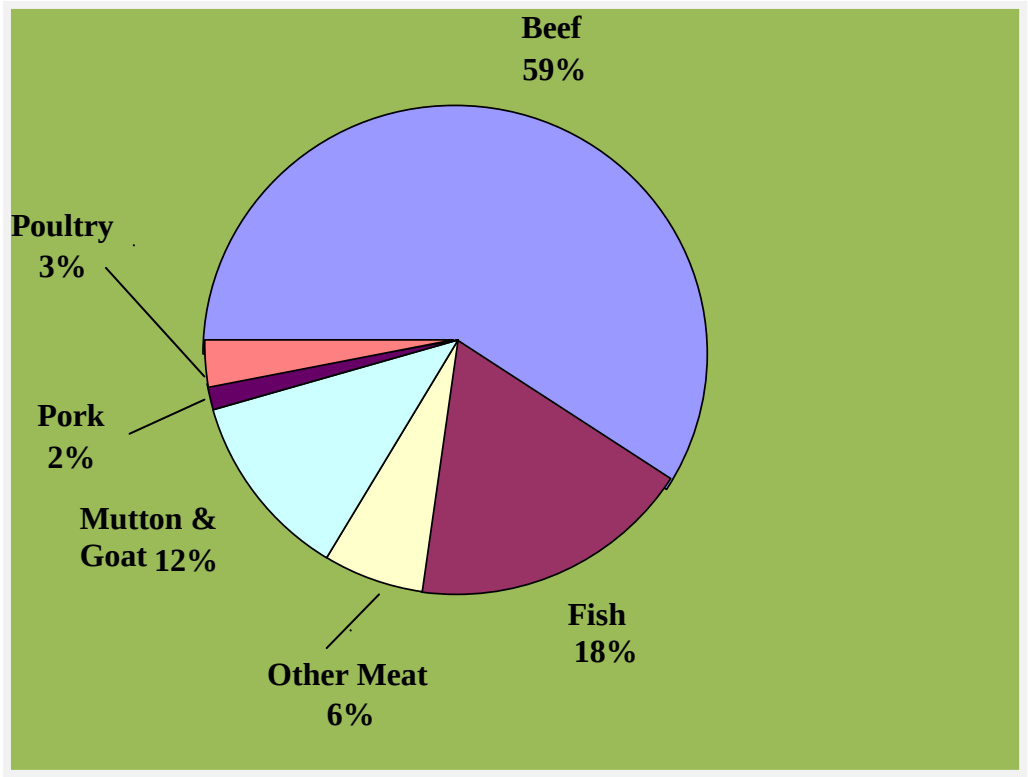


Source: Kenya Dairy Board

Figure 3.8: Dairy Product, 2004-2008

Of all the meat produced in the country, beef is the most dominant. Arid and semi-arid districts lead in beef production. Other important meat types are fish, mutton and goat, while various other types of meat are of relatively less importance (Figure 3.9). Approximately 84 percent of Kenyan rural households keep livestock of some kind. Poultry and cattle are the main livestock types raised by Kenyan households, with 85 percent of households keeping poultry and 71 percent keeping cattle (AGRA,

2010). The number and value of livestock vary by regions. For instance, cattle numbers per household are lowest in Central Kenya but the value of the animals kept is very high because most of the animals are either cross or exotic breeds.



Source: KNBS, National Food Balance Sheets, 2005

Figure 3.9: Per Capita Meat Consumption in Kenya, 2005

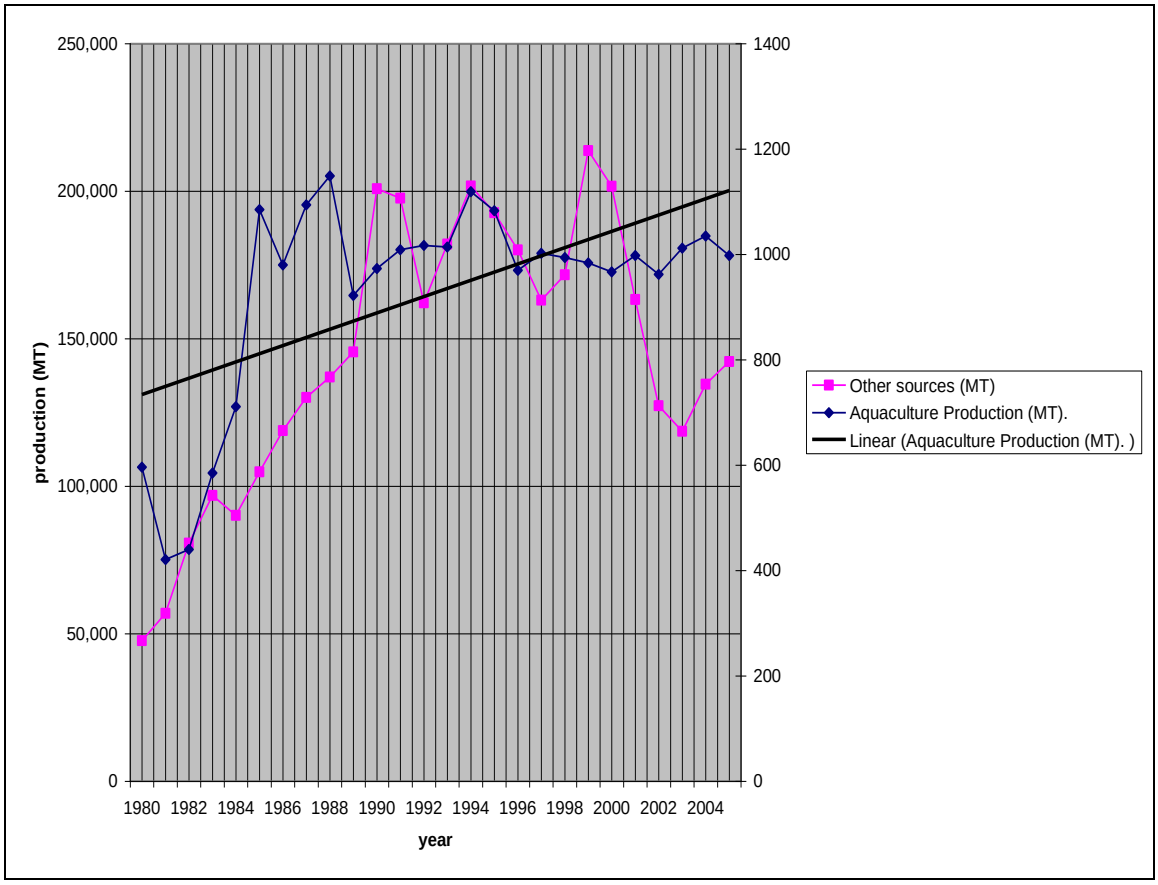
The beef sector in Kenya has been negatively affected by falling consumer demand, poor pasture conditions and difficulty in accessing credit. These have impeded production of beef on commercial basis. In 2009 drought led to livestock losses due to increased scarcity of pasture and water especially in the pastoral regions (GoK, Economic Review of Agriculture, 2010). Moreover, accessing European and American beef markets remains a challenge because the country has not yet set up Disease Free Zones (DFZs) which are a pre-requisite for entry into these markets.

3.2.5 Fish Production

Kenya's fisheries sector is important as a source of food, employment, income, raw material for fishmeal and foreign exchange earnings. The country has three main fish sources—inland fresh water, coastal marine and aquaculture which can be broadly classified into capture fisheries and fish farming. Inland fresh water fisheries are the most important, with Lake Victoria being at the forefront. The Lake is estimated to contribute 92 percent of the total fish landed (Abila, 2007). Other inland sources of fish include lakes Turkana, Baringo, Naivasha and Jipe, and other dams and rivers in

various parts of the country. All these collectively produce about 3 percent of the total catch while marine and aquaculture produce 1 percent and 4 percent, respectively (Abila, 2007).

Generally, fish production in the country has been on the rise (Figure 3.10). Fluctuations may be attributed to weather conditions and invasive weeds, especially in Lake Victoria.



Source: Fisheries Department Statistics

Figure 3.10: Fish Production in Kenya by sources, 1980-2005

Fish farming is gaining importance in the country. For instance, the Economic Stimulus Programme (ESP) introduced by the government in 2009 aims to establish fish farming enterprises in 140 constituencies in the country. This is meant to contribute to food security, employment creation and reduction of overfishing pressure on capture fisheries. For a start, 200 fish ponds will be constructed in each

of the selected constituencies. The project is already underway in Nyanza, Western and Central Provinces.

3.3 Trends in Agricultural Productivity

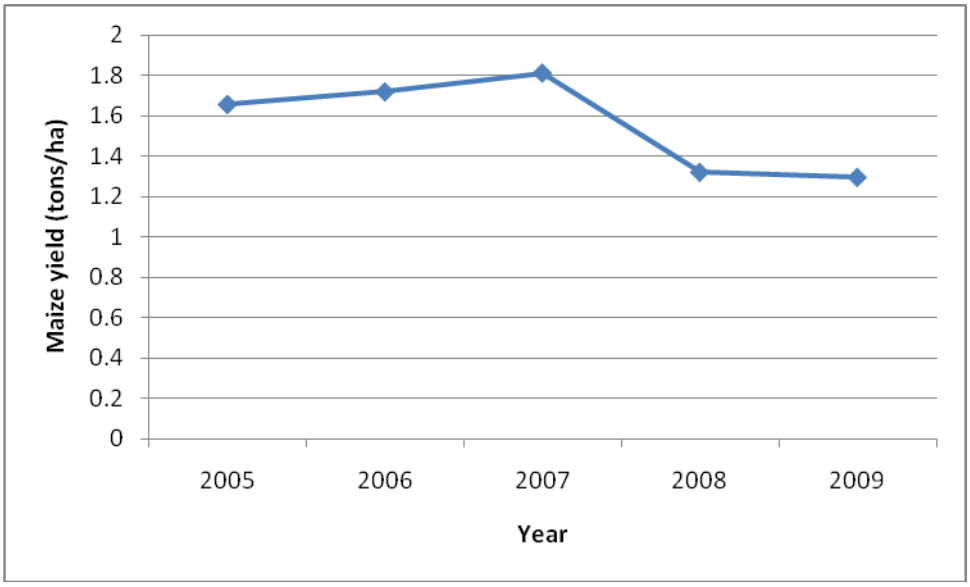
Productivity, as discussed in this paper, refers to output per unit area of land. Foremost, it is important to observe that the average land under crops per household has declined over the years due to population increase. Between 1997 and 2007, there was an approximate 3 percent decline in household cropped land (Kibaara *et al*., 2008). All areas, except Eastern lowlands registered a drop. Maize remains the most important household crop, grown by 99 percent of households. Other important crops include tea, coffee and horticultural crops. The next section, thus, concentrates on productivity trends of these main crops.

3.3.1 Productivity in Maize, Other Cereals and Food Crops

Maize yield per hectare was on a rising trend between 2005 and 2007 (Figure 3.11). This was been attributed to good weather, improved seeds, increased application of fertilizer and modern technology adoption (Economic Review of Agriculture, 2010). There is also remarkable improvement in the use of organic fertilizer across the agro-ecological zones—the number of households using organic fertilizer increased from 44 percent in 2000 to 50 percent in 2007 (Kibaara *et al*., 2008).

Increased use of fertilizer and improved maize varieties is attributable to various factors:

a) Availability in smaller units that smallholders are able to purchase;
b) Proximity to input retailers due to increased accessibility and the rising numbers of dealers even at village levels;
c) Favourable fertilizer prices in the country up to 2007; and
d) Increased formation and vibrancy of farmer groups, leading to access to loans, extension services and increased information flows (Kibaara *et al*., 2008).



Source: Economic Review of Agriculture, 2010

Figure 3.11: Maize Productivity, 2005-2009

The sharp drop in maize productivity in 2008 was caused by the post-election violence which affected the national grain basket, the Rift Valley province, immensely.

It is, however, important to note that regional disparities exist in maize productivity (Table 3.1).

Table 3.1: Productivity in Maize Production by Regions, 2005-2009

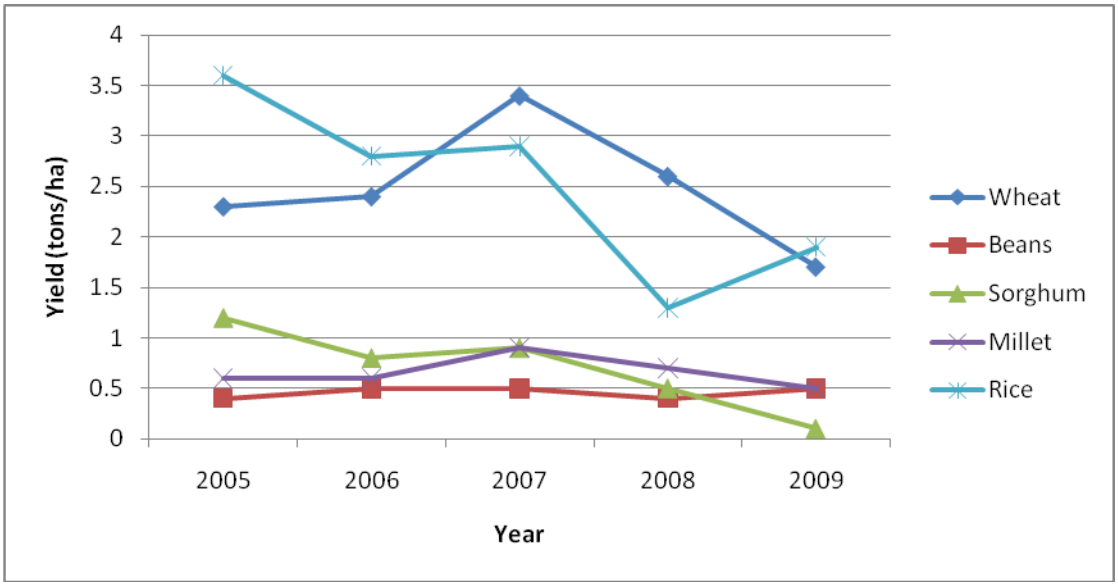
Region	Crop Area in hectares or acres?	Bags (90kg)	Productivity (tons/ha)
Rift Valley	644895	13225039	1.8
Nyanza	262453	3711215	1.3
Eastern	462401	3903141	0.8
Western	225302	4163878	1.7
Coast	129379	1079383	0.8
Central	157063	1047879	0.6
North Eastern	2525	5520	0.2
Nairobi	1053	6420	0.5

Source: Economic Review of Agriculture, 2010

During the period of reference, the average national productivity was 1.3 tons per hectare of land. This implies that only Rift Valley and Western Provinces exceeded this national average while Nyanza Province met it exactly. All the other Provinces performed well below the national average. This certainly points to the fact that

some parts of the country may not be suited for maize production although farmers insist on growing the crop.

