REPUBLIC OF KENYA

MINISTRY OF AGRICULTURE

ECONOMIC REVIEW OF AGRICULTURE 2012

Prepared by:
The Central Planning and Project Monitoring Unit
MINISTRY OF AGRICULTURE

Price: Kshs. 250

ECONOMIC REVIEW OF AGRICULTURE [ERA]

2012

MARCH, 2012

Prepared by: - Central Planning and Project Monitoring Unit (CPPMU)

Table of Contents

Acronyms

ACP	Africa-Caribbean and Pacific
AFC	Agricultural Finance Corporation
AG	Attorney General
ARD	Agricultural and Rural Development
ASAL	Arid and Semi Arid Land
ASCU	Agricultural Sector Coordination Unit
ASDS	Agricultural Sector Development Strategy
CBK	Central Bank of Kenya
CIS	Commonwealth of Independent States
CJ	Chief Justice
CODA	Cotton Development Authority
CRF	Coffee Research Foundation
EU	European Union
FAO	Food Agriculture Organization
FOB	Free on Board
GDP	Gross Domestic Product
GIEWS	Global Information and Early Warning System
HCDA	Horticultural Crops Development Authority
IFA	International Fertilizer Association
KARI	Kenya Agricultural Research Institute
KEFRI	Kenya Forest Research Institute
KEPHIS	Kenya Plant Health Inspectorate Services
KESREF	Kenya Sugar Research Foundation
KMFRI	Kenya Marine and Fisheries Research Institute
KNBS	Kenya National Bureau of Statistics
KSB	Kenya Sugar Board
KTDA	Kenya Tea Development Agency
MMT	Million Metric Tons
NASEP	National Agriculture Sector Extension Policy
OCDA	Oil Crops Development Authority
PBK	Pyrethrum Board of Kenya
SACU	Southern Africa Customs Union
THVC	Traditional High Value Crops
TRF	Tea Research Foundation
UAE	United Arab Emirates
UK	United Kingdom
USA	United States of America
USD	United States Dollar
USDA	United States Department of Agriculture
WASDE	World Agriculture Supply and Demand Estimates

List of Figures

List of Tables

Forward

This 7th edition of the Economic Review of Agriculture (ERA) is a continuation of the Ministry's efforts in data consolidation, dissemination and analysis of production trends in an effort to have a one stop and accurate database. This year's publication contains analysis on macroeconomic indicators and international perspectives for comparative purposes. ERA is supplemented by the half-yearly publication; the Agriculture Outlook that highlights half-year achievements and projections. Other efforts include the annual publication of the Kenya Agricultural Sector Data Compendium; an attempt to consolidate agricultural data to inform policy formulation, monitoring and evaluation. Further information on this is available on:- www2.kilimo.go.ke. The web-site is now up to date with datasets on agriculture commodities. Through Food and Agriculture Organization (FAO) the Ministry has also launched CountrySTAT, an integrated Agricultural Database for food and agriculture statistics. This is statistical framework and applied information system for analysis and policy-making designed to organize, integrate, and disseminate statistical data and metadata on agriculture in line with the international standards. This publication has also offered good sources of data for national and sub-national levels (www.countrystat.org/ken).

This year's publication is the first to provide county specific data on crops performance. The publication also captures the milestones achieved by Agricultural Training Centres (ATCs). Efforts are underway to include other key activities in the Ministry in future publications.

This edition comprises of 8 main chapters; chapter one provides basic analysis on aggregate national macro-economic indicators for the last five years. The general level of price movements especially on food items is highlighted through the average inflation, thus highlighting price movements especially on food items as triggered by behavior on the supply side.

Chapter two provides highlights on sector and sub-sector budget allocations for the period under review. Analysis of the actual and printed estimates is provided in this section for the main votes. Key policy interventions and reforms initiated in the sector are covered in chapter three. Extracts on the world food situation and forecasts by FAO are analyzed in chapter four and helps to contrast with domestic production trends. Highlights on the performance of the crops sub-sector are presented in chapter five. Chapter six provides a summary on off-take of key agricultural inputs. The chapter also has two sections on ATCs and the level of agricultural mechanization in the country.

I am confident that the consolidated datasets will be useful to the readers and stakeholders in their endeavor to access new information, contents and insights into the sector from which the Kenyan economy is so much dependent.

Romano M. Kiome, PhD, CBS
Permanent Secretary

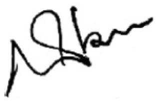
Acknowledgements

The Central Planning and Project Monitoring Unit (CPPMU) acknowledge the concerted efforts from various departments and individuals who made this publication a success. Therefore, I wish to pay special tribute to Dr. Songa the Agriculture Secretary (AS), all directors and heads of departments and the entire technical arm for their efforts towards this annual publication and the cooperation extended in the agricultural data collection and analysis in the Ministry.

The editorial team acknowledges inputs from key data producers including the Ministry's Directorates and SAGAs and all those individuals, institutions and stakeholders who continue to provide valuable information to this publication. The incisive comments have significantly improved the publication's analysis and coverage of the indicators in the publication.

This publication is a result of combined efforts of the following officers:

1.	Samuel Gicheru	Principal Economist, CPPMU/MoA
2.	Martin Wekesa Khaoya	Principal Economist, CPPMU/MoA
3.	Tom Dienya	Principal Agricultural Officer, Crops Directorate
4.	Stephen Njogu	Principal Agricultural Officer, CPPMU/MoA
5.	Jane Maundu	Principal Agricultural Officer, Crops Directorate
6.	Alex Mwaniki Wambua	Senior Economist, CPPMU/MoA
7.	Harrison Wambua	Senior Economist, CPPMU/MoA
8.	Florence Ndai	Economist II, CPPMU/MoA
9.	Faith Kiprono	Economist II, CPPMU/MoA
10.	Phyllis Lusangalu	Personal Secretary, CPPMU/MoA



W. A. Lubira
Head CPPMU

Symbols and Conventions

Category not applicable	=	″.“
Data not available	=	″..“
Data not yet available	=	″...“
Not for publication	=	″ : “
Nil	=	″-“
Estimated value	=	“e”
Provisional or preliminary figure	=	“*”
Less than 0.5 of unit employed	=	″ 0 “
Less than 0.05 of unit employed	=	″0,0 “
Break in the homogeneity of vertical series	=	″ --“
Break in the homogeneity of horizontal series	=	″ |“

1.0 OVERVIEW ON ECONOMIC PERFORMANCE

1.1 Overall Economic Performance

The national Gross Domestic Product (GDP) growth for the first nine months of 2011 deteriorated in comparison to what was achieved in 2010. In particular, decline in growth were recorded during the second and third quarters. A number of factors contributed toward this performance. Key amongst them were; sharp rise in oil and food prices, turbulent macroeconomic environment driven mainly by rising inflation and exchange rate depreciation and less than usual rainfall in most parts of the country. However, good horticultural export performance resulted in a significant growth in agricultural and forestry.

Average growth rate for the first three quarters of 2011 was 4.2 per cent compared to 2.3 per cent and 5.4 per cent for similar periods in 2009 and 2010 respectively. Agricultural output, particularly coffee and tea had their production substantially depressed as a result of poor rains. The agricultural subsector also experienced shortage and high prices of fertilizer and seeds for key crops.

Gross Domestic Product expanded by 4.9 per cent in the first quarter of 2011 compared to a growth of 4.3 per cent in the same period of 2010. This growth can be attributed to accelerated expansion in activities of the transport and communication, financial intermediation and construction industries during the first quarter. The expansion was also supported by growths in manufacturing, wholesale and retail trade, hotels and restaurants, electricity and water sectors. The most remarkable improvements were experienced in the hotels and restaurants and electricity and water sectors which made turnarounds after contracting by 2.7 and 2.5 per cent in first quarter of 2010, to growths of 8.3 and 3.5 per cent during the same quarter of 2011 respectively.

During the second quarter, the GDP is estimated to have expanded by 4.1 percent compared o 4.6 percent growth recorded in the same quarter in 2010. Notable improvement during this quarter was recorded in construction, wholesale and retail trade.

In the third quarter, the economy expanded by 3.6 percent compared to 5.7 percent during the same period in 2010. This was as a result of high fuel prices which emanated from supply disruption associated with political unrests in a number of oil producing countries and increase in global commodities prices. As a result of these, inflation hovered around 16 percent during the third quarter of the year.

1.2 Performance of the Agricultural sector

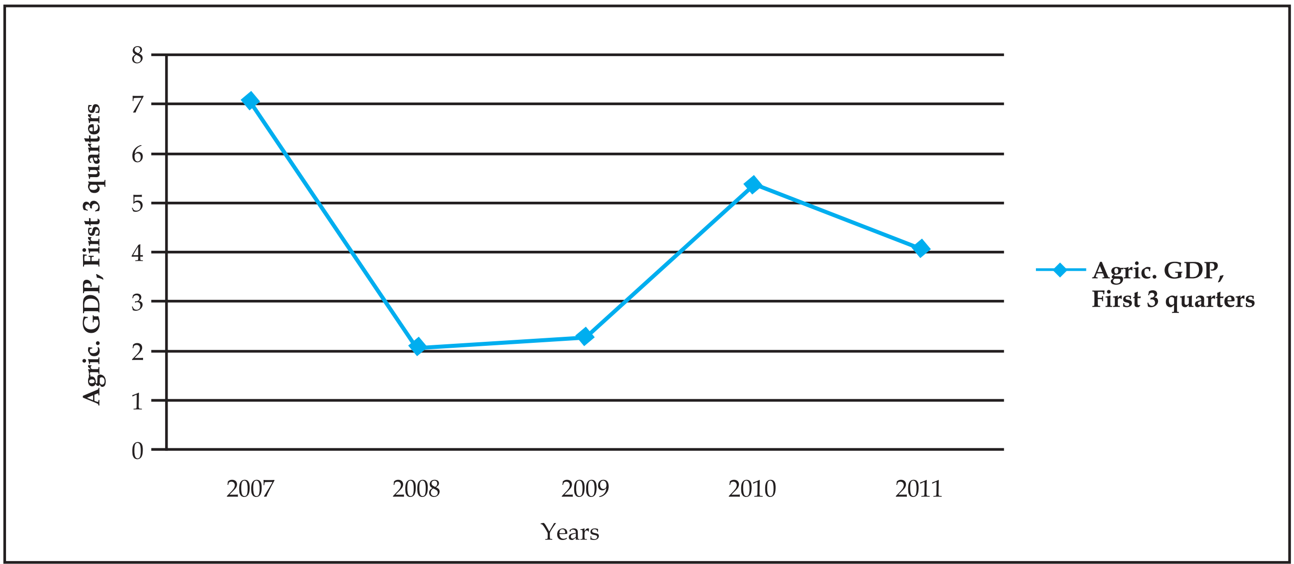
The sector recorded a positive growth during the first three quarters of the year. It recorded a slowed growth of 2.2 percent during the first quarter and 5.2 and 4.8 percent growth in the subsequent quarters respectively.

The second quarter growth was the sixth consecutive positive growth since the start of 2010 after consistent contractions in 2008 and 2009. This growth was supported by improved activities in horticulture and moderate growth in sugarcane farming. The cut flower export which increased by 65.7 percent compared to similar period in 2010 also contributed to this growth. Subdued rainfall during the first quarter led to reduced growth in the sector compared to the levels achieved over the same period in 2010, as result of decreased production of several marketed produce. Tea deliveries declined by 23.8 percent, while coffee deliveries declined by 28 percent over the period.

During the third quarter of 2011, agriculture sector expanded by 4.8 per cent which translates to value added increase of KSh 4.1 billion. Prevailing high international coffee and tea prices boosted the positive outcome.

Food, horticultural and industrial crops all exhibited increased production during the reference period. Horticultural sub-sector recorded significant improvement mainly supported by increased production of cut-flowers. Vegetable exports expanded by 12.2 per cent in the period under review. However, quantity of fruits exported declined from 5,470 metric tons recorded in third quarter of 2010 to 5,079 metric tons in the same period of 2011.

Figure 1.1: *Kenya's Agric-GDP Growth Rates, 2007 – 2011*



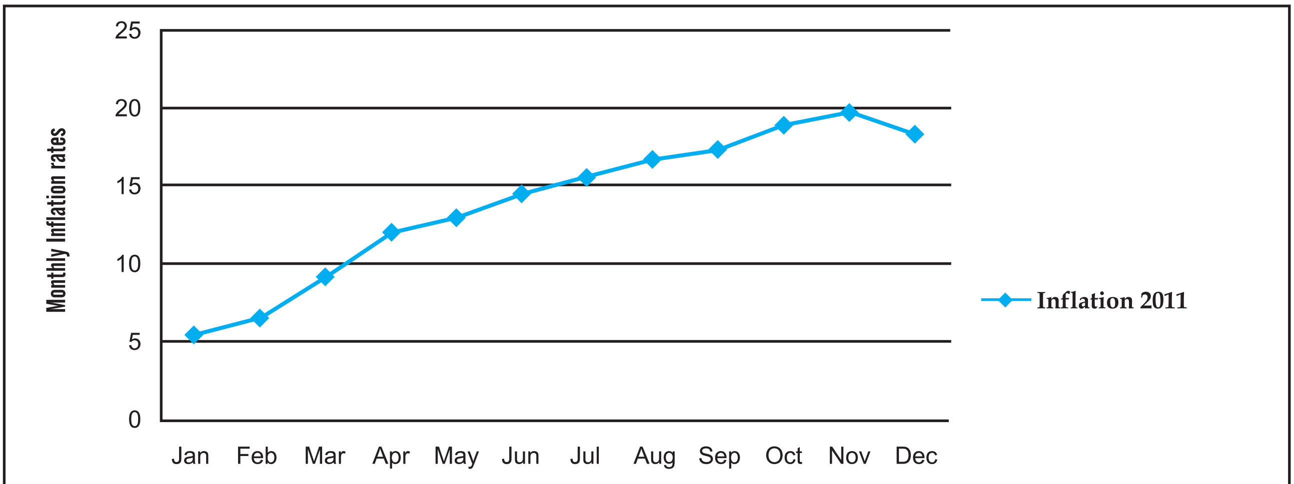
Source: KNBS

1.3 Inflation

Kenyan economy under went through turbulent times in 2011. The country suffered from price shocks that show inflation skyrocketing to historically high levels. What compounded the situation was continuous depreciation of the Kenyan shilling against the US dollar, hitting a historic law of Kshs 104[1] to the dollar in September. The continuous surge in prices was attributed to supply side constraints occasioned by acute food shortages as a result of drought and soaring fuel and energy prices. The acute food shortage necessitated importation at high cost as result of depreciation of the shilling. The year under review experienced a steady increase in overall 12-month inflation at a double digit which hit 1972 in November; more than three times the targeted inflation of 5 percent. The pickup in overall inflation was attributed to pressure from price increases observed in respect of a number of food products, fuel prices and depreciating Kenya shilling against the major foreign currencies.

Some of the government policies implemented during the year like control of energy prices escalated the effect of inflation on rural dwellers who traditionally suffer more from the effects of inflation than their urban counterparts. This is because their expenditure predominantly consists of food and other essential commodities. Inflation only eased in December 2011 as a result of intervention by Central Bank which also resulted to appreciation of the Kenyan shilling.

Figure 1.2: Overall Inflation rates in 2011



Source: KNBS

[1] *Exchange Rate of USD to KShs.*

2.0 TRENDS IN BUDGET ALLOCATION TO AGRICULTURE

Agricultural and Rural Development (ARD) sector comprises of seven sub-sectors that include Agriculture, Livestock Development, Fisheries Development, Land, Cooperative Development and Marketing, Forestry and Wildlife, National Land commission. The sector has six Research and Development institutions which are: Kenya Agricultural Research Institute (KARI), Tea Research Foundation (TRF), Coffee Research Foundation (CRF), Kenya Sugar Research Foundation (KESREF), Kenya Forest Research Institute (KEFRI) and Kenya Marine and Fisheries Research Institute (KMFRI).