The productivity of most of the other cereals has been, on average, constant with minor fluctuations (Figure 3.11). This productivity is below potential, constrained by high cost of inputs, limited extension services, low levels of technology adoption, over-reliance on rain-fed agriculture and lack of markets (Republic of Kenya, 2007). Trends also indicate that agricultural productivity is sensitive, not only to climatic variables but also political environment as shown by a steep drop in 2008, occasioned by post-election violence.



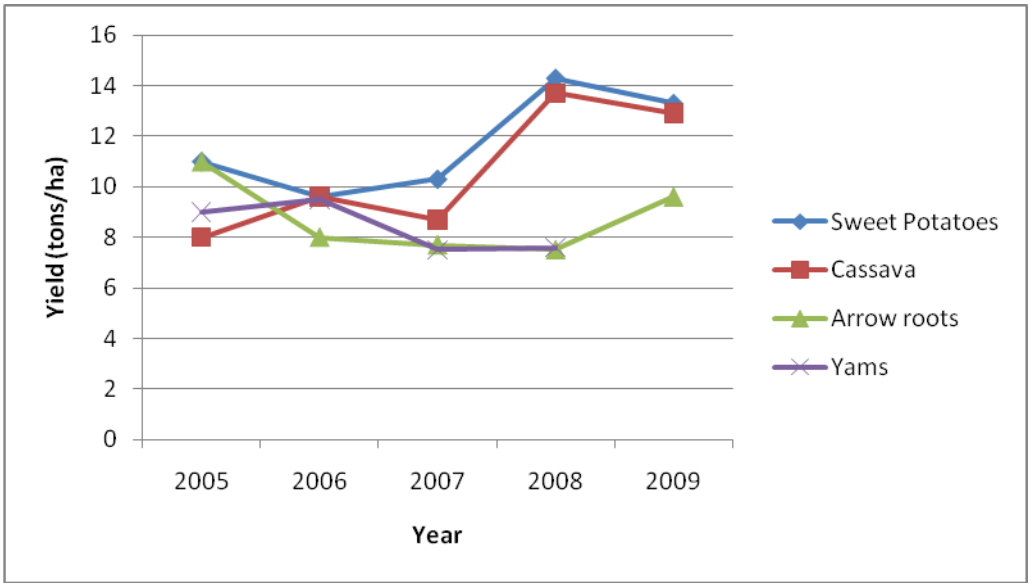
Source: Economic Review of Agriculture, 2010

Figure 3.12: Productivity of other cereals (tons/ha), 2005-2009

Although productivity is low, the country has potential to improve. For instance, the productivity of wheat farmers in the country is only 20 percent less than that of wheat farmers in the US. The steep rise in production between 2006 and 2007 is an indicator of this.

Productivity of rice has been on a downward trend and an urgent policy intervention is necessary. One of the possible causes is the mismanagement of the irrigation schemes, and government's effort to revive the irrigation schemes may prove to be a milestone in the right direction.

There are other food crops which are important for food security although they have not been given adequate attention in the development agenda. These include sweet potatoes, cassava, arrow roots and yams. Figure 3.12 shows the trends in productivity in the production of these crops.



Source: Economic Review of Agriculture, 2010

Figure 3.13: Productivity in other important food crops, 2005-2009

Productivity trends for cassava and sweet potatoes have been rising while those of arrow roots and yams have largely declined.

3.3.2 Productivity of industrial crops

Statistics indicate that productivity in the industrial crops sector has been low and constant over the years (Table 3.2). It is only when the weather is overwhelmingly favourable that the productivity increases abruptly.

Table 3.2: Productivity of Selected industrial crops (tons/ha), 2005-2009

Crop/Year	2005	2006	2007	2008	2009
Tea	2.1	2	2.7	2.4	1.9
Smallholder Coffee	0.2	0.2	0.2	0.2	0.3
Estate coffee	0.5	0.5	0.6	0.5	0.5
Sugar	71.5	70.89	70.87	72.9	85.3

Cotton	0.6	0.6	0.69	0.7	0.37
Pyrethrum	0.2	0.2	0.3	0.2	0.2
Sisal	0.8	1.1	0.8	1	0.6

Source: Economic Review of Agriculture, 2010

For coffee, it is noticeable that the smallholders are less productive than the estate farmers. This could be explained by economies of scale and the ability of the estate farmers to use modern production technologies. The stagnation in the coffee sub-sector is also a product of declining prices of world coffee in the early 1990s, mismanagement of coffee co-operatives and high cost of production. While cultivation of new disease-resistant coffee varieties can help reduce production costs, availability of these varieties has been constrained by restricted multiplication of seeds and seedlings by the Coffee Research Foundation (Nyoro *et al*., 2001). Overall, farmers have reduced their investments in coffee production, or even cut down coffee bushes in some areas. This could explain the declining fertilizer application in coffee production (Table 3.2).

Table 3.3: Mean application rates of and percent of households applying fertilizer on coffee

	1997	2000	2004	2007
kgs/acre cultivated (users only)	183	364	256	147
% of households using fertilizer	44	51	45	37

Source: Kibaara *et al*., 2008

Tea productivity increased marginally due to increased fertilizer use mainly in the western region. On average, fertilizer usage in tea production rose by 16 percent between 1997 and 2007. The western region, however recorded the highest increase, with 94 percent of the farm households in Vihiga adopting fertilizer use in 2007 up from 64 percent in 1997 (Kibaara *et al*., 2008). In Kisii, the percentage of fertilizer using households in tea production rose from 70 percent in 1997 to 94 percent in 2007.

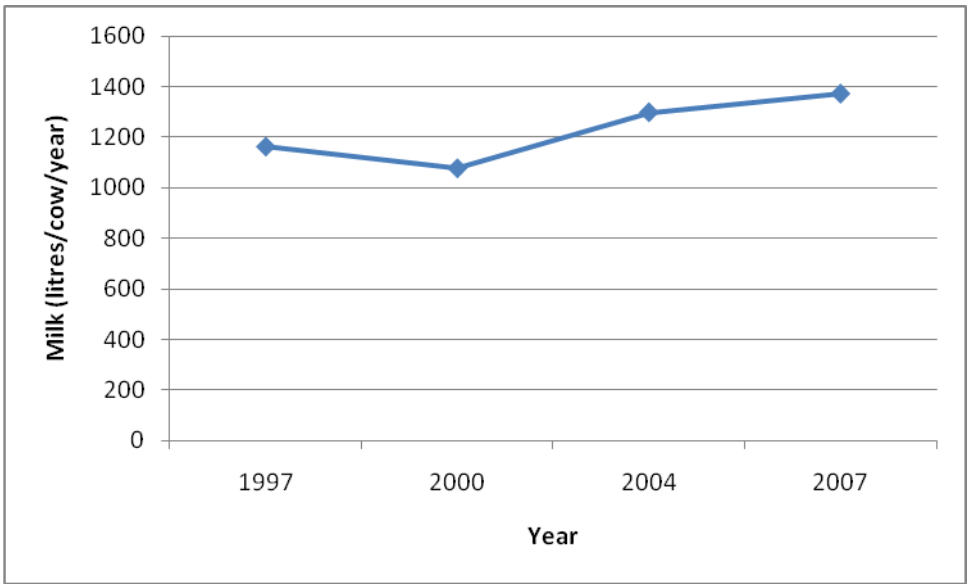
There is stagnation in sugarcane production, with marginal increase only realized in 2008. As noted by Kibaara *et al* (2008), this could have been caused by the decline in fertilizer use intensity among households in sugarcane production. This decline may

have been a result of farmers diverting fertilizer obtained from their cooperatives to production of other crops or for sale (Ariga *et al*., 2006).

Labour productivity in agriculture, as indicated by value added per worker, has also remained stagnant over the years, not only for Kenya but also for the entire Sub-Saharan Africa (KIPPRA, 2009).

3.3.3 Productivity in the Dairy industry

Productivity in the dairy sub-sector has been on an upward trend, only declining in periods of extended drought (Figure 3.13).



Source:Kibaara *et al*., 2008

Figure 3.14: Average milk production per cow per year, 1997-2007

A decline in milk production was experienced in 2000 when the country suffered drought. The upward trend in milk production after 2000 is associated with increased investment in dairy by farm households. For instance, the proportion of farm households growing fodder increased from 16 percent in 1997 to 53 percent in 2007 (Kibaara *et al*., 2008). Increased fodder production is attributed to rise in population density, limiting availability of open pasture for grazing. Other drivers of increased productivity in the dairy sub-sector are increased adoption of improved breeds and better milk prices.

3.4 Addressing Low Agricultural Productivity

The government of Kenya has identified low agricultural productivity as a key impediment to economic growth, poverty alleviation and food security. Thus, addressing it is top on the government's development agenda. A myriad of measures have been lined up, and these are discussed below:

3.4.1 Expanding land under irrigation

Kenya's irrigation potential has been estimated at 540,000 hectares, out of which only 114,600 hectares have been harnessed. Individual farmers have developed their own systems of irrigation especially for export crops such as coffee and horticultural produce. Large commercial farms account for 40 percent of irrigated land, while the smallholder farmers and Government-managed schemes account for 42 percent and 18 percent of irrigated land, respectively.

With construction of water storage facilities, irrigated land could be increased to 1.3 million hectares (GoK, 2007). Increasing productivity through irrigation is expected to yield at least double dividend by also helping to control flooding. The government intends to fast track this objective by finalizing the policy, legal and institutional framework for irrigation and by developing national irrigation master plan.

Irrigation accounts for only 1.7 percent of total land area under agriculture, but contributes 3 percent of the GDP and provides 18 percent of the value of all agricultural produce. This demonstrates the potential of irrigation in increasing agricultural production and productivity. African Governments, regional bodies, development partners, agricultural and other stakeholders meeting in Maputo in 2003 identified irrigation as a priority area for investment to accelerate agricultural growth.

With irrigation, agricultural production can be increased by up to 300 percent, and jobs created at the rate of up to 15 persons per acre directly and indirectly (GoK, 2009). With irrigation, a reliable supply of raw materials for agro-industries can be guaranteed, youths can be productively engaged and rural-urban migration can be

curtailed. In the face of adverse impacts of climate change, expanding irrigation through development of sustainable irrigation production systems will contribute to the stabilization and subsequent growth of agricultural production.

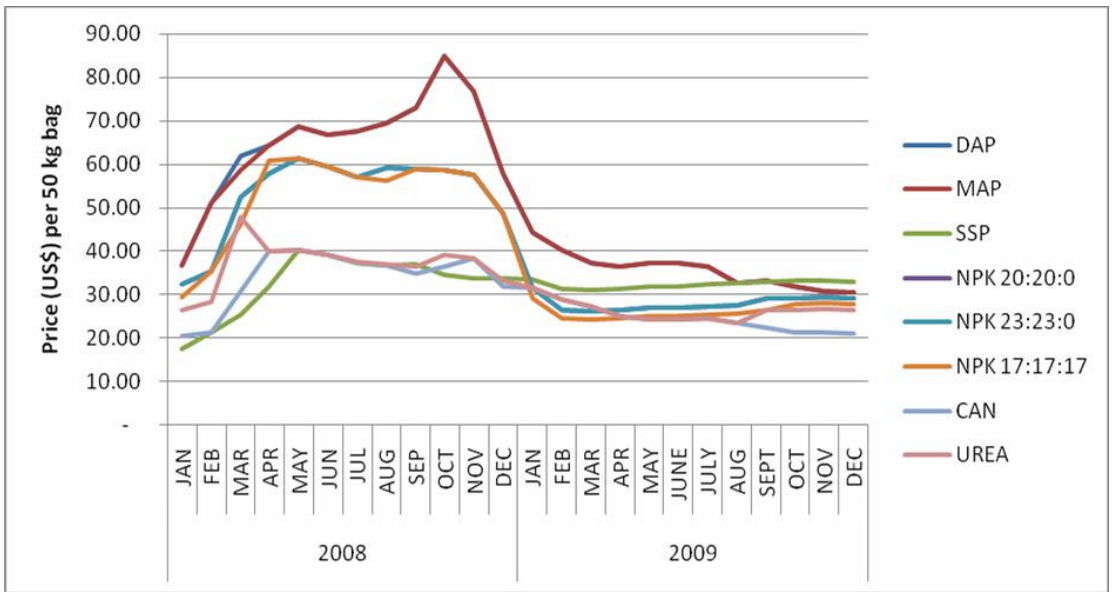
In addition to land resources, sustainable irrigation requires adequate and reliable water resources. Currently, the country has about 4,100 small dams and water pans giving a total water storage capacity of only 183,662,000 cubic metres for all uses, equivalent to 5.3 cubic metres per capita per year, which is among the lowest water storage rates in the world, equivalent to only 3 months use (GoK, 2009). The implication of this is that if the country does not receive rains for only three months, it experiences low irrigation levels, power rationing and even famine.

The Kenya Vision 2030 identifies flagship irrigation projects to be implemented. These include expansion of Bura, Hola, Ahero, West Kano, Bunyala, Perkerra, Kerio Valley, Mwea, Taita Taveta, Ewaso Nyiro North and Ngurumani irrigation schemes. Other target projects include extension of Yatta Canal by 100 km to cover Yatta District and parts of Kitui and Mwingi Districts. Kano Plains and Nzoia (Upper, Middle and Lower) Irrigation Projects, each having a development potential of over 20,000ha, will also be implemented. The construction of the Tana Delta Project, covering 16,000ha, for irrigated sugar production will be implemented as a priority project. Research is expected to steer efficiency and productivity of irrigated agriculture.

3.4.2 Fertilizer price management

The government recognizes that fertilizer is a key input in crop production yet farmers have been unable to use this input in sufficient quantities due to high prices. Thus, the government intends to make the product more affordable through coordinated bulk-buying, provision of incentives for local blending and exploring opportunities for local production.

The need to manage fertilizer prices has been enhanced by wide fluctuations in the price of this vital input, especially in the periods when it matters most to the farm households. Figure 3.15 compares fertilizer price fluctuations in 2008 and 2009.