The total resource requirement for the sector in the financial year 2012/13 is Kshs. 117, 874 million. This is a 142 percent increase from the allocated funds in 2011/12 of Kshs. 48, 636 million. Over a period of time total resource allocation by government to Agriculture and Rural Development (ARD) sector has generally increased. It increased by 55.6 per cent from Kshs. 29,638 million in 2008/09 to Kshs. 46,120 million in 2010/11. This high increase was mainly due to the Economic Stimulus Programme which supported ministries within the sector.

Recurrent expenditure grew by 16.7 percent between 2008/09 and 2010/11. The capacity of sector Ministries to absorb recurrent budget remained over 99.5 percent on average. This was due to ability of ministries and affiliated research institutions to implement planned activities in their annual work plans. The development budget allocation to the sector increased by 115 per cent from Kshs. 11, 115 million in 2008/09 to Kshs. 23, 911 million in 2010/11. External funding of programmes in the sector has increased over the period, rising by 63 per cent from Kshs. 7, 427 million in 2009/10 to Kshs.10, 441 million in 2010/11. The absorption of these funds however declined from 82 per cent in 2009/10 to 73 per cent in 2010/11 mainly due to delays in disbursement.

2.1 Agriculture Sub-sector

Total resource allocation by government to the sub sector decreased by 3.4 percent from Kshs. 15,850 million in 2008/09 to Kshs. 15,306 million in 2009/10. However, in 2010/11 the allocation increased significantly by 50.54 percent to Kshs. 23, 028 million. The major increase was due to recruitment of new agricultural officers under recurrent expenditure. Allocation for fertilizer subsidy and clearance together with funds voted for NCPB to purchase maize accounted for the increase in development expenditure. The trends in the total expenditure are summarised in table 2.1.

Table 2.1 : Ministry of Agriculture allocation and expenditure analysis for 2008/09 – 2010/11 (Kshs. Millions**)**

Vote	Printed Estimates			Approved Estimates			Actual Expenditures		
	2008/09	2009/10	2010/11	2008/09	2009/10	2010/11	2008/09	2009/10	2010/11
Recurrent	7,805	7,799	8,188	7,818	8,098	8,570	7,516	7,918	8,328
Development	5,289	5,674	10,775	8,032	7,208	14,458	5,418	4,834	8,989
Total	**13,094**	**13,473**	**18,963**	**15,850**	**15,306**	**23,028**	**12,934**	**12,752**	**17,317**
Recurrent as % of Total	59.6	57.9	43.2	49.3	52.9	37.2	58.1	62.1	48.1
Devt. as % of Total	40.4	42.1	56.8	50.7	47.1	62.8	41.9	37.9	51.9

Source: CPPMU, MOA

Within the review period (2008/09 -2010/11) there was an improvement in the allocations. Recurrent expenditures grew marginally from Kshs. 7,805 million in 2008/09 to Kshs. 8,328 million in the 2010/11 financial years. Development expenditures to the sub-sector increased from Kshs. 5,289 million in 2008/09 to Kshs. 8, 989 million in 2010/11. There has been a general improvement in the expenditure of the Ministry in the last three years. In 2010/2011 the recurrent expenditure was at 93 percent while development was 78 percent of the approved estimates which was an improvement from the previous year of 90 percent and 58 percent respectively. Non absorption of all the funds was due to delayed exchequer release, lengthy procurement procedures and inadequate capacity to manage the IFMIS system.

2.2 Expenditure Review by Programmes

The Ministry budget allocation is focused on three programmes and also agricultural research. One of the programmes is Policy, Strategy and Management of Agriculture which aim at creating an enabling environment through appropriate policy, legal and regulatory frameworks and provision of strategic administrative and financial management direction to the stakeholders.
The second programme is Crop Development and Management. Its objective is to increase productivity and management by promoting competitive agriculture through improved extension advisory support services, appropriate technology transfer, management of pests & diseases while ensuring sustainable natural resource management for agricultural development.

In terms of expenditure, this is the main programme with an expenditure of Kshs 7,973 million in the financial year 2010/11. Finally is Agribusiness and Information Management programme. This is meant to promote sustained growth in agriculture based on market and product development and information management through the provision of appropriate technical, advisory and logistical support for investments and increased rural off-farm incomes.

Table 2.2: Ministry Expenditure Review by Programmes (Kshs millions)

Programme	Original Budget Estimates			Actual Expenditure		
	2008/09	2009/10	2010/11	2008/09	2009/10	2010/11
Policy, Strategy and Management of Agriculture	2,101	2,983	3,339	2,029	2,321	2,550
Crop Development and Management	5,742	6,598	8,413	5,278	6569	7,973
Agribusiness and Information Management	1,465	369	2,405	1,465	369	2,400
Kenya Agricultural Research Institute	2,871	2,340	3,702	3,170	2,490	3,251
Coffee Research	302	478	393	490	450	531
Tea Research	230	240	219	132	159	171
Sugar Research	383	465	491	371	395	441
Total	**13,094**	**13,473**	**18,962**	**12,935**	**12,753**	**17,317**

Source: CPPMU, MOA

Among the research institutions Kenya Agriculture Research Institute (KARI) expenditure (Kshs. 3,251 million) is huge compared to others like coffee research (Kshs. 531 million) and tea research (Kshs. 171 million).

3.0 KEY RECENT REFORMS

3.1 STATUS OF MINISTRY OF AGRICULTURE/SECTOR POLICIES AND BILLS AS AT DECEMBER 2011

Serial Number	Sub–sector	Organization	Name of Policy Document, Bill or Cabinet Memo	Stage of Processing	Action Required
1.	Pyrethrum	PBK	i) Sessional Paper for the Revitalization of the Pyrethrum Industry.	Pyrethrum Policy ready.	Pyrethrum Policy deferred by Cabinet awaiting approval of pending payment of farmers arrears.
			ii) Pyrethrum Bill	Bill submitted to the AG for publication.	To be published by AG.
2.	Seed Industry	KEPHIS	i) National Seed Policy	Policy finalized.	Was launched on 19th July 2011 and is being implemented.
			ii) Seeds and Plant Varieties (Amendment Bill), 2011	Bill approved by Cabinet on 11th September 2008.	Final draft Bill signed by the Minister and with the AG for publication.
3.	Sugar	KSB	i) Sessional Paper on Revitalization of the Sugar Industry	Sessional Paper, Bill and Cabinet Memo ready.	Joint Cabinet Memo on privatization of the 5 public owned Sugar Companies has been forwarded to the Cabinet Office. Divesture on-going under guidance of the Treasury and MoA.
			ii) The Sugar (Amendment) Bill, 2008 and Cabinet Memo on the Bill	Sessional Paper, Bill and Cabinet Memo ready.	Final draft Bill signed by the Minister and with the AG for publication.

3.1 STATUS OF MINISTRY OF AGRICULTURE/SECTOR POLICIES AND BILLS AS AT DECEMBER 2011 (cont.)

Serial Number	Sub–sector	Organization	Name of Policy Document, Bill or Cabinet Memo	Stage of Processing	Action Required
4.	Extension		National Agriculture Sector Extension Policy (NASEP)	Policy approved by Cabinet.	Policy awaits publication by the Government Printer and forwarding to Parliament for tabling as Sessional Paper No. 4 of 2011.
5.	Food Security and Safety		i)National Food and Nutrition Policy	Joint Cabinet Memo and Policy was forwarded to the Cabinet Office for consideration in September, 2009.	Approved by the Cabinet after alignment with the New Constitution and directed that it be implemented.
			ii)National Cereals and Produce (Amendment) Bill, 2007	Bill has been reviewed to address outstanding issues on Grain Development Levy and increase of Strategic Grain Reserve from 6 to 8 Million bags.	Bill awaiting feedback from NCPB.
6.	Coffee	CBK	Amendment of the Coffee Act No. 9 of 2001	Amendment Bill, 2011 has been drafted by the AG.	Resubmitted to the AG by the Ministry with further corrections.
7.	Soil Fertility and Fertilizers	KEPHIS	i) Soil Fertility Policy.	Policy on Soil Fertility and Bill, 2006 was ready on March, 2006.	Waiting Response from Ministry of Livestock Development on joint Cabinet Memo.
			ii) Fertilizer and Soil Conditioners Bill	Fertilizers and Soil Conditioners Bill ready.	Response from Ministry of Livestock Development on joint Cabinet Memo not received in spite of several reminders.
					Need guidance from the PS.