Source: AGRA, 2010

Figure 3.15: Average Monthly Prices (US$/Kg) of Commonly Used Fertiliser types (2008 – 2009)

The government, through the fertilizer subsidy scheme, was able to contain sharp increases in fertilizer prices in the year 2009. This is a milestone in the right direction towards enhancing agricultural productivity, improving household incomes and promoting food security.

3.4.3 Enhanced livestock development

The government plans to increase the access to high quality animal feeds, and to improve the quality of livestock held by the local farmers through increased artificial insemination services and access to breeding bulls.

Disease and pest control are the other key factors of increased livestock productivity as they serve to reduce the potential loss of output associated with disease incidence and pest infestation. Implementation of Structural Adjustment Programmes (SAPs) in the 1990s, shifted provision of clinical disease and pest control services to the private sector. Profit motivation of the private sector has meant that

areas where markets are thin or missing are ignored in the provision of these vital services, thereby compromising livestock productivity.

Consequently, Kenya has virtually lost its international market share for livestock and livestock products. Furthermore, notifiable diseases which had hitherto been brought under control such as the contagious bovine pleuropneumonia (CBPP), contagious caprine pleuropneumonia (CCPP) and foot and mouth (FMD), are now being widely reported. The country also faces new challenges from emerging and re-emerging diseases such as the avian influenza, Rift Valley fever and *Peste des Petit Ruminants* (PPR), which require rapid but expensive response to contain.

The government in its new development blue print, the Vision 2030, intends to tackle disease and pest menace through the establishment of Disease Free Zones, building farmers' capacity to adopt and utilize appropriate and cost-effective livestock husbandry practices and establishment of collaborative linkages, through various fora, with stakeholders and neighbouring countries for increased surveillance, management and control of local and trans-boundary diseases.

3.5 Agricultural Land Use in Kenya

Medium to high potential land, suitable for arable agriculture in Kenya is small, measuring only 9.4 million hectares. Arid and semi-arid lands (ASALS) constitute 48 million hectares. Of the 9.4 million hectares of the medium-to-high potential land, national parks and reserves occupy 1.1 million hectares, croplands occupy 2.8 million hectares, livestock grazing (mainly dairy) occupy another 2.8 million hectares, forest land occupies 2 million hectares while urban centres, settlements and physical infrastructure occupy 0.5 million hectares (GoK, 2004). Of the ASALS, 9 million hectares can support some form of agriculture, 15 million hectares are used for livestock keeping while the remaining 24 million hectares are dry, only useful for nomadic pastoralism (GoK, 2004). The agricultural land is, thus, estimated at only about 19 percent of the country's total land area (WRI, 2007). Different agricultural crops are produced, covering varying areas of land. Table 3.4 shows the area of land

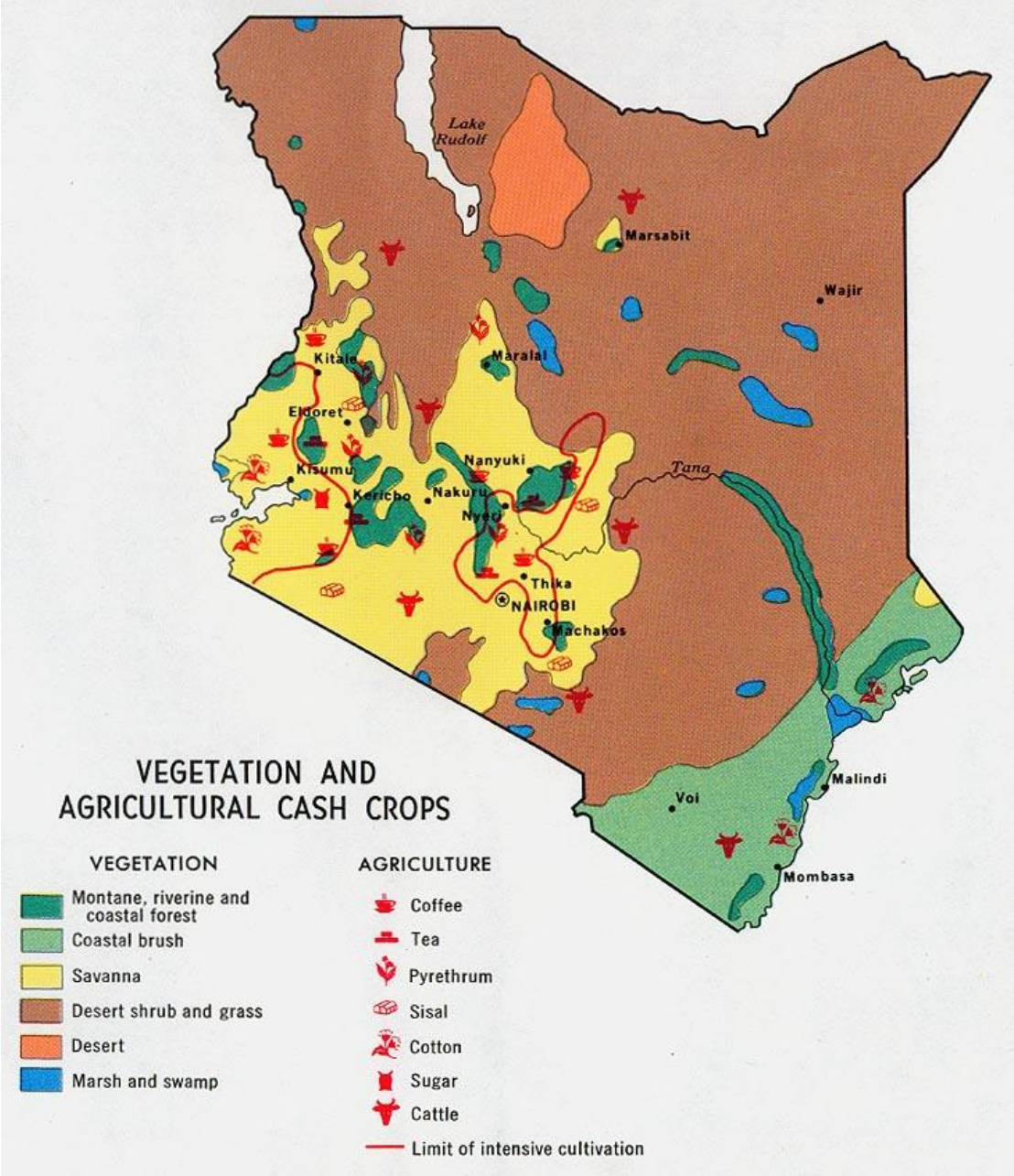
occupied by selected crops in the country in 2009, and reveals that maize is the most widely grown crop in the country.

Table 3.4: Land Area covered by selected crops in Kenya, 2009

Crop	Crop area (ha)
Maize	1,885,071
Wheat	131594
Beans	960,705
Sorghum	173,172
Rice	21,829
Millet	104,576
Tea	158,394
Coffee	160,000
Sugar	154,298
Cotton	39,963
Horticultural crops	427,784
Fruits	141,121

Source: Economic Review of Agriculture, 2010.

Pressure exerted by population growth and agricultural expansion has led to sub-division of land into small uneconomic sizes, encroachment into forests, increased migration into ASALs and subsequent introduction of poor land use practices. This has had adverse environmental impacts including soil erosion, loss of soil fertility, deforestation, loss of biodiversity, overgrazing and desertification. However, ongoing forestry efforts are increasing forest cover, while enhancing food production and security through inter-cropping. Figure 3.16 shows the distribution of vegetation cover and some agricultural activities in the country.



Source: http://www.mapcruzin.com/free-kenya-maps.htm

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Figure 3.16: Distribution of Vegetation and Selected Agricultural Activities in Kenya

Broadly, agricultural land is shared between crops and pasture land, with pasture land taking the lion's share (Table 3.5).

Table 3.4: Agricultural land uses in Kenya by area ('000' ha.) and area shares (percentages)

Total land area	Agric. Land	Total cropland	Annual cropland	Perennial cropland	Irrigated cropland	Permanent pasture
56914	26462	5162	4600	562	90	21300
	/total land	/Agric land	/total cropland	/total cropland	/total cropland	/Agric. land
	46.5	19.5	89.1	10.9	2.1	80.5

Source: GoK, Kenya Country Level Report (2007).

Of the country's total land area, 46.5 percent is useful for agriculture (crop and livestock development). Crop cultivation occupies 19.5 percent of agricultural land while livestock occupies the remaining 80.5 percent. Only 2.1 percent of the total crop land is irrigated, implying much of the country's crop production is still rain-fed. Annual crops dominate crop production, occupying 89.1 percent of crop land, leaving only 10.9 percent for perennial crops.

4. AGRICULTURAL TRADE PERFORMANCE

Trade in Kenya is characterised by faster growth of imports than exports lately, although the overall performance of the country in international trade cannot be described as stable. The 2009 rate of real growth of trade of 6.6 percent was much lower than the 11.2 percent rate of growth registered between 2005 and 2006 but higher than the 4.1 percent recorded in the early 2000s. Trade as a share of GDP is estimated at 56 percent which is lower than the SSA's average.

Services which form a major part of the exports, for instance, contributed about 39 percent of the total exports in 2007. Main agricultural exports include tea, cut flowers, vegetables and coffee. Imports, on the other hand, include machinery, transportation equipment, motor vehicles and petroleum products. Major exports destinations are Uganda, the United Kingdom, the United States and the Netherlands, while a majority of imports originate from United Arab Emirates, India, China and Saudi Arabia.

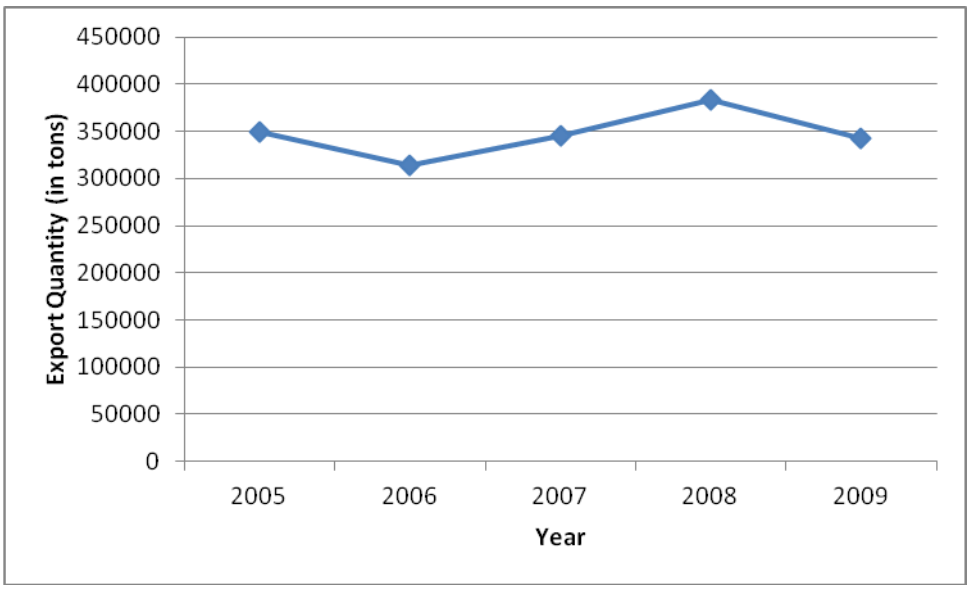
4.1 Trends of Kenya's Agricultural Exports and Imports

According to the Kenya Trade Map (2007), the most important agricultural exports included tea (21%), horticulture (21%), coffee (4%) and tobacco (3%). Agricultural imports include maize, wheat, rice and sugar. In 2008, tea exports recorded a steep rise in value, a phenomenon which resulted in tea farmers receiving large revenues. The horticultural industry (flowers, fruits, vegetables and nuts) remained vibrant and resilient to the global financial crisis. The trends of the country's main exports and imports are shown in the next sub-sections.

4.1.1 Trends of Tea Export

Tea is one of the most critical exports from the country and the volume of export rose gradually between 2006 and 2008 (Figure 4.1). In 2009, the export volume declined and this was attributed to a drop in production following the drought

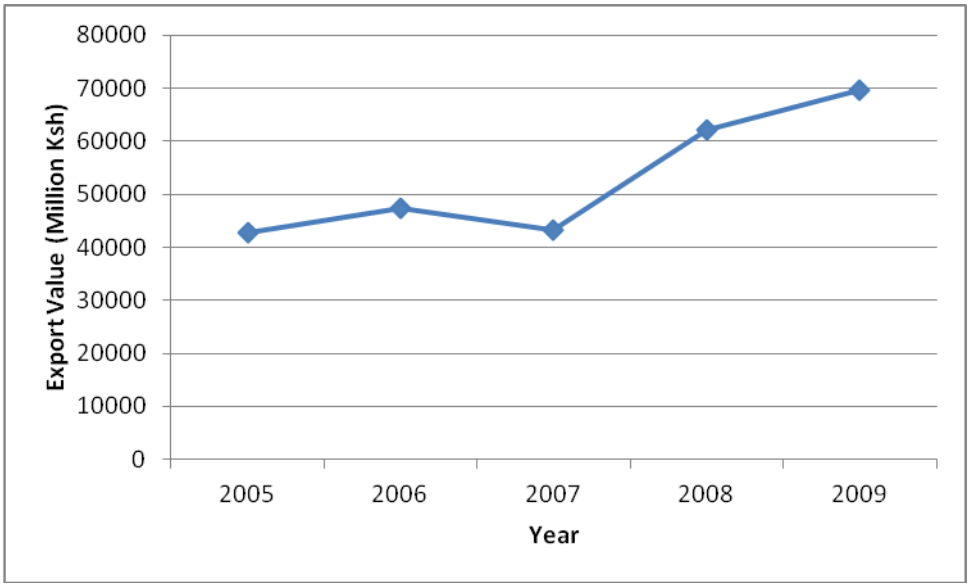
experienced in the first quarter of the year and poorly distributed rainfall in the second quarter of the year.



GoK, Economic Review of Agriculture, 2010

Figure 4.1 : Kenya's Tea Export, 2005-2009

The value of tea export also rose Ksh 42.8 billion in 2005 to Ksh 69.6 billion in 2009 (Figure 4.2).