3.1 STATUS OF MINISTRY OF AGRICULTURE/SECTOR POLICIES AND BILLS AS AT DECEMBER 2011 (cont.)

Serial Number	Sub–sector	Organization	Name of Policy Document, Bill or Cabinet Memo	Stage of Processing	Action Required
8.	Horticulture	HCDA	National Horticultural Development Policy	Draft policy and Cabinet Memo ready and with ASCU.	To be presented to the PS and stakeholders on 6th December, 2011.
					Benchmarking on the Asian visit by the technical team.
9.	Commodity and input regulation	KEPHIS	KEPHIS Bill	KEPHIS draft Bill is complete and has been approved by Cabinet.	Final draft Bill signed by the Minister and with the AG for publication.
10.	Oil crops	OCDA	Oil Seed Crops Development Policy and Bill	Policy to be combined with Nut Crops policy.	
11.	Nut Crops		Nut crops Development Policy and Bill	Policy to be combined with Oil Crops Policy.	
12.	Emerging Crops		National Emerging Crops Policy	Draft Policy has been subjected to the stakeholders.	Stakeholders' views have been incorporated.
					Consultant to submit report.
13.	Urban and Peri-Urban Agriculture and Livestock(UPAL)		National Urban and Peri-Urban Agriculture and Livestock Policy	Draft Policy has been subjected to the stakeholders.	Stakeholders' views have been incorporated.
					Consultant to submit report.
14.	Extension Regulation		Agricultural Professionals, Registration and Licensing Bill	Cabinet Memo with the Minister for Livestock for signature.	Awaiting Response from Ministry of Livestock Development on joint Cabinet Memo.

3.1 STATUS OF MINISTRY OF AGRICULTURE/SECTOR POLICIES AND BILLS AS AT DECEMBER 2011 (cont.)

Serial Number	Sub–sector	Organization	Name of Policy Document, Bill or Cabinet Memo	Stage of Processing	Action Required
15.	Agriculture Sector Legislation	ASCU	Consolidated Agriculture Sector Reform Bill	Draft Bill formulated and given to ASCU for progressing in October 2008.	Consultants are incorporating agriculture sector Ministers' and PSs' views. Revising the Bills. Process is being subjected to an RRI. Work in progress.
16.	Agricultural Finance	AFC	Agriculture Finance Corporation Amendment Bill, 2009.	Draft Amendment Bill and Memorandum of Reasons from AFC ready.	Cabinet Memo and Bill prepared and forwarded to the Ministry of Finance for concurrence on provisions that touch on the Banking Act.
17.	Tea	KTDA	Tea Amendment Bill, 2009.	Draft Bill and Cabinet Memorandum have been prepared.	Bill passed by Parliament and is now Tea Amendment Act 2011. Draft Regulations to operationalize the Amendment Act has been finalized.
18.	Root and Tuber Crops Policy		National Root and Tuber Crops Policy	Draft Policy and Cabinet Memo ready. National stakeholders' views have been incorporated.	Cabinet Memo and Policy have been submitted to the PS.
19.	Cotton Policy	CBK	National Cotton Policy	First Draft Policy is ready.	CODA to facilitate stakeholders' forum.

3.1 STATUS OF MINISTRY OF AGRICULTURE/SECTOR POLICIES AND BILLS AS AT DECEMBER 2011 (cont.)

Serial Number	Sub–sector	Organization	Name of Policy Document, Bill or Cabinet Memo	Stage of Processing	Action Required
20.	Cereals Policy		National Cereals Policy	First draft Policy developed.	Finalization by the technical team.
21.	Warehousing Receipt System Policy		Warehousing Bill and Policy	Draft Bill and Policy ready.	Report and draft Bill finalized by the drafting team.
22.	Organic Agriculture Policy		National Organic Agriculture Policy	Zero draft Policy is ready.	Further data collection by the technical team to enrich the draft Policy and subject it to stakeholders' views.

3.2 Legal Notices and Gazette Notices

1.	Draft Seed Tribunal Rules, 2009 ready and have been forwarded to the CJ.
2.	Draft Sugar Rules 2011, finalized and signed by the Minister and with the AG for legal drafting.
3.	HCDA Orders to accommodate the expanded mandate of HCDA have been signed by the Minister and have been forwarded to the AG for publication.
4.	The Tea (Ad Valorem Levy) Regulations, 2011 have been finalized and forwarded to the AG for publication.
5.	The Tea (Nomination) Regulations, 2011have been finalized and forwarded to the AG for publication.
6.	The Tea (Licensing, Registration and Trade) (Amendment) Regulations, 2011 have been finalized and forwarded to the AG for publication.

4.0 WORLD COMMODITY AND FERTILIZER SITUATION

4.1 Cereals

As indicated in Table 4.1, FAO's latest forecast for 2011 world cereal production points to a record output of 2,325 million tons, up 3.75 percent from the previous year. This trend is also depicted in figure 4.1. It can also be observed from the same figure that stocks have remained almost constant for the past three year, at 500 million tones. The overall increase comprises a 6.0 percent rise in wheat production, a 2.6 percent growth in the global coarse grains harvested and a 3.4 percent rise in rice production. The global wheat production was more than forecast at the onset of the season because of recovery from drought in the Commonwealth of Independent States (CIS) experienced in 2010.

Prospects for rice for 2011 have improved in the main paddy producing countries in Far East Asia, leading to the latest expectations of relatively strong production growth in spite of the devastating floods in several countries in South East Asia. For coarse grains, a large increase is expected, but adverse dry conditions in the United States, the world's leading producer, have resulted in a smaller than previously predicted global output.

Total cereal utilization in 2011/12 is forecast to reach 2 309 million tons, 1.6 percent up from 2010/11. Globally, cereal food consumption is forecast to keep pace with population growth. In spite of slower economic recovery and increasing recession fears in many developed countries, total feed utilization is forecast to resume growth after two seasons of stagnation, rising by 1.7 percent to 780 million tons. Strong demand from the livestock sectors in the leading emerging economies is the main driver behind this increase. By contrast, the growth in industrial usage of cereals is expected to be on down ward trend mainly because of stagnating maize-based ethanol production in the United States, the world's largest ethanol producer.