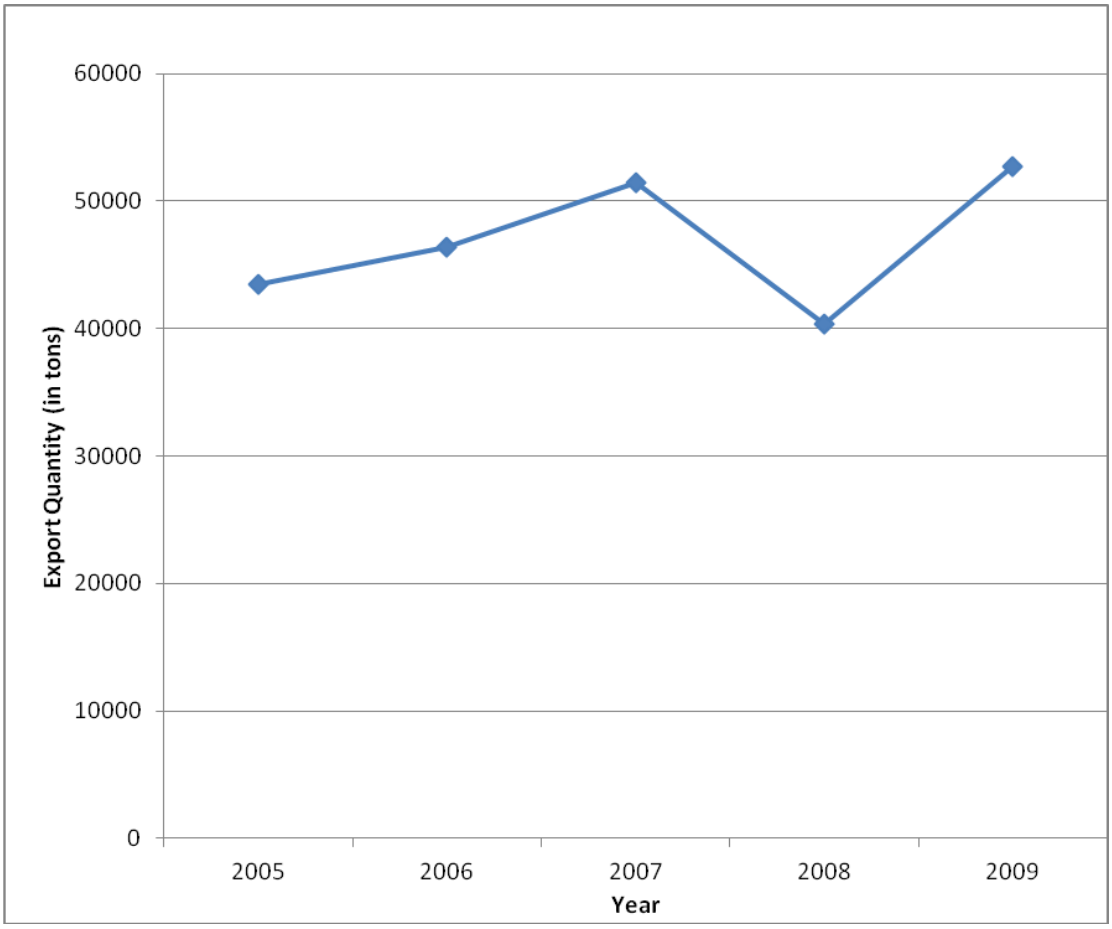


GoK, Economic Review of Agriculture, 2010

Figure 4.2: Value of Kenya's Tea Exports, 2005-2009

4.1.2 Trends of Coffee Exports

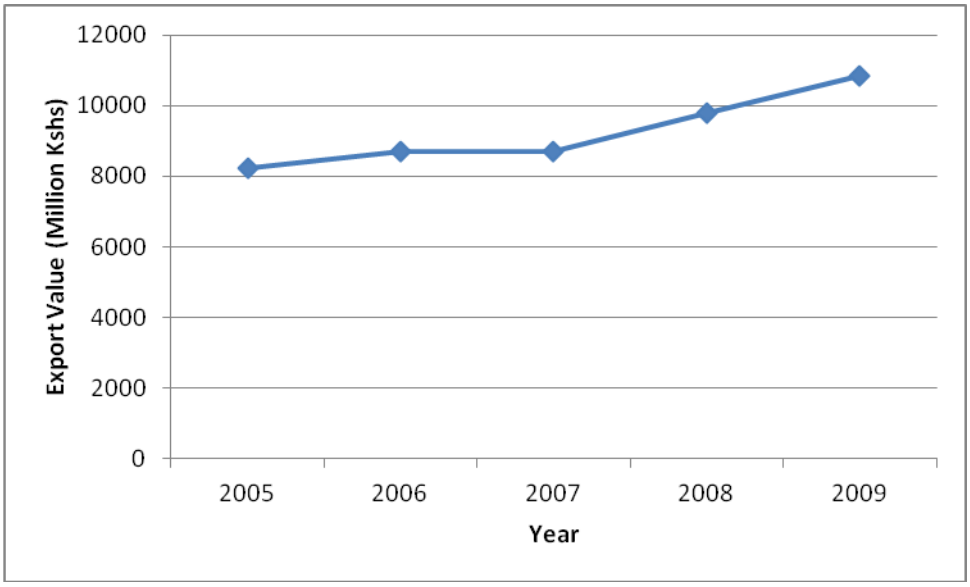
Coffee exports were on an upward trend from 2005 to 2007 before sharply dropping in 2008. In 2009, coffee exports bounced back, recording 52,679 tons, which was 21 percent higher than the 2005 export volume (Figure 4.3). Export earnings from coffee reached Kshs 10.9 billion in the same year.



GoK, Economic Review of Agriculture, 2010

Figure 4.3: Kenya's coffee export, 2005-2009

The 2009 export volume was comparable to the 2007 figures. 54 percent of the production came from smallholders(Economic Review of Agriculture, 2010). During the same period, the value of coffee export maintained an upward trend (Figure 4.4).

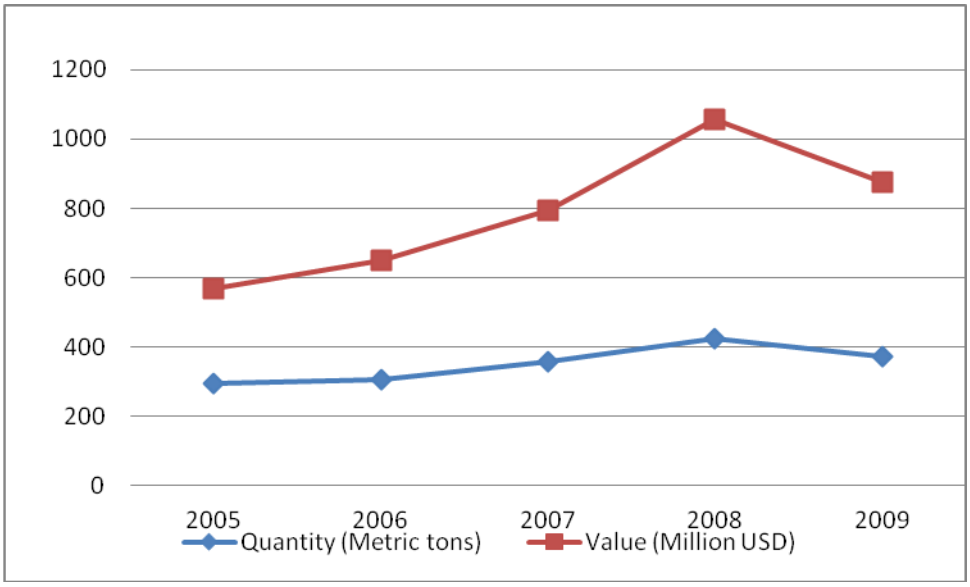


GoK, Economic Review of Agriculture, 2010

Figure 4.4: Value of Kenya's Coffee Export, 2005-2009

4.1.3 Trends in Horticultural Exports

Horticultural exports have been rising steadily in volume since 2005, only dropping marginally in 2009 (Figure 4.5). similarly, the value of horticultural exports has been increasing steadily in the same period, only dropping in 2009.

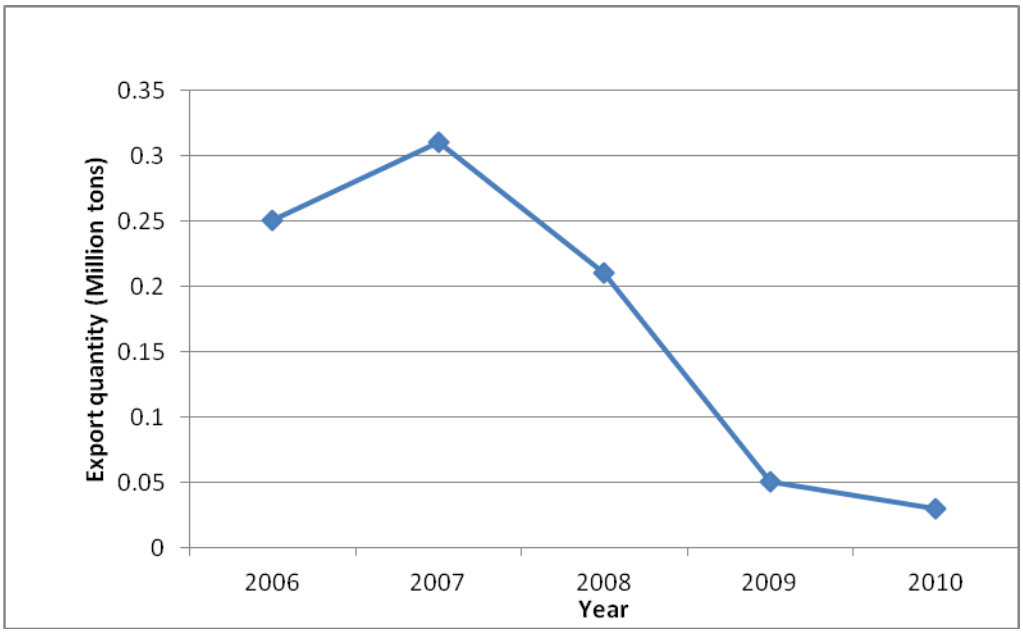


Source: Kenya Horticultural Development Program (KHDP)
http://www.fintrac.com/cpanelx_pu/Kenya%20KHDP/09_47_433_December%202009.pdf

Figure 4.5: Kenya's Horticultural Exports, 2005-2009

The drop in earnings from horticultural exports in 2009 is attributable to the World economic crisis.

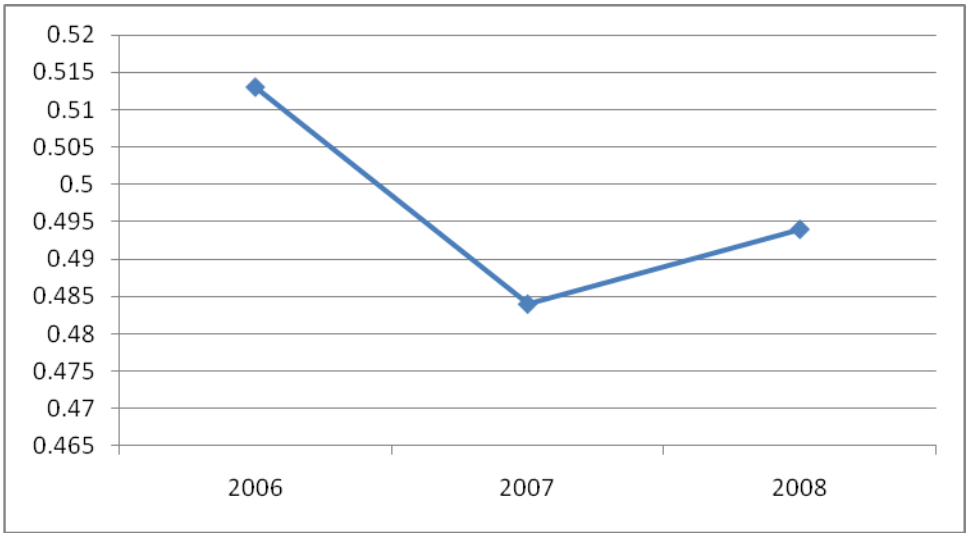
Besides the major exports, Kenya exports limited quantities of maize and sugar. Available data indicate that maize exports increased between 2006 and 2007 before dropping dramatically between 2007 and 2009. The export of maize is highly dependent on weather because no maize is grown under irrigation yet it is the main staple crop of the country. Figure 4.6 shows the erratic trends in the country's maize exports.



KNBS, Economic Survey (Various volumes)

Figure 4.4: Kenya's Maize Exports

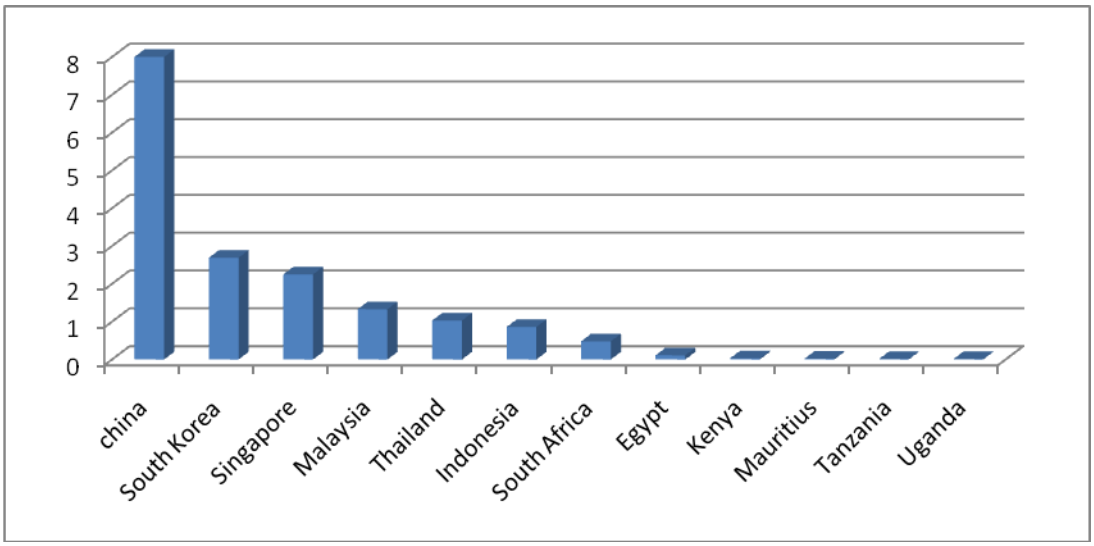
Between 2006 and 2008, the agricultural sector, including fisheries constituted about 50 percent of all the export earnings.



Source: GoK, Kenya Facts and Figures, 2009

Figure 4.5: Share of agricultural export earnings, 2006-2008

Agriculture still dominates the country's exports and any shock that adversely affects the sector is likely to cause significant multiplier effects in the entire economy. However, the country's share in the export market remains very low, estimated at a paltry 0.03 percent in 2006. This compares poorly with comparable countries like Singapore (2.25%), Malaysia (1.33%), South Korea (2.69%) and Thailand (1.08%). Figure 4.8 indicates the export market share of a few selected countries.



Source: WTO website (2007)

Figure 4.6: Export market share (percentage) of Selected countries, 2006

In Africa, South Africa and Egypt perform better than Kenya with export market shares of 0.48 and 0.11, respectively. Mauritius enjoys an export market share of 0.02 while Tanzania and Uganda each have a market share of 0.01. This underscores

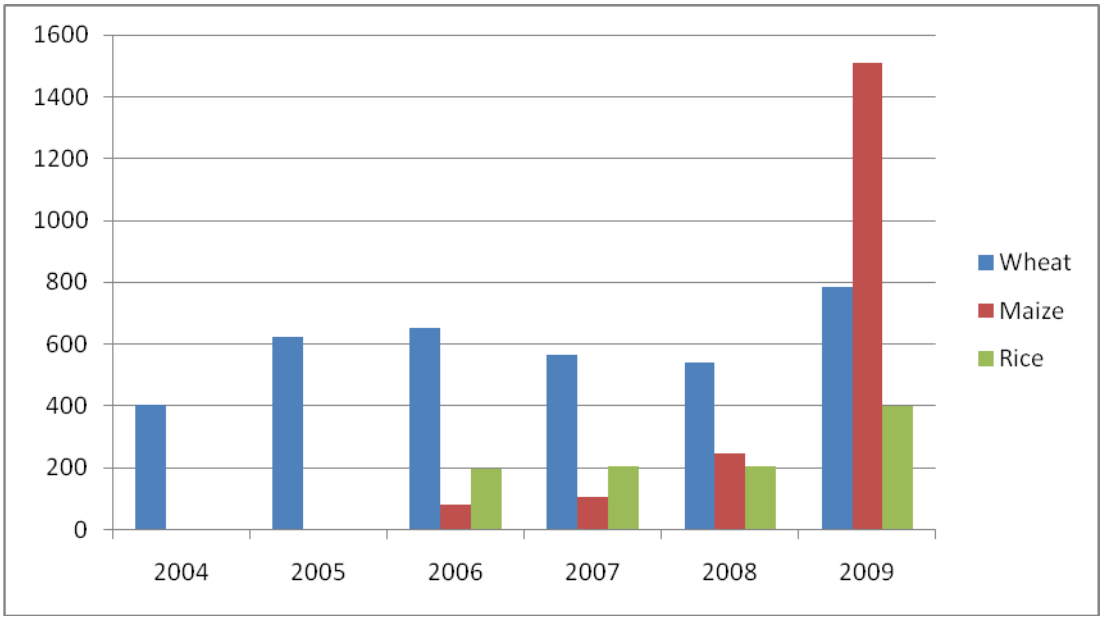
the need for Kenya to undertake value addition of tradable agricultural products because countries that dominate the export market are those exporting industrial products.

Kenya's main export markets are Uganda, UK, Tanzania, Netherlands, USA, Egypt and Pakistan, receiving about 64 per cent of the exports. Other export destinations include Rwanda, Saudi Arabia, India, and Germany. Kenya has some trade arrangements with most of the trading partners: Uganda, Tanzania and Rwanda are members of the EAC; UK, Netherlands and Germany are members of the EU where Kenya benefits from the Economic partnership agreement; and Egypt is a co-COMESA member.

The European Union, however, remains the largest recipient of Kenya's exports, absorbing about 29 percent of the total exports in 2008. EAC ranks second, having received about 24 percent of Kenyan exports in the same year. The rest of COMESA and the Far East are also important, each accounting for 12 percent of Kenya's export market in the period 2006-2009.

4.2 Kenya's Agricultural Imports

The country's agricultural imports constitute 10 percent of the total imports. Wheat, rice, maize and sugar products are the country's main imports. The decline in domestic maize and wheat production in 2008 occasioned by unfavourable weather and the effects of the post-election violence led to a significant rise in imports of the two products in the same year. Despite being a leading tea exporter, Kenya has been importing tea products. Minor agricultural imports include cotton, rice, sugars, textile fibres, animal/vegetable fats and oils. Figure 4.9 shows the trends of Kenya's main agricultural imports.



KNBS, Economic Survey (Various volumes)

Figure 4.7: Kenya's Agricultural imports (metric tons)

Largely, agricultural imports have been on the increase. This is mainly due to declining productivity of the country's agriculture, especially among the smallholders. Declining productivity can be attributed to over-reliance on rain-fed agricultural production, low levels of technology adoption and increases in population density which has led to sub-division of land that is economically nonviable.

It is important to note that, besides official trade especially among the EAC countries, there also exists informal cross-border trade for which accurate statistics may not be available. For instance, Kenya informally imported goods worth US$ 96.9 million, of which agricultural commodities accounted for US$ 75 million in 2006. In the same year Kenya exported goods estimated at US$ 63.9 million to Uganda, with industrial products constituting US$ 55.8 million (Ogalo, 2010). In 2007, Kenya's informal imports from Uganda dropped to US$ 86 million while the informal exports steeply declined to US$ 7 million.

4.3 Trends in World Commodity Prices

World commodity prices have had different trends. While prices of agricultural raw materials have been almost constant, prices of mineral products, agricultural food

staples and manufactured goods have steeply risen. The result of this is that net food importing countries that export mainly agricultural raw materials suffer deteriorating terms of trade. Figure 4.10 shows the trends of prices of maize, wheat and rice which are part of Kenya's main import food commodities.

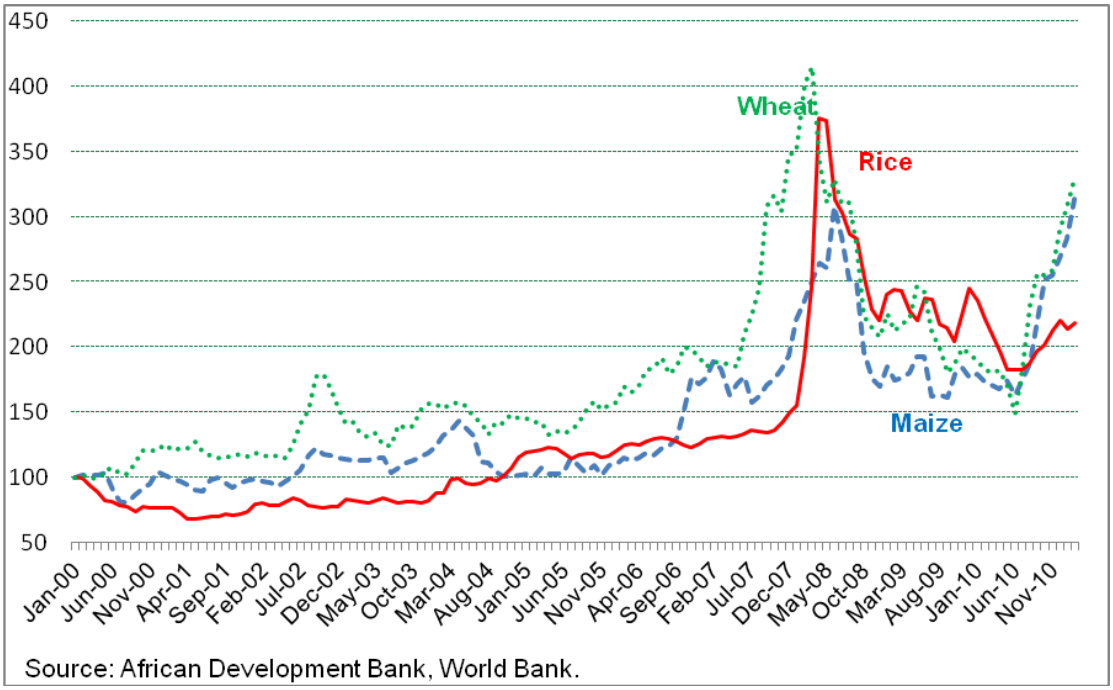
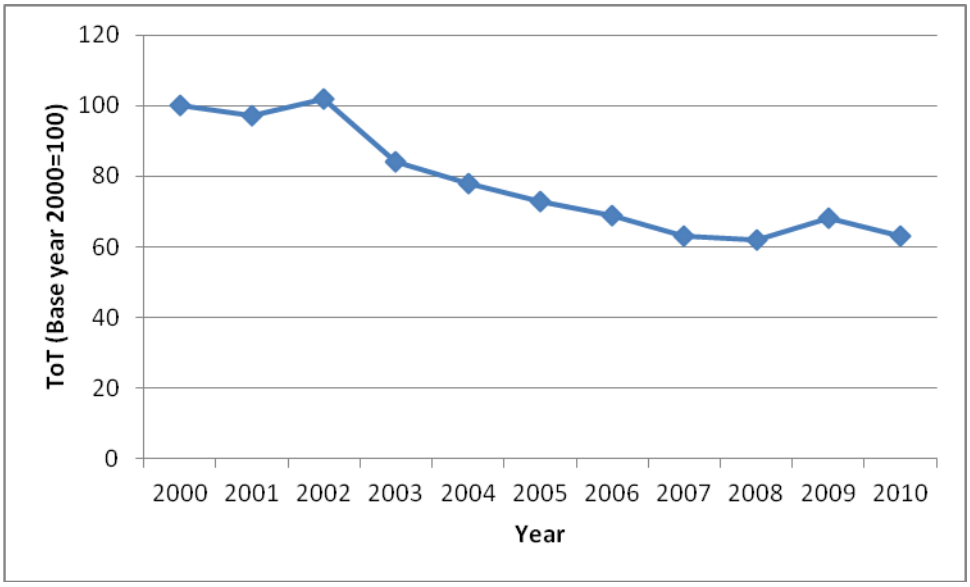


Figure 4.10: Import prices of basic foodstuffs (base January 2000 = 100)

Because Africa is a net food importer, the rising food prices will increase the import bill and put pressure on the balance of payment of respective countries.

The fact that Kenya relies heavily on export of primary or semi-processed agricultural products implies that the country has not been able to reap maximum gains from international trade. The country has been experiencing worsening terms of trade (Figure 4.11), a situation that may overstretch the government as it tries to cushion the citizens against the high and rising food prices. Already the country has had its share of food riots.



Source: IMF data available on the link: http://dx.doi.org/10.1787/888932403173

Figure 4.11: Kenya's Terms of Trade (ToT), 2000-2010

An important lesson from this scenario is that the country has to diversify into manufactured exports (World Bank, 2008).

Other policy implications of this are that the country should:

a) Consider value addition in tradable agricultural products as a priority initiative in increasing gains from international trade;
b) Venture heavily into markets where it enjoys competitive and comparative advantage such as COMESA and EAC; and
c) Tackle the constraints that limit agricultural value addition.

4.4 Kenya Trade with the rest of EAC

The EAC customs union Protocol was signed in December, 2004 and became operational in January, 2005. Full implementation was realized from January, 2010 when Uganda and Tanzania removed all tariffs on goods from Kenya.

There are early indications that the union will lead to increased intra-regional trade and investment. For instance, Kenya's exports rose from about US$ 650 million in 2002 to about US$ 920 million in 2005 and to US$ 1,300 million in 2007. The trade balance has been rising more rapidly since the full implementation of the customs union protocol (Table 4.1).

Table 4.1: Kenya's Trade with the rest of EAC (US$ Millions)

		Before the Customs Union			After the Customs Union		
		2002	2003	2004	2005	2006	2007
Exports (Domestic and re-exports)	Burundi	22.8	36.2	37.5	31	32.2	39.9
	Rwanda	54.8	79.2	78.2	89.3	110.4	137
	Tanzania	180.1	192.1	226.4	258.6	319.6	396.7
	Uganda	397.2	403.9	468.1	534.8	661	820.3
	Total	**654.9**	**711.4**	**810.2**	**913.7**	**1,123.3**	**1,393.9**
	Rest of the World	2,144	2,403.7	2,702.8	3,544.7	4,102.8	4,845.6
Imports	Burundi	0.01	0.03	0.04	0.4	1.3	1.6
	Rwanda	0.1	0.1	0.2	0.2	0.3	0.4
	Tanzania	10.2	18.	25.4	29	35.8	44.5
	Uganda	8.4	13.7	12.8	14.6	18	22.37
	Total	**18.7**	**31.8**	**38.4**	**44.2**	**55.5**	**68.8**
	Rest of the World	3,770.2	3,709.7	4,591.2	6,826.6	8,227.5	10,324.6
Trade Balance	**Total EAC**	**636.2**	**679.6**	**771.7**	**869.5**	**1,067.8**	**1,320**

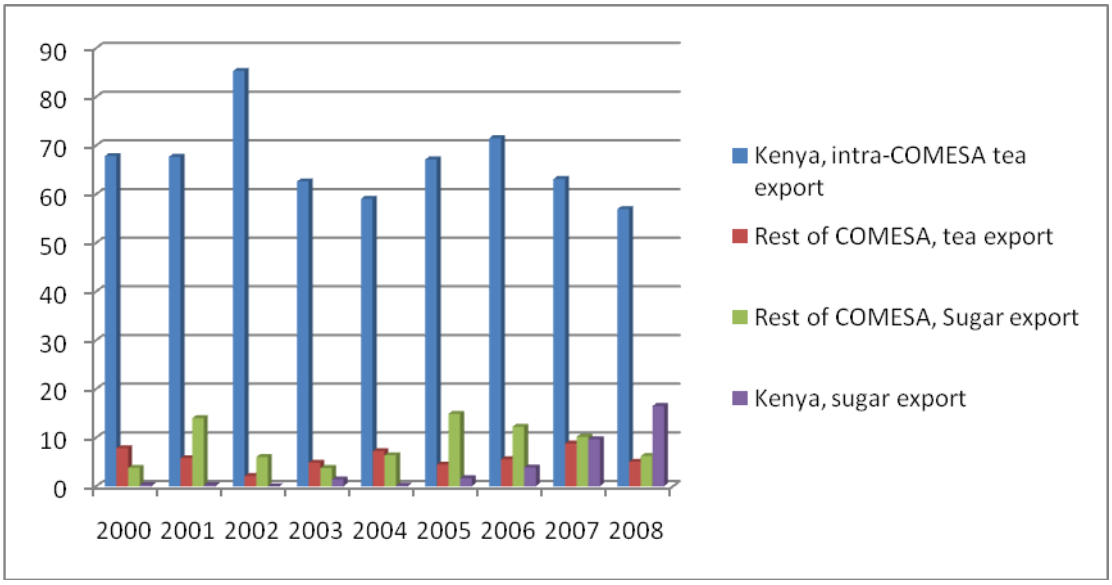
Source: IMF Statistics

Uganda is the largest recipient of Kenya's exports in the region, followed by Tanzania, Rwanda and Burundi, respectively. The export values have been rising across all EAC countries. As for imports, Tanzania is the largest source in the region. Like export values, value of imports from the other member states have been increasing rapidly after 2005 the years.