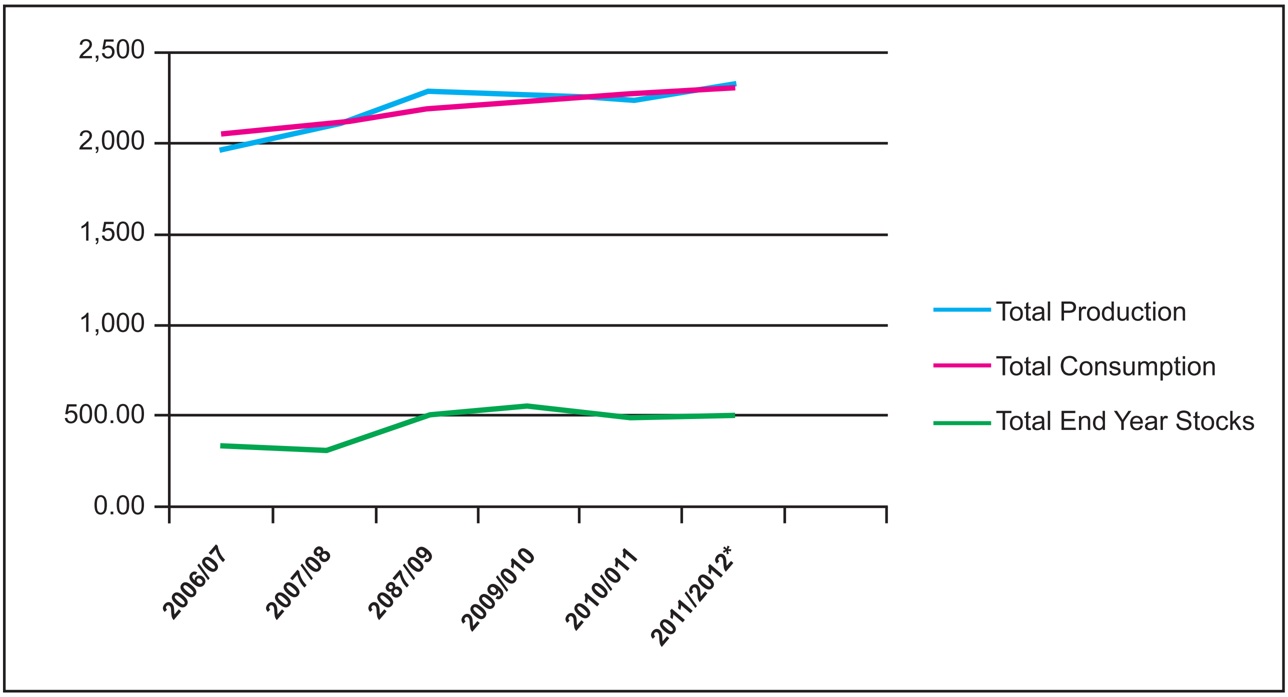
The forecast for world cereal ending stocks has been revised upwards, although coarse grain inventories are expected to remain low. World cereal inventories are forecast to increase by 3.3 percent from their opening level, to 507 million tons by the end of seasons in 2012.

Table 4.1: World Cereals Situation, 2006 – 2011 (million tons)

Year	2006/07	2007/08	2008/09	2009/010	2010/011	2011/2012*
Wheat	592.0	603.6	681.4	682.0	651.8	691
Coarse grains	967.2	1,051.9	1 143.1	1,123.0	1,122.9	1151.8
Rice	415.3	420.6	459.6	455.0	466.6	482.3
Total Production	**1,974.5**	**2,076.1**	**2,284.1**	**2,260.0**	**2,241.3**	**2325.1**
Wheat	618.2	619.0	647.6	659.0	667.3	681.9
Coarse grains	1,014.4	1,062.5	1 095.7	1,113.0	1,144.5	1154.7
Rice	417.7	423.7	446.3	449.0	460.9	471.9
Total Consumption	**2,050.2**	**2,105.1**	**2,189.6**	**2,221.0**	**2,272.7**	**2308.5**
Wheat	166.4	109.7	172.3	**202.0**	181.9	189.6
Coarse grains	81.3	126.0	208.9	**225.0**	170.1	168.0
Rice	78.3	72.1	124.4	**130.0**	138.4	149.0
Total End Year Stocks	**326.0**	**307.7**	**505.6**	**557.0**	**490.4**	**506.6**

Source: FAO, GIEWS, * Projections as at Nov.2011

Figure 4.1: Trend in World Cereals Production Consumption and Stocks; 2006 – 2011 (Million tons)



Source : CPPMU

* = *Provisional*

4.2 Wheat

The year 2011 witnessed the second largest world wheat crop ever with ample carryover stocks. This sharply boosted global availabilities in 2011/12. While wheat demand is rising at a higher rate, world stocks at the end of the season are still expected to climb to their highest level in a decade. Global wheat supplies for 2011/12 are projected at 9.3 million tons higher. Global wheat production for 2011/12 is projected at a record 691 million tons, up 39.2 million from 2010/11 levels, and 9 million tons higher than what was recorded in 2009/10. Larger world supplies of wheat and competitive prices relative to maize are expected to boost prospects for 2011/12 world wheat trade.

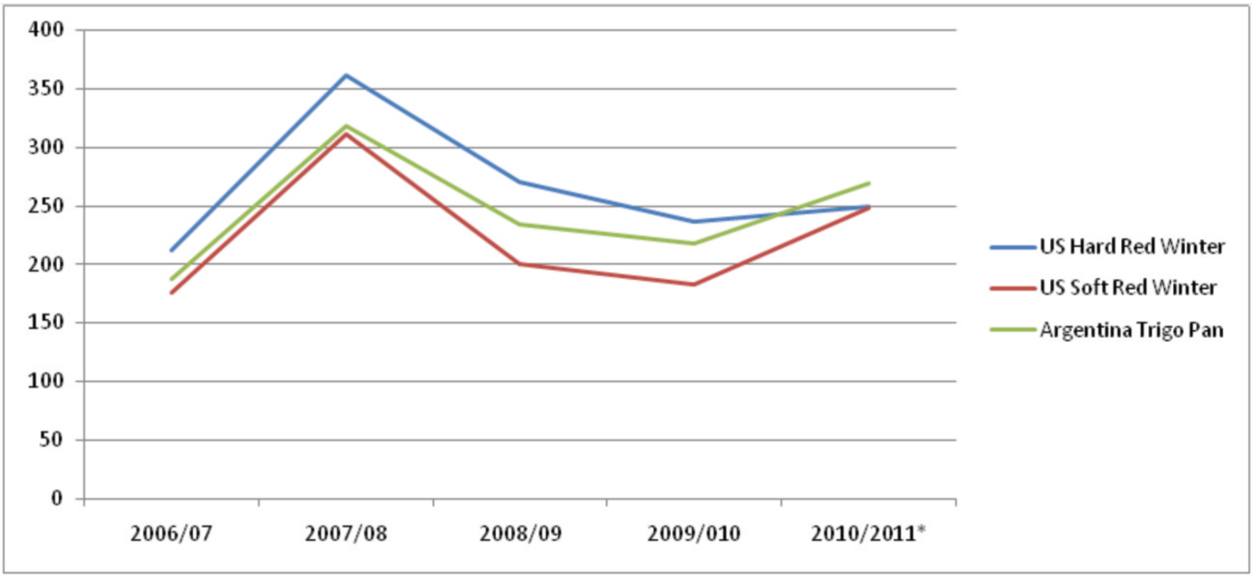
A recovery in production in the CIS countries and bigger crops than expected in northern Europe helped improve the supply outlook and put more downward pressure on prices towards the end of 2011. While at the beginning of the 2011/12 marketing season in June, the benchmark United States No.2 Hard Red Winter, f.o.b. was as much as 80 percent higher than in the corresponding period last year, it averaged USD 302 per tons in October 2011, up marginally from October 2010. Wheat export prices have fallen sharply from USD 364 per tons in April and their peak of USD 482 per tons in March 2008. As indicated in table 4.3, the sustained price increase for the three wheat varieties is expected to prevail for three years running. This trend has been observed since 09/010 season.

Table 4.2: Selected International Prices for Wheat, 2007 – 2011 (US$/ton)

					2011/2012*
US Hard Red Winter	361	270	236	242	332
US Soft Red Winter	311	201	183	229	316
Argentina Trigo Pan	318	234	218	252	342

Sources: International Grain Council and USDA, **Average prices from Oct 010 – Oct. 011.*

Figure 4.2: Trend in Selected International Prices for Wheat (US$/ton)



Source: FAO

**=Provisional*

4.3 Coarse Grains

Monthly analysis of coarse grain prices indicate that, international prices of these commodities have come under downward pressure in recent months mainly because of weaker than anticipated demand, driven by unfavorable macroeconomic conditions. The decrease in prices came despite low stocks, with 2011 production not increasing sufficiently to bring about any significant recovery in world inventories from their current low levels.

In October 2011, the benchmark United States maize prices (yellow, No. 2, f.o.b.) averaged USD 275 per tons, down 8 percent from the previous month. On annual basis, however, maize was traded at values well over 50 percent above those of the previous year in 2011. In June, the gap widened to double last year's level but by October, maize prices had fallen to only 15 percent above the prices recorded in October 2010. The tight maize situation in the United States, the world's largest producer, consumer and exporter, has proven to be the foremost determining factor behind the recent price changes.

Between May and September rather unusual situation has become more frequent. Although under the current macroeconomic climate, it is difficult to predict how prices will behave in coming months, the tight maize supply is likely to keep prices firm, lending support to other markets, especially, wheat.