Main exports to Uganda comprise mineral fuels, mineral oils and related products (either passing through the country or re-exported by the country), paper and paperboard, plastics, iron and steel, beverages, spirits and vinegar, and pharmaceutical products. Exports to Tanzania include wood and wood products, wood charcoal, paper and paperboard, paper pulp, cotton, copper and related products, and textiles. Trade in agricultural products, especially cereals takes place but is not well documented. Major imports from Uganda, for instance, include animal and vegetable fats, cereals, cotton, oil seeds and oleaginous fruits.

4.5 Kenya's trade with the Rest of COMESA

This sub-section examines Kenya's trade with the rest of COMESA in two main agricultural commodities—tea and sugar. Kenya dominates the intra-regional tea exports while the rest of COMESA dominates in sugar export (Figure 4.12).

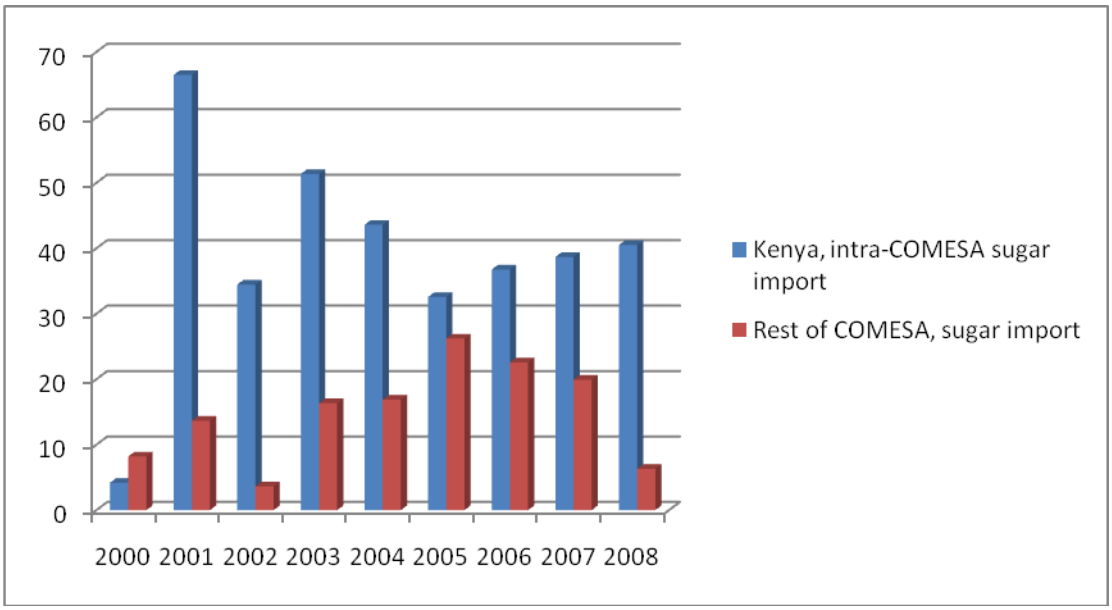


Source: COMstat, 2010

Figure 4.82: Share (Percentage) in intra-regional tea and sugar Export, 2000-2008

Trends indicate that Kenya's share of the intra-regional tea market peaked in 2002 and was lowest in 2008. The rest of COMESA reflects highly fluctuating intra-regional tea exports. In intra-regional sugar export, Kenya made marked improvements in the period 2006-2008. In fact, in 2008, the country's sugar exports surpassed the rest of COMESA's totals.

In intra-regional sugar imports, Kenya again dominates the rest of COMESA (Figure 4.13), implying inadequate domestic capacity to satisfy demand for sugar. This situation can be reversed by improving efficiency of local sugar refining firms and improving sugarcane farm productivity potentially through a variety of ways e.g. introducing fast-maturing varieties.



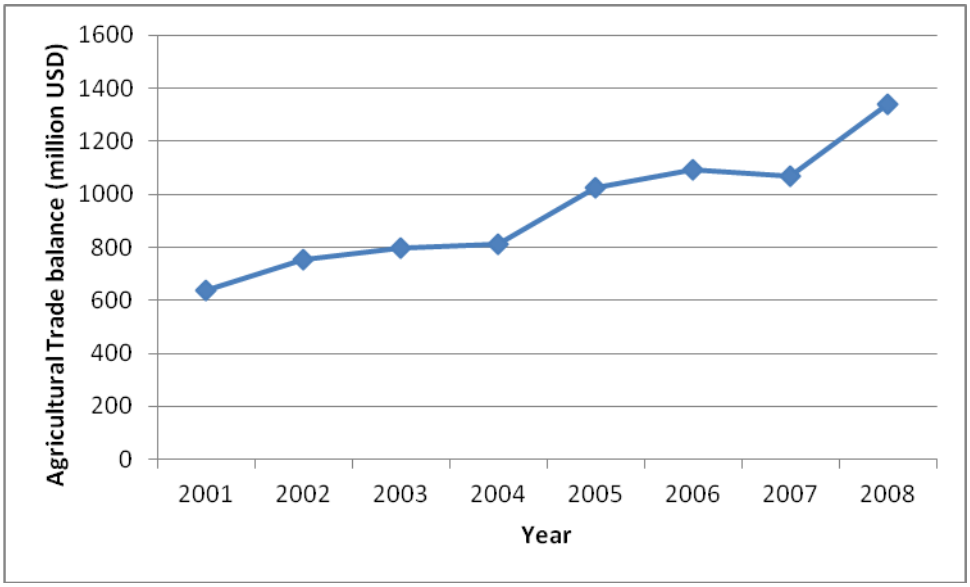
Source: COMstat, 2010

Figure 4.93: Share (Percentage) in intra-regional total sugar imports, 2000-2008

Kenya's intra-COMESA sugar imports were highest in 2001 and lowest in 2000. The rest of COMESA had its lowest share of intra-regional sugar import in 2002 after which it increased gradually to reach a peak in 2005 before dropping systematically between 2006 and 2008.

4.6 Agricultural Trade Balance in Kenya

The agricultural trade balance of a country is the difference between it's agricultural exports and agricultural imports. Positive agricultural trade balance means that a country is exporting more agricultural goods than it is importing. Kenya has enjoyed positive agricultural trade balance over the years (Figure 4.14).



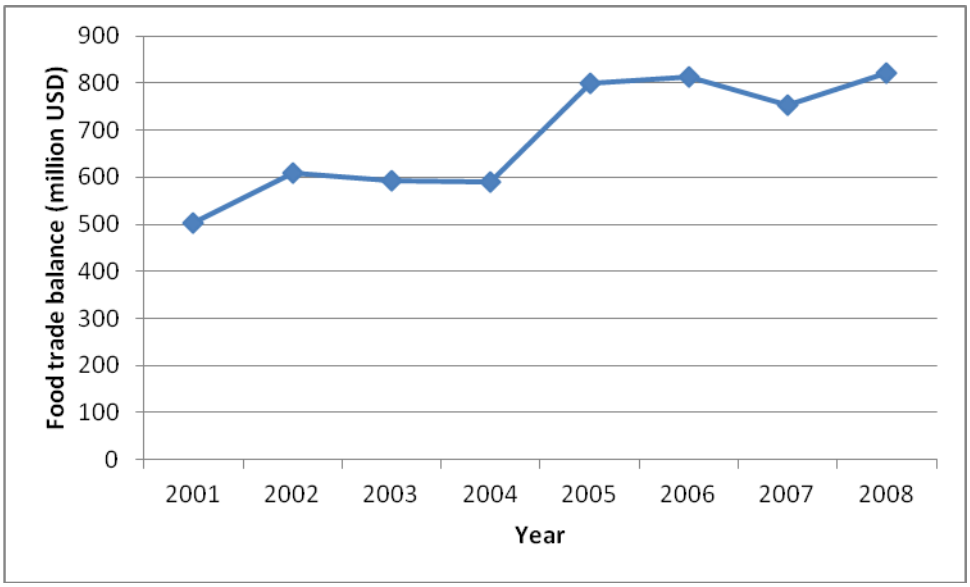
Source: Computed using import and export data from FAOSTAT

Figure 4.104: Agricultural Trade Balance (at 2008 prices) for Kenya

Agricultural trade balance has been increasing steadily, registering about 110 percent increase between 2001 and 2008. The steepest increase was recorded between 2007 and 2008. The implication of this trend is that the country has a comparative advantage in agriculture and could gain greatly by making it more competitive.

4.6 Food Trade Balance in Kenya

Food trade balance is the difference between a country's food exports and its imports of food. Positive sign indicates that the country is a net exporter of food while a negative sign implies that the country is a net importer of food. Statistics indicate that Kenya has remained a net exporter of food over the years (Figure 4.15).



Source: Computed using import and export data from FAOSTAT

Figure 4.115: Trend of Food Trade Balance in Kenya (2008 prices)

Food trade balance has, on average, been increasing although marginal declines have been recorded (e.g. between 2002 and 2005 and between 2006 and 2007). The sharpest increase was realized between 2004 and 2005.

5. POVERTY, HUNGER, FOOD AND NUTRITION SECURITY

UN Millennium Declaration ushered in a common vision of development for members by 2015. Kenya is a signatory to this declaration. Millennium Development Goals (MDGs) are grouped into 8:

a) Eliminating extreme poverty and hunger;
b) Achieving universal primary education;
c) Promotion of gender equality;
d) Reducing under 5 mortality;
e) Reducing maternal mortality;
f) Reversing the spread of HIV/AIDS, malaria and TB;
g) Ensuring environmental sustainability; and
h) Developing global partnership for development, with targets on trade, aid and debt relief.

MDGs implementation process in Kenya started in September 2002, with preliminary assessment of the requirements to enable formulation of a national strategy (GoK/UNDP, 2005). This chapter, however, will concentrate on MDG 1 and the country's progress towards achieving it.

Foremost, it is important to note that the fight against poverty and other related vices did not just start with the Millennium Declaration. Sessional Paper No. 10 of 1965 focused on elimination of poverty, ignorance and disease. Other recent policy documents as National Poverty Eradication Plan (NPEP) of 2000, Poverty Reduction Strategy Paper (PRSP) of 2001, Economic Recovery Strategy (ERS) of 2003-2007 and Vision 2030 (2007) have equally addressed poverty reduction with the same zeal. Table 5.1 links MDG 1, and ERS, PRSP and Vision 2030 components.

Table 5.1: The links between MDG 1 and Government Development Strategies

	PRSP Components	ERS components	Vision 2030 Components
MDG 1: Halving extreme poverty & hunger	Enhancing food security; Improving crops development; Improving livestock & fisheries development; Creation of employment opportunities.	Legal & institutional reforms in agriculture; Empowering resource poor farmers; Strengthen extension services; Increasing smallholder access to credit; Irrigation development	Increasing agricultural productivity; Developing ASALs for crop & livestock production; Value addition in agriculture for increased market access; Reforming agricultural institutions; Transforming land use.

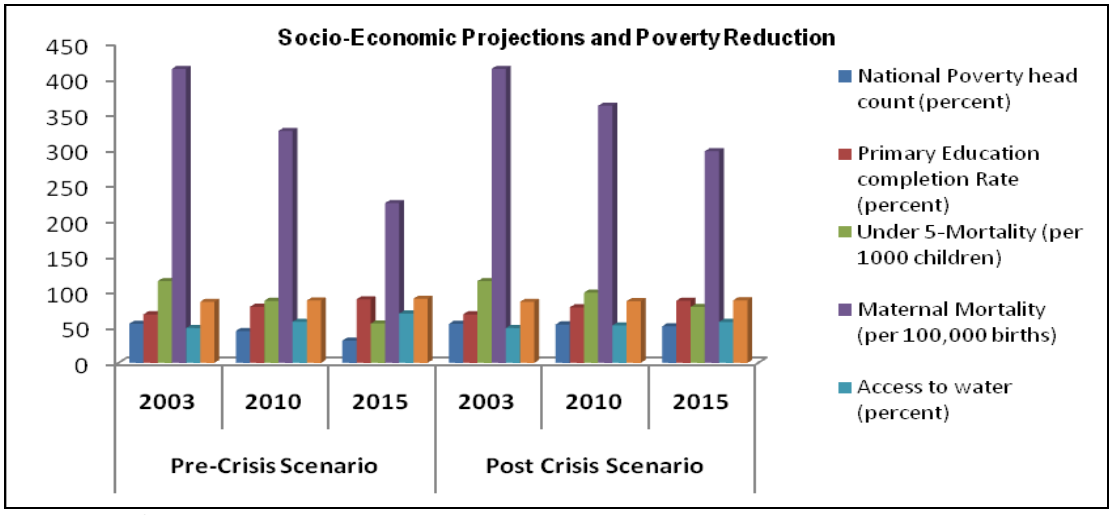
The three documents recognize that agriculture has a critical role to play in achieving MDG 1. This is because the economy is heavily dependent on agriculture, not only for food security but also for income generation and employment creation. In response to the Vision 2030, the agricultural sector has developed Agricultural Sector Development Strategy (ASDS) which targets achieving a 7 percent annual agricultural growth in the 2008-2012 period. The strategy also aims to fulfil requirements of CAADP.

Other policies and programmes targeted at increasing agricultural productivity at household level include the Strategy for Revitalizing Agriculture (SRA) (2009-2020) and the Ministry of Agriculture Strategic Plan (2008-2012), and National initiatives such as *Njaa Marufuku Kenya, Kilimo Biashara,* NALEP and programmes under Economic Stimulus Package. With these initiatives, it is projected that agricultural growth may reach the 10 percent mark by 2012, and this is anticipated to contribute immensely to the realization of MDG 1. In the next sub-sections, we examine the progress made so far in the country's pursuit of MDG 1.

5.1 Reducing the incidence of poverty

Poverty remains high in both incidence and depth. However, the national incidence of food poverty declined marginally from 48.7 percent in 1997 to 45.6 percent in 2005/06 (MDGs, Status Report for Kenya, 2007). Incidence of rural poverty declined from 50.7 percent in 1997 to 42.2 percent in 2006/2007, while that in urban areas, increased from 38.3 percent to 40.5 percent over the same period. Rural food poverty was estimated at 47.2 percent. In the period 2008-2009, poverty incidence is thought to have risen, having been triggered by the post-election crisis, global economic crisis and the upsurge in global fuel prices.

However, general projections indicate that Kenya would not have succeeded in halving poverty by 2015 even without the post-election crisis. In the pre-crisis period, it had been projected that poverty head count would drop to 31 percent. However, with the post-crisis reality, reduction in headcount poverty rate is now projected at around 51.5 percent by 2015 (Figure 5.1).



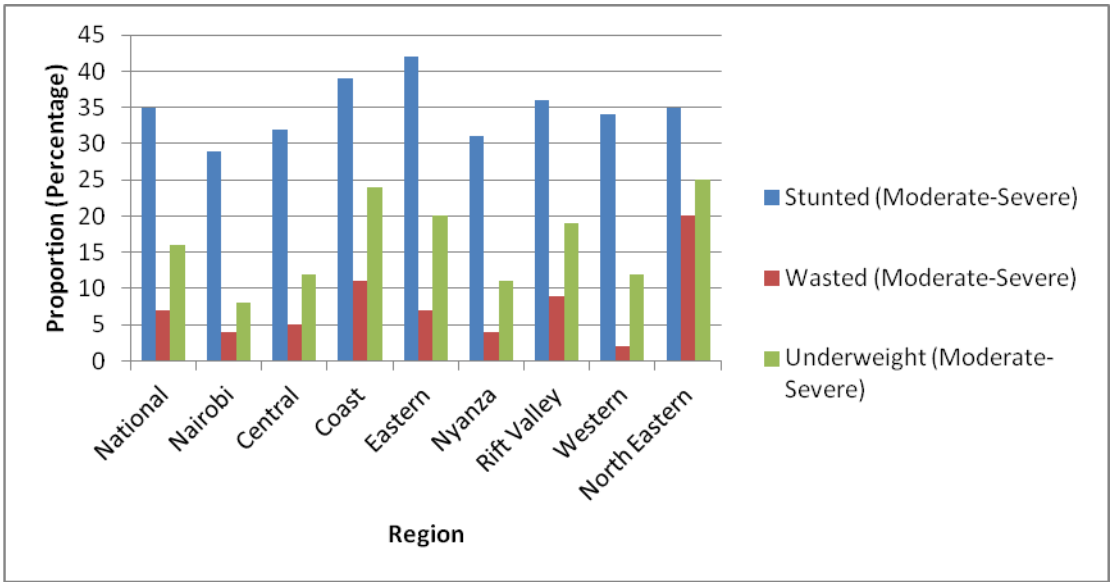
Source: GoK/UNDP, 2010

Figure 5.1: Socio-Economic Projections and Poverty Reduction

5.2 Halving prevalence of under-weight children and the under-nourished population

There has been a slight improvement in the national prevalence of undernourished children under-five years. For instance the proportion of stunted children aged 6-59 months declined from 36.9 percent in 1997 to 34.7 percent in 2006. A drop from 22.3 percent to 20.9 percent of underweight children was also registered in the same period. Enhanced crop, livestock and dairy production can contribute to sustaining this momentum as farm households are able to obtain nutritional food through increased food supply as well as increased incomes from agriculture that improve their access to food. Positive indicators that may have the potential to enhance nutrition have already been seen in the dairy sub-sector where milk production increased from 2.8 billion litres in 2002 to 4.2 billion litres in 2007.

The national averages may give the impression that the entire country is making progress towards this MDG target. However, scrutiny of different provinces indicates that the progress is not uniform (Figure 5.2).



Source: KDHS 2008-09

Figure 5.2: Proportion of stunted, wasted and underweight children under 5 years

In Eastern, Coast and Rift Valley provinces, the percentages of stunted children under the age of 5, is higher than the national average. Eastern province, with a percentage of 42, ranks the worst nationally. This could be attributed to a number of factors including the climatic conditions that are less suitable for agricultural production. Vast parts of the Coast and Rift Valley province are also semi-arid and highly vulnerable to adverse weather. These areas, therefore, require agricultural interventions, either in terms of suitable crop varieties or irrigation infrastructure. It is also important to note that stunting is more prevalent in rural (37%) than in urban (26%) areas, among children of women with low education attainments than women who are better educated, and among the children of the poor than the rich.

The proportion of stunted children remained unchanged between 2003 and 2008. However, stunting levels increased among the 6-11 month and 48-59 month age categories (KDHS, 2008/09). Stunting among male children under five declined from 33 percent in 2003 to 31 percent in 2008-09 while among female children, it remained unchanged. The proportion stunted among children in urban areas declined from 24 percent in 2003 to 22 percent in 2008-09. Most provinces recorded a drop in the proportion of stunted children since 2003, except for North Eastern province, where the proportion stunted increased by about 7 percentage points; Nairobi province where it increased by 4 percentage points, and Eastern province where it remained unchanged.

North Eastern province performs poorly in terms of the percentage of children under the age of 5 who are wasted, recording 20 percent against the national average of 7 percent. With a 25 percent rate of underweight children under the age of 5, the province also ranks the worst in this category. Other provinces that rate poorly in proportion of underweight children under the age of 5 are Coast, Eastern and Rift Valley. Wasting has not changed significantly since 2003 except in Coast province where it increased, and North Eastern province where it dropped from 27 percent in 2003 to 18 percent in 2008/09. All except Rift Valley, Western and North Eastern provinces, registered increases in the proportion of underweight children in the period of reference.

5.3 Achieving full productive employment and decent work for all

While there has been some economic growth unemployment levels have remained high. For example, the number of those employed was about 12.7 million by 2005/2006, while that of the unemployed was about 1.85 million in the same period. Available data indicate that there has been an increase in the unemployed in the labour force from 6.7 percent in 1978, 9.7 percent in 1986, 25.1 percent in 1999 and 12.7 percent in 2005/06 (GoK/UNDP, 2010).

5.4 Halving the proportion of people who suffer from hunger and poverty

Currently 50 percent of Kenyans are food insecure. The situation is normally exacerbated by high global food prices, drought and frequent floods experienced in the country. In 2009, about 4 million required food aid (GoK/UNDP, 2010). The government has put in place various interventions to boost strategic grain reserves held by the National Cereals and Produce Board. There are also initiatives to encourage farmer groups to work and support each other to improve their farming techniques. Already demonstration farms, supported through donor funding have been set up in some regions (e.g. Muranga) to help equip farmers with technical skills. While it is too early to judge such projects, farmers have expressed a lot of optimism about their viability and sustainability.

5.5 Global Hunger Index (GHI)

The level of hunger in Kenya can be described as alarming, with a global hunger score of 20.20 (IFPRI, 2009). Between 1990 and 2009, 20 to 25 per cent of the population did not access the minimum dietary intake to sustain a healthy and productive life. With such high levels of hunger and malnutrition, many people are deprived of political empowerment, economic participation and socio-economic wellbeing. Table 5.2 indicates the trends of various ESA countries in terms of the global hunger index.

Table 5.2: Trends in GHI values in the ESA countries

Country	1990	2003	2007	2008	2009	% Change in GHI values 2003-2009
Burundi	32.60	42.70	42.40	38.30	38.70	-4.00
Comoros	26.40	30.81	31.50	29.10	26.90	-3.90
DRC	25.50	37.60	41.20	42.70	39.10	1.50
Djibouti	30.70	20.90	17.10	20.90	22.90	2.00
Egypt	8.60	5.17	4.30	4.30	-	-
Eritrea	-	40.37	40.30	39.00	36.50	-3.90
Ethiopia	44.00	36.70	33.70	31.00	30.80	-5.90
Kenya	23.50	21.73	21.00	19.90	20.20	-1.50
Libya	2.70	0.00	0.90	0.90	-	-
Madagascar	29.10	29.92	30.70	28.80	28.30	-1.60
Malawi	32.20	25.40	24.50	21.00	18.50	-6.90
Mauritius	6.10	3.80	3.80	5.00	-	-
Rwanda	28.30	27.20	26.30	22.30	25.40	-1.80
Sudan	25.60	25.67	25.60	20.50	19.60	-6.10
Swaziland	13.40	14.87	15.00	17.70	11.10	-3.80
Tanzania	26.10	29.97	26.10	24.20	21.10	-8.90
Uganda	19.90	18.63	18.60	17.10	14.80	-3.80
Zambia	29.10	31.77	31.10	29.20	25.70	-6.10
Zimbabwe	20.20	23.20	21.30	23.80	21.00	-2.20

Source: IFPRI/ Concern/ Welthungerhilfe, 2009

Although Kenya appears to be performing fairly among the ESA countries, it can improve by drawing lessons from Malawi and Uganda, both of which are rapidly improving their global hunger ratings. Other countries that may be interesting to learn from are Tanzania, Zambia, Sudan and Ethiopia, not because they rank better but because of the remarkable improvements they registered between 2003 and 2009.

5.6 Dietary Diversity Score

The dietary diversity score is an indicator that is used to measure the micronutrient adequacy in the diet of the population. This indicator has been developed to measure performance in addressing the problem of micronutrient deficiency that remains to be a serious concern particularly in developing countries. The indicator is

also used as a measure of food security. Table 5.3 shows diet diversification index for ESA countries.

Table 5.3: Diet diversification index (Share (%) in total Consumption) for energy, protein and fat for the ESA countries (1995-97 and 2003-2005)

	1995-97			2003-05			Change		
	Energy	Protein	Fat	Energy	Protein	Fat	Energy	Protein	Fat
Burundi	53	74	70	47	68	65	-6	-6	-5
Comoros	42	56	93	47	61	95	5	5	2
DRC	24	47	86	23	45	85	-1	-2	-1
Djibouti	50	42	95	47	38	94	-3	-4	-1
Egypt	31	33	73	33	38	73	2	5	0
Eritrea	23	32	69	29	31	84	6	-1	15
Ethiopia	19	32	70	20	32	71	1	0	1
Kenya	**43**	**50**	**79**	**43**	**49**	**80**	**0**	**-1**	**1**
Libya	52	49	95	54	53	95	2	4	0
Madagascar	25	40	83	21	33	78	-4	-7	-5
Malawi	26	28	50	26	31	55	0	3	5
Mauritius	53	56	96	51	58	95	-2	2	-1
Rwanda	56	66	77	44	59	80	-12	-7	3
Seychelles	59	67	94	57	68	93	-2	1	-1
Sudan	42	47	81	49	55	84	7	8	3
Swaziland	41	43	78	48	54	80	7	11	2
Tanzania	30	42	80	29	38	81	-1	-4	1
Uganda	59	67	92	56	69	93	-3	2	1
Zambia	21	26	53	24	30	66	3	4	13
Zimbabwe	37	29	76	42	36	80	5	7	4

Source: IFPRI/ Concern/ Welthungerhilfe, 2009

The data indicate that Kenya's dietary diversity remained virtually constant between the two time frames of reference. Protein constituent lost 1 percentage point while fat constituent gained 1 percentage point.

5.7 Share of food expenditure

The share of food expenditures in total expenditures in most ESA countries is high; in some countries it is as high as 70 percent (Table 5.4). Rural households have higher food expenditure shares in all countries.

Table 5.4: Expenditure on food as a percentage of total household expenditure/income

Country	National	Rural	Urban	Source
Burundi[1]	74	75	48	Burundi Household Survey, 1998, in World Bank, 2006
Ethiopia[1]	66	68	55	Ethiopia Household Survey, 2000
Kenya[3]	51.1	62.3	39.6	Basic Report on well-being in Kenya based on the Kenya Integrated Household Budget Survey-2005/06
Malawi	61.5	59.2*	35.2**	Malawi household Survey, 1997/98
Malawi[2]	55.6	45.1	58.7	Integrated Household Survey, 2004-2005
Madagascar[1]	72	75	62	Madagascar Household Survey, 1999
Madagascar[2]	63.3	74.9	53.6	Periodical Household Survey, 2005
Tanzania[2]	65.4	67.0	54.2	Household Budget Survey 2000/01
Rwanda[2]	68.55	77.14	48.47	Welfare Monitoring Survey Report for Rwanda, 2000-2001
Uganda[2]	44	50	33	Uganda National Household Survey, 2002/2003, UBOS
Uganda	45	50	34	Uganda National Household Survey, 2005/2006,UBOS
Zambia	68	74	57	Zambia household survey, 1998, in World Bank, 2006

1 Mean monthly; 2 Annual; 3 Mean monthly per adult equivalent

* Southern region as a proxy

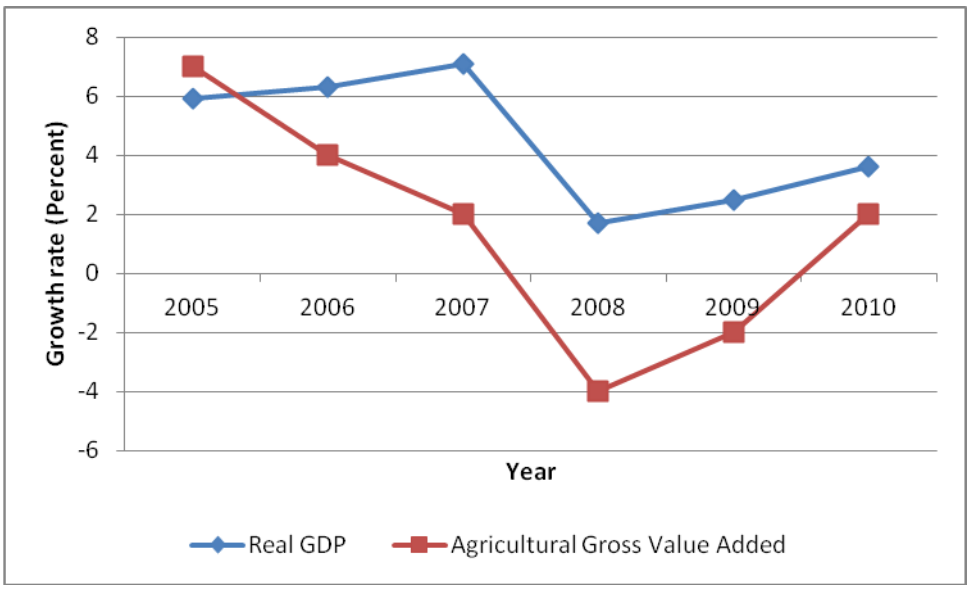
** Urban region as a proxy

Source: Compiled by ReSAKSS, ESA detailed references are found in Karugia *et al*, 2009a

Rural Kenya spends the bulk of its income on food. This indicates that there is very little allocation for other welfare improving goods and services. It further implies that saving which is an important source of investments in rural areas is highly constrained. As a result, unemployment levels in rural areas are bound to remain high and poverty may worsen unless deliberate efforts to ameliorate the crisis are taken by the government and other agencies. One such effort is to revolutionize agriculture to guarantee food security and boost incomes of farm households.