Table 4.3: Selected International Prices for Coarse Grains, 2007 – 2011 (US$/ton)

Source	2007/08	2008/09	2009/010	2010/011	2011/012*
US Yellow Maize	168	188	160	185	261
Argentina Maize	172	180	168	196	266
US Sorghum	181	170	165	184	278

Sources: International Grain Council and USDA, **Average prices from Oct 010 – Oct. 011.*

4.4 Rice

According to the FAO Rice Price Index, international rice prices remained stable in October, after rising for four months. Quotations moved in different directions depending on rice qualities and origins, a possible sign of the growing uncertainty shrouding the market. The benchmark Thai white rice, 100%B, for instance, rose marginally from USD 618 per ton in September to USD 620 per ton in October, while prices of similar quality rice from Viet Nam and Pakistan were respectively 3 percent up and 8 percent down from the previous month.

Despite expectations of bumper harvests in major producing countries, reported large flood related losses in Thailand, the leading rice exporter, and the implementation in October of a high producer price policy by the country, have pushed international prices up. On the other hand, large availabilities in stocks and India's relaxation of export restrictions on regular rice have dampened much of the upward price pressure.

Table 4.4: Selected International Prices for Rice, 2007 – 2011 (US$/ton)

Source	2007	2008	2009	2010	2011
Thai 100% B second grade	335	695	587	518	548
Thai Broken	275	506	329	386	441
US Long grain 2.4%	436	782	545	510	572
Pakistan Basmati	677	1,077	937	881	1047
Indica	161	295	253	212	230
Japonica	168	314	344	264	280

Source: FAO prices indices for Rice

4.5 Cotton

World cotton consumption has reduced, reflecting continued weak mill demand owing to an uncertain world economic outlook and a loss of fiber share to polyester. Consumption has been low for most major world cotton spinners. For example there was a 1.0 million-bale reduction in India and 0.5 million bales for both China and Turkey.

World trade has been revised up slightly, despite lower world consumption, due to strong import demand by China, which is supported by purchases for the national reserve. As indicated in Table 4.5, world ending stocks have been forecasted at 55 million bales, an increase of 22 percent from 2010/11, and accounting for 52 percent of world consumption.

Table 4.5: World Cotton Situation, 2006/07 – 2011/012 (Mil. Bales)

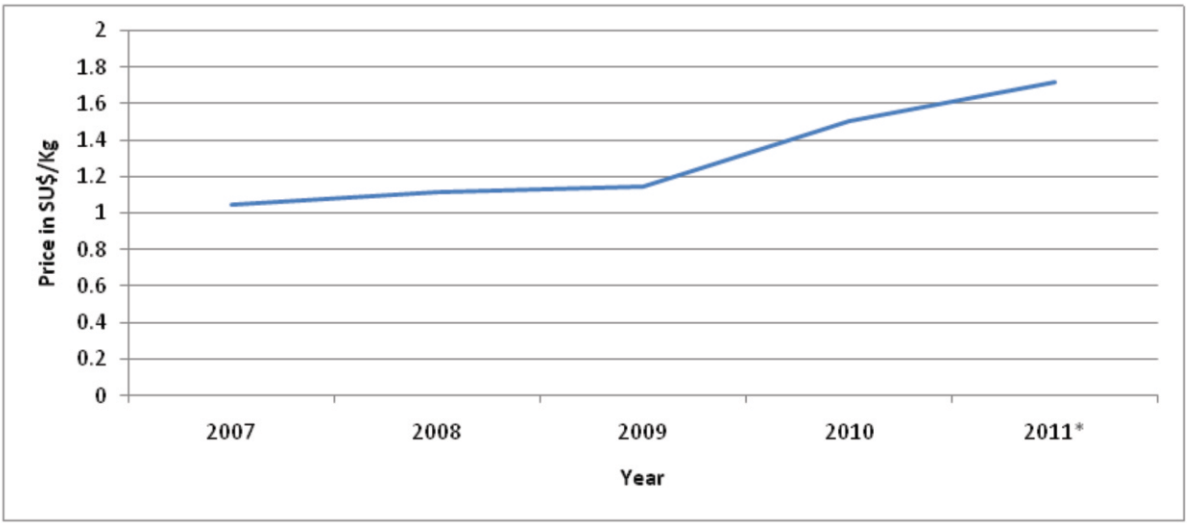
	2006/07	2007/08	2008/09	2009/010	2010/011	2011/012*
Production	121.99	119.91	107.10	101.63	115.28	123. 89
Consumption	116.11	122.99	109.95	119.01	114.35	114.27
End of Year Stock	62.83	60.61	60.55	44.34	45.22	55

*Source: USDA – WASDE,*Projection as at Nov. 2011*

World cotton production is expected to continue to rise in 2011/12 for the second consecutive season to 124 million bales. Cotton plantings expanded this season as a result of high cotton prices paid to farmers in 2010/11. After a drop in 2010/11 caused by extremely high cotton prices, world cotton mill use is projected to resume slow growth in 2011/12 to 109 million bales. Cotton mill use will be facilitated by increased availability of raw material, but the possibility of a double-dip global economic recession could reduce these expectations.

The projected rebound in the stocks-to-mill use ratio outside China may result in a decline in the season-average Cotlook A Index in 2011/12. Cotton price volatility could decline in 2011/12 due to the expected recovery in global cotton stocks, but volatility might still exceed historical averages.

Figure 4.3: Trend in Average World Cotton Prices 2007 – 2011



Source: International Cotton Advisory Committee, Projection as at Feb. 2011

** = preliminary figure*

The drop in prices, which was a contrast to the near-doubling in prices recorded in 2010 was fostered both by an 8% jump in world production to 26.8m tones, while consumption fell 2% to 23.9m tons, on International Cotton Advisory Committee estimates. However, prices remain, at about US$1.9 per kg, which is historically high.

A sharper fall in price will be prevented by strong Chinese import demand. The expected moderate world economic growth prospects for 2012 are also likely to result in demand for cotton fibers. If the global economy recovers as anticipated during 2012, the prospect of lower acreage would point to a cotton price recovery.

4.6 Sugar

Global sugar production for the 2011/12 marketing year is forecast at 168 million metric tons (MMT) raw value, virtually unchanged from the initial May forecast but up 4 percent from last year. Changes since May are highlighted by a 10 percent decline in production for Brazil which is mostly offset by the EU, Russia, and Thailand. Production in Brazil was adversely affected by poor growing conditions. Thailand's production is a record on increased area combined with favorable weather conditions and better than expected yields.

EU production is now expected to be a record due to high yields, and increased area in response to measures by the European Commission to encourage production and stimulate demand from processors. U.S. production is forecast down primarily due to a drop in sugar beet production as cold wet weather led to late plantings and Minnesota and North Dakota experienced below average growing conditions.

Global exports for the 2011/12 marketing year are forecast at 57 MMT, 1 MMT over the May forecast and marginally higher than last year. Exports from Mexico, Thailand, and the EU are expected to help fill the void left by reduced exportable product from Brazil. Mexico's exports are revised up due to attractive international prices, stronger United States demand, and less domestic consumption. Thailand's exports are forecast up on larger supplies from a bumper sugarcane crop and greater import demand as a result of reduced exportable supplies from Brazil.

The EU has opened higher export quotas and there are reports of an additional export quota before the end of the sugar beet processing campaign. The EU made a similar move during the record 2009 crop.

Table 4.6: World Sugar Situation, 2006/07 – 2011/012

	2006/07	2007/08	2008/09	2009/010	2010/011	2011/012*
Production in million tons	155.16	169	154.7	160.5	166.3	173.1
Consumption in million tons	146.03	161	160.9	164.3	164.1	166.6
Price in Kshs per ton	16,990	14,360.5	21120	29139	47678	53000
Ending Stocks (million ton s)	30.91	67	68.4	57.3	56.5	62.3

Source: International Sugar Association *Projection: Jan-October 2011

4.7 Coffee

As indicated in Table 4.7, total production in 2011 is estimated at around 7.93million tons compared to 8.03 million tons recorded in 2010. This represents a fall of 1.3 percent. Adverse weather conditions during crop year 2011/12, which could have negative impacts on production and post-harvest activities, were reported in many exporting countries, particularly in Central America, Colombia and Indonesia.