6. AGRICULTURAL INVESTMENT, GROWTH, POVERTY AND HUNGER LINKAGES

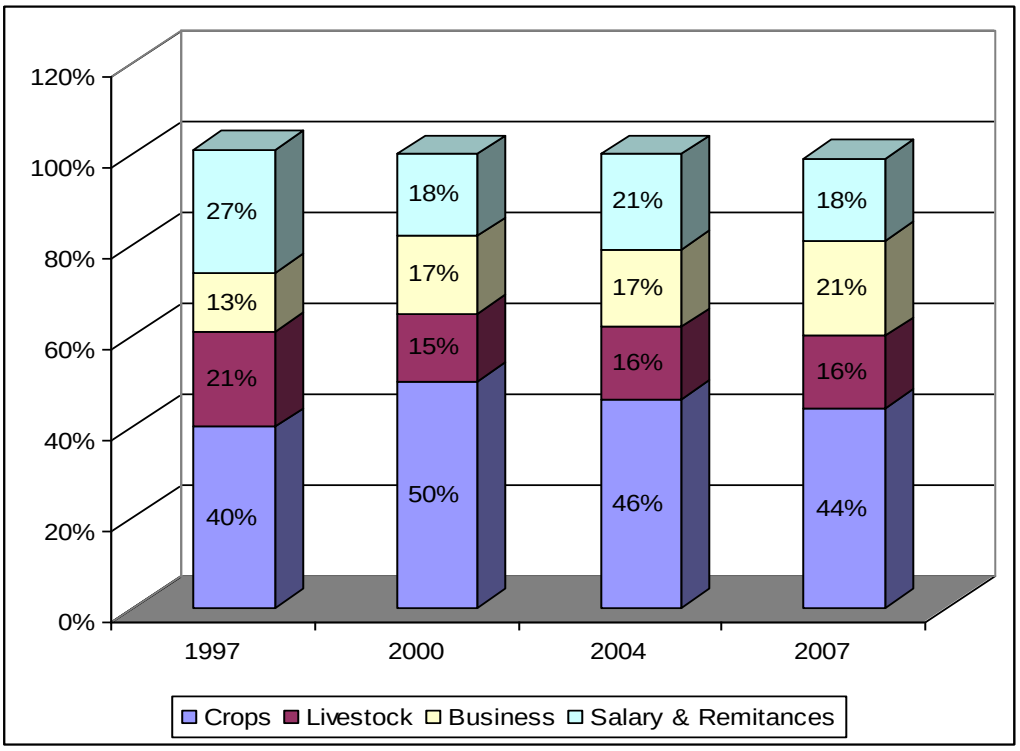
To understand the agricultural investment-growth-poverty-hunger nexus, it is imperative to first understand the pivotal role of the sector in socio-economic development of the country. As a key productive sector in Kenya, agriculture directly contributes about 25 percent to GDP and indirectly, through its links to other sectors, another 27 percent. The sector also provides 62 percent of formal employment, 60 percent of exports, 70 percent of agro-based industrial raw materials and 45 percent of government revenue (Republic of Kenya, 2005). The growth multiplier effect of the sector is estimated at 1.64 which is significantly higher than that of non-agricultural sectors, estimated at 1.23. It is also estimated that 80 percent of Kenya's population is directly involved in and dependent on agriculture for their livelihoods. The sector is made up of 5 million smallholders (Republic of Kenya, 2007). Generally, the trend of the country's economic performance is largely influenced by the agricultural sector's performance (Figure 6.1).



Source: GoK, Economic Survey, 2010 and African Economic Outlook, 2010

Figure 6.1: Relationship between Agricultural Growth and Overall GDP Growth in Kenya

Agricultural Gross Value Added (GVA) growth and the overall Real GDP growth for the country are positively correlated and move in same directions. This means that any negative shocks to the agriculture sector are not likely to be offset by good performance in the non-agricultural sectors. It is for this reason that agriculture is considered the mainstay of the country's economy. Figure 6.2 illustrates the various sources of income and the respective proportions of the Kenyans they support.



Source: Suri *et al*., 2008

Figure 6.2: Trends in the average sources of income in Kenya, 1997-2007

The trends indicate that, over the years, Kenyans generate more than 60% of their incomes from agriculture. This underscores the usefulness of investing in agriculture as a mechanism for eradicating poverty.

The implication of the foregoing discussion is that, for economic growth, employment creation and poverty alleviation in Kenya, agricultural productivity and competitiveness must be increased significantly. The government of Kenya has clearly noted this in its policy documents and development plans such as the 2003

Economic Recovery Strategy (ERS) for Wealth and Employment Creation, Vision 2030, Strategy for Revitalizing Agriculture (2009-2020) and the Agriculture Sector Development Strategy (ASDS). In the next sub-section we examine the impacts of agricultural investment on poverty alleviation.

6.1 Agricultural Investment and Poverty alleviation

The central role that agriculture plays in Kenya's economy indicates that it is at the core of the fight against poverty. However, it is important that investments in agriculture are targeted for optimal results. Different components of agriculture yield varying results for different regions, agro-ecological zones and even altitudes (KIPPRA, 2009). Table 6.1 indicates the possible effects of investment in agriculture as simulated by KIPPRA (2009).

Table 6.1: Alternative growth Paths for Agriculture

	Invest in all agriculture	Invest in activities with highest multiplier in agriculture	Invest in agro-processing
Agriculture	20.98	27.66	24.84
Rural household income	17.70	23.13	9.66
Rural labour remuneration	16.03	27.73	9.08
Urban household income	7.95	10.88	8.10
Urban labour remuneration	6.49	9.28	7.38
Non-agriculture	4.68	6.12	5.57
Rural capital	4.03	5.27	2.49
Urban informal capital	2.39	3.49	2.05
Urban formal capital	1.81	2.26	2.14

Note: The figures in the table indicate the percentage change in income arising from the financial injection in the activity indicated in each column.
Source: KIPPRA, 2009

These projections reveal that investments targeted at agricultural activities with the greatest multiplier effects have the greatest impact on household incomes, factor rewards and agricultural production. This is consistent with the findings of Thurlow

et al. (2007). Investments in agriculture in totality yield better outcomes for agricultural production and the well-being of rural areas while investment in agro-processing favours urban areas. Thus, for the general benefit of the entire economy, it may be important to identify and invest in those agricultural activities with the most backward and forward linkages and greatest multiplier effects.

Investment in different areas of agriculture has varying poverty alleviation impacts in different regions. Lowland areas tend to gain more from expansion of food crop production while highland areas benefit more from expansion of cash crop and dairy production (Table 6.2).

Table 6.2: Impact of different growth scenarios on Poverty

		Industry-led	Agriculture-led	Food crops	Livestock	Industrial crops
		Growth-Poverty effect				
National poverty		-0.51	-2.20	-2.13	-1.58	-1.90
Rural poverty		-0.45	-2.66	-2.46	-1.90	-2.36
Urban poverty		-0.78	-0.23	-0.66	-0.18	-0.15
Rural poverty gap		-0.57	-4.22	-3.72	-2.51	-4.32
Rural poverty severity		-0.57	-5.32	-4.53	-2.84	-5.66
Poverty 2003		Poverty rate (%) in 2015				
National	51.3	46.0	38.7	39.3	41.6	39.9
Rural	51.9	45.8	36.7	37.4	40.1	37.9
Urban	47.6	46.8	48.6	47.9	48.8	49.8
Lowland	61.0	57.6	55.0	53.6	58.7	54.3
Midland	54.7	49.8	40.0	40.8	44.1	41.9
Highland	41.4	31.4	24.9	26.1	25.9	25.2

Source: KIPPRA, 2009

Agriculture-led growth has a greater impact on poverty reduction in rural areas and at broad national level. Its impact is, however lower on urban poverty. For individual agricultural activities, food crop production yields the best results for the nation, and

also for both urban and rural areas. But for cutting down on rural poverty severity, investment in industrial crops is the best option.

The projections indicate that the country, the rural areas, midlands and highlands will be better off in 2015 if the country pursues agriculture-led growth. The urban areas will be better off with industry-led growth. Whatever policy the country pursues should be determined by where the majority of the population is concentrated and where poverty is more severe. But the government may also stimulate agricultural growth indirectly through the provision of public goods such as irrigation systems and rural access roads. Spending on irrigation has been noted to have a large impact on poverty reduction— a 1% increase in irrigation-stimulated growth leads to a drop in national poverty by 3.9% compared to 2.1% and 2.4% for research and extension, and roads, respectively (KIPPRA, 2009). Also, 1% rise in irrigation expenditure reduces rural poverty by 5.6% and intensity of rural poverty by 7.6%. However, when expenditure on roads is combined with market intervention, the combined effect on poverty reduction is about 4.2% which is higher than the impact of spending on irrigation. Table 6.3 presents the cost-benefit analysis of investment in various infrastructures that impact on agricultural growth.

Table 6.3: Impact of investment in infrastructure on growth and poverty and their benefit-cost ratios

	Irrigation	Research & extension	Rural roads	Market interventions
Poverty-growth effect	Percentage change in poverty for 1% change in agricultural spending			
National headcount	-3.88	-2.09	-2.44	-1.73
Rural headcount	-4.6	-2.34	-2.91	-2.00
Rural poverty gap	-5.59	-3.38	-3.83	-2.65
Rural poverty severity	-7.57	-3.79	-4.17	-3.28
Urban headcount	-0.22	-1.02	-0.10	-0.49
Spending-growth	Ksh increase in GDP per shilling spent			
Agriculture	0.06	0.13	0.08	
All sectors	0.01	0.03	0.02	
	Poor people lifted out of poverty per shilling spent			
GDP benefit-cost ratio	2.6	6.3	3.0	
Poverty benefit-cost ratio	29	103	21	

Source: KIPPRA, 2009

Spending on research and extension yields the highest returns. Each shilling spent on research and extension generates Kshs 6.3 growth to GDP as opposed to Kshs 3 and Kshs 2.6 generated by rural roads and irrigation, respectively. Each shilling spent on research and extension also lifts more people out of poverty—103 compared to 29 and 21 for irrigation and rural roads, respectively. Thus, expenditure on research and extension is both a pro-poor and pro-growth strategy. Irrespective of the infrastructure targeted, if it is in agriculture, it would contribute more to GDP growth than when it is allocated evenly across all sectors. For poverty reduction, however, irrigation expenditure ranks the highest and should be prioritized as a poverty reduction driving force.

7. CONCLUSIONS AND RECOMMENDATIONS

The agricultural sector in Kenya is important in driving the overall economic growth and alleviating poverty. The sector still faces many challenges including overall low productivity, frequent and prolonged droughts that lead to low production, increasing land fragmentation and quite often fluctuating world market prices among others. For the last five years the sector has experienced declining GDP growth; in 2008 and 2009, the sector experienced negative growth due to post-election violence and excessive drought respectively.

The government has set in place various policy measures to address the problems in the sector. Specifically, the country has committed itself to CAADP implementation and has rolled out an elaborate plan for this through the Agricultural Sector Development Strategy (ASDS) which spells out a clear road map for the sectors' development. Allocation to the sector, however, remains below the CAADP recommendations although the government has committed to increasing the allocation progressively over the coming years. Public investment alone is not adequate hence the need for public-private cooperation and coordination for investment. ASDS has set in place a framework of joint investment between the public and the private sector.

However, certain sections of the private actors such as the smallholder farmers remain poorly organized. Donor support in the agricultural sector is also low compared to the government sector's investments. The FDI inflows into the sector are also low.

Over the years agricultural imports have grown faster than exports. The main agricultural exports consist of a selected few cash crops; tea, horticultural crops, coffee and tobacco. On a positive note however, the country's share of regional trade has been increasing. The country has also maintained positive agricultural and food trade balances over the years.

Agriculture and rural poverty are closely intertwined because the majority of people living in the rural areas are dependent on agriculture for their livelihood. Rural poverty in the country remains high with only marginal decline over the years. Given the current trends the country will not achieve the MDG 1 of halving poverty by 2015. In order to address the high prevalence of poverty, there is need to target investments in the agricultural sector because of its potential to reduce poverty among the poorest section of the population and its linkages with other sectors of the economy. Food security and hunger indicators are still grim; in the past few years, only marginal gains in prevalence of under-weight children have been achieved with a marked regional disparity. Food poverty is also very high with about 50% of the population food insecure.

In order to fully harness the potential of the agricultural sector in addressing the challenges of poverty, unemployment and food insecurity the government should target the following among others:

a. Increased agricultural production (productivity) and improve the distribution systems: these will be achieved through development and implementation of sustainable agricultural production techniques, enhanced research and extension, improved input distribution, building the capacity of farmers and farmer organizations, enhancing commodity value chain development and improving global competitiveness of the agro-products;
b. Increasing gains from agriculture through value addition: primary products are low-priced and subject to international price fluctuations. The country must invest in value addition if agriculture is to become more profitable. For this to be achieved, access to value addition equipments, inputs and tools should be increased through deliberate government policies. Incentives should also be provided to attract private sector players to engage more meaningfully in agriculture; and
c. Promoting regional agricultural trade: cross-border flow of agricultural products is important for food security. Liberalization of cross-border trade in agricultural products will reduce costs and increase access to agricultural food and non-food products in the region. One of the most important steps is

to reduce NTBs to cut down on transaction costs and increase the volume of intra-regional trade.

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