Speculation on estimated production for crop year 2011/12 continued to put pressure on coffee prices. Total Arabica production in 2011 is estimated at 5.02 million tons compared to 2.93 million tons for Robusta.

Exports during the first eleven months of calendar year 2011 is estimated at 5.682 million ton, an increase of 8.1 percent compared with the total of 5.256 million tons for the same period in the previous calendar year Exports in coffee year 2010/11 totaled 6.27 million tons, the highest level ever recorded.

Table 4.7: Coffee Production by Exporting Countries, 2006 – 2011

	2006	2007	2008	2009	2010	2011
Total Production by exporting countries (Million tons)	7.7	7.1	7.6	7.4	8.03	7.93
Production in Kenya(Million tons)	0.05	0.04	0.034	0.047	0.0629	0.072
Average composite prices price in Kshs per ton	168,520	189,516	218,680	196,914	224,660	321,015

Source: International Coffee Organization

4.8 World Fertilizer Situation

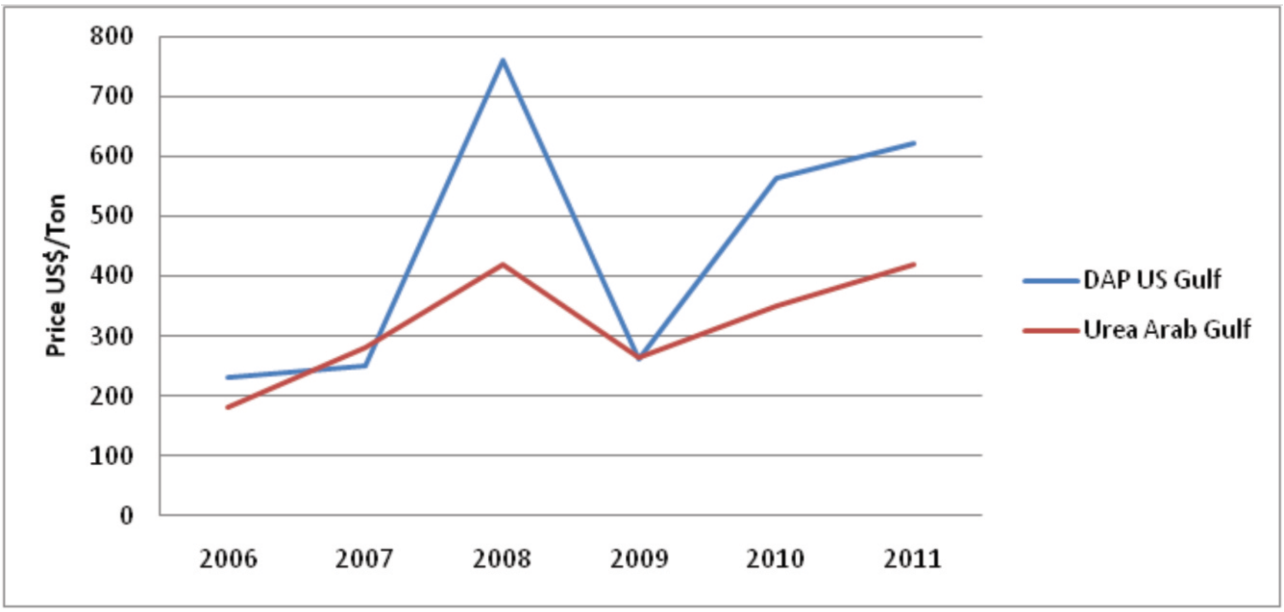
According to IFA, fertilizer demand, expressed as consumption of key nutrients; nitrogen, phosphorous and potassium, is expected to rise by 3 percent to 178.2 million tonnes in 2011/12. Overall demand growth this season will include a 3.1 percent rise for nitrogen to 107.7 million tons, a 1.0 percent increase for phosphorous to 41.1 million tons and a 5.7 percent rise for potassium to 29.4 million tons.

The projected demand for 2011/12 will surpass an already record level of 173 million tons which was estimated for 2010/11, when an economic rebound and tight commodity markets drove a 6.2 percent rise in fertilizer consumption. Of the three main nutrients, last year's demand for potassium still lagged levels it had reached before 2008/09. By the end of the 2011/12 campaign, world fertilizer demand is expected to have fully recovered from the (2008/09) economic downturn for the three macronutrients.

All regions are expected o experience growth in total fertilizer demand except for Western and Central Europe, with the largest increases in East Asia, South Asia and Latin America. IFA tentatively forecasts that world consumption of fertilizers would grow 2.3 percent in 2012/13 but the outlook was dependent on a deteriorating context in mature economies.

On the supply side, production capacity expanded in 2011 and should grow again in 2012 as new projects come on stream in response to rising demand.

Figure 4.4: Trend in some World Fertilizer Prices 2006 - 2011



Source: International Fertilizer Association

5.0 CROPS PERFOMANCE

5. 1 Food Crops

5.11 Maize Production Nationally

Table 5.1: Maize Production, 2007 – 2011

Year	2007	2008	2009	2010	2011
Area (Ha)	1,615,304	1,793,757	1,885,071	2,008,346	2,131,887
Production,					
90 Kgs Bags (Dry Maize)	32,542,143	26,302,219	27,142,475	38,494,899	37,520,694
Tons (Dry Maize)	2,928,793	2,367,200	2,442,823	3,464,541	3,376,862
Esti. 90 Kgs Bags (Green Maize)	...	...	...	...	4,662,960
Tons (Green Maize)	...	...	...	...	419,666
Unit Price Bag (Kshs.)	1,200	2,500	2,614	1,619	2,341
Yield (Bags/Ha)	20.1	14.7	14.4	19.2	17.6
Import (million bags)	1.12	2.71	16.76	2.55	3.99
Export (million bags)	0.31	0.21	0.05	0.03	0.13
Total Value (billion Kshs.)	**52.3**	**65.8**	**71.0**	**75.0**	**87.8**

Source: Directorate of Crops

… = Data not yet available

In 2011, maize grain production decreased by 3% from the 2010 production recording 37.5 million bags (90 Kgs bag) from 38.5 million bags achieved in 2010. However, area under production increased by 6% from 2,008,346 ha in 2010 to 2,131,887 ha in 2011.

The decrease in grain production was more evident in Rift Valley province dropping from 21.2 million bags in 2010 to 19.2 million bags representing 9%, mainly due to unavailability of seeds and erratic rains during the year. In Eastern Province, production dropped by 8% due to poor harvest caused by early cessation of 2011 short rains. Despite the drop in Rift Valley and Eastern, production increased in Nyanza, Western and Central Provinces by 16%, 13% and 22% respectively due to the increased use of fertilizer, expansion of more land under the crop and more farmers shifting to maize growing from tobacco farming. The other factor contributing to low maize grain production is the increasing consumption of green maize estimated at an average of 11.9% percent of total maize production during 2011.

The green maize production was 4.7 million bags, about 11% of the total production volume produced in the year. Most this was from Rift valley at 1.8 million bags, Central at 1 million bags and Eastern at 0.9 million bags. Kiambu County had 51% of the total maize output consumed as green, Nyeri County at 39%, Nyandarua County at 35%, Isiolo County at 45%, Marsabit County at 43% and Turkana County 53%.

5.12 Maize Production by Province and County

Table 5.2: Maize Production by Province and County, 2011

Province	County	Area (HA)	Production (90 Kg Bag) Cereals	Esti. Production of Green Maize	Total Production (90 Kg Bag)	Yield Cereals (90 Bags/Ha)	Green Maize Proportion (%)
Nairobi		**893**	**7,521**	**5,014**	**12,535**	**8.4**	**0.4**
	Nairobi City	893	7,521	5,014	12,535	8.4	0.4
Central		**182,248**	**1,708,726**	**970,322**	**2,679,048**	**9.4**	0.34
	Kiambu	57,639	412,429	429,263	841,691	7.2	0.51
	Kirinyaga	25,560	314,458	55,493	369,950	12.3	0.15
	Murang'a	50,029	403,339	156,854	560,193	8.1	0.28
	Nyandarua	19,702	407,882	219,629	627,510	20.7	0.35
	Nyeri	29,318	170,619	109,085	279,704	5.8	0.39
Coast		**179,499**	**1,482,225**	**303,442**	**1,785,666**	**8.3**	**0.1**
	Kilifi	79,832	406,592	45,177	451,769	5.1	0.1
	Kwale	52,242	572,117	190,706	762,822	11.0	0.25
	Lamu	21,162	188,276	20,920	209,196	8.9	0.1
	Mombasa	1,203	11,815	1,313	13,127	9.8	0.1
	Taita/Taveta	16,838	177,677	31,355	209,032	10.6	0.15
	Tana River	8,222	125,749	13,972	139,721	15.3	0.1
Eastern		**540,854**	**3,457,007**	**894,377**	**4,643,134**	**6.4**	**0.25**
	Embu	45,086	291,750	64,043	355,793	6.5	0.18
	Isiolo	824	1,761	1,440	3,201	2.1	0.45
	Kitui	71,775	224,719	87,391	312,110	3.1	0.28
	Machakos	175,260	1,119,106	138,316	1,257,422	6.4	0.11
	Makueni	109,195	425,456	106,364	531,820	3.9	0.2
	Marsabit	1,731	2,228	1,681	3,909	1.3	0.43
	Meru	118,594	1,463,949	462,300	1,926,249	12.3	0.24
	Tharaka-Nthi	18,389	219,788	32,842	252,630	12.0	0.13
North Eastern		**3,130**	**8,995**	**…**	**8,995**	**2.9**	**.. .**
	Garissa	453	2,055	…	2,055	4.5	…
	Mandera	801	2,190	…	2,190	2.7	…
	Wajir	1,876	4,750	…	4,750	2.5	…
Nyanza		**319,483**	**5,864,990**	**308,684**	**6,173,674**	**18.4**	**0.05**
	Homabay	60,545	894,872	47,099	941,970	14.8	0.05
	Kisii	58,290	1,338,702	70,458	1,409,160	23.0	0.05
	Kisumu	26,790	409,213	21,538	430,750	15.3	0.05
	Migori	50,495	913,739	48,092	961,831	18.1	0.05
	Nyamira	63,825	1,358,241	71,486	1,429,728	21.3	0.05
	Siaya	59,538	950,223	50,012	1,000,235	16.0	0.05
Rift Valley		**650,270**	**19,196,203**	**1,775,131**	**20,971,334**	29.5	0.12
	Baringo	31,720	551,069	60,618	611,686	17.4	0.11
	Bomet	40,670	1,007,787	151,168	1,158,955	24.8	0.15
	Elgeyo/Marakwet	28,673	930,079	37,203	967,282	32.4	0.04
	Kajiado	8,075	43,892	4,828	48,720	5.4	0.11
	Kericho	48,035	1,241,544	111,739	1,353,283	25.8	0.09
	Laikipia	35,765	732,718	29,309	762,026	20.5	0.04
	Nakuru	91,835	2,437,286	341,220	2,778,506	26.5	0.14
	Nandi	75,075	1,882,643	169,438	2,052,081	25.1	0.09
	Narok	86,775	2,237,476	201,373	2,438,848	25.8	0.09
	Samburu	500	11,716	586	12,302	23.4	0.05
	Trans Nzoia	97,740	4,546,831	636,556	5,183,387	46.5	0.14
	Turkana	1,355	12,303	6,521	18,824	9.1	0.53
	Uasin Gishu	83,602	3,095,075	61,902	3,156,977	37.0	0.02
	West Pokot	20,450	465,785	23,289	489,074	22.8	0.05
Western		**255,511**	**5,795,028**	**405,990**	**6,201,018**	**22.7**	**0.07**
	Bungoma	103,408	2,856,524	215,007	3,071,531	27.5	0.07
	Busia	52,800	694,423	68,679	763,102	13.2	0.09
	Kakamega	76,539	1,869,519	98,396	1,967,915	24.9	0.05
	Vihiga	22,764	374,562	23,908	398,470	16.5	0.06
Total Production		**2,131,887**	**37,520,694**	**4,662,960**	**42,183,654**	**17.6**	11.1

Source: Directorate of Crops

… = Data not yet available

5.13 Wheat Production Nationally

Wheat production declined by 48 percent from 5.7 million bags realized in 2010 to 3.0 million bags achieved in 2011. Area under production declined by 19 percent from 160,043 hactares to 130,424 hactares in 2010 and 2011 respectively.

The general decline in production of wheat in the country is attributed to erratic rains in the major growing regions and huge increases in cost of key inputs like fertilizer and fuel.

Table 5.3: Wheat Production, 2007 - 2011

Year	2007	2008	2009	2010	2011
Area (Ha)	104,176	130,273	131,594	160,043	131,509
Production					
90 Kgs Bags	3,936,105	3,737,241	2,436,678	5,688,817	2,983,130
Tons	354,249	336,352	219,301	511,994	268,482
Unit Price Bag (Kshs.)	3,000	2,600	3,571	2,700	2,706
Yield (Bags/Ha)	37.8	28.7	18.5	35.5	22.7
Import (tons)	564,300	5,385,000	7,817,000	848,100	…
Total Value (billion Kshs.)	**10.0**	**11.2**	**8.7**	**15.3**	**8.1**

Source: Directorate of Crops

… = Data not yet available

Table 5. 4: Wheat Production by Province and County, 2011

Province	County	HA	Production	Yield (Bags/Ha)
Central		**8,748**	**111,390**	**12.7**
	Nyandarua	3,577	70,200	19.6
	Nyeri	5,171	41,190	8.0
Eastern		**16,936**	**576,665**	**34.0**
	Marsabit	45	570	12.7
	Meru	16,891	576,095	34.1
Rift Valley		**105,676**	**2,290,834**	**21.7**
	Elgeyo/Marakwet	176	6,120	34.8
	Kericho	40	1,400	35.0
	Laikipia	4,945	102,675	20.8
	Nakuru	20,875	644,672	30.9
	Nandi	48	987	20.6
	Narok	44,067	395,260	9.0
	Samburu	600	12,000	20.0
	Trans Nzoia	3,635	100,925	27.8
	Uasin Gishu	31,290	1,026,795	32.8
Western		149	4,241	28.5
	Bungoma	129	3,695	28.6
	Kakamega	20	546	27.3
Total Production		**131,509**	**2,983,130**	**22.7**

Source: Directorate of Crops

5.14 Barley Production Nationally

Barley production rose by 2% increasing from 64 tons in 2010 to 65 tons in 2011. The area under the crop dropped from 25,123 ha in 2010 to 18,832 ha in 2011.

Table 5.5: Barley Production Nationally

Year	2008	2009	2010	2011
Area (Ha)	14,677	13,694	25,123	18,832
Production				
90 Kgs Bags	495,475	378,500	713,540	724,835
Tons	44,593	34,065	64,219	65,235
Yield (Bags/Ha)	33.8	27.6	28.4	38.5
Import (tons)	5,385,000	7,817,000	848,100	…
Total Value (billion Kshs.)	**11.2**	**8.7**	**15.3**	**…**

Source: Directorate of Crops

… = Data not yet available/compiled

Table 5.6: Barley Production by Province and County, 2011

Province	County	Area (HA)	Production (90 Kg Bag)	Yield (Bags/Ha)
Central		**192**	**4,455**	**23.2**
	Nyandarua	192	4,455	23.2
Eastern		**2,400**	**69,000**	**28.8**
	Meru	2,400	69,000	28.8
Rift Valley		**16,240**	**651,380**	**40.1**
	Nakuru	3,315	100,485	30.3
	Narok	12,300	532,590	43.3
	Samburu	200	3,600	18.0
	Uasin Gishu	420	14,700	35.0
Total Production		**18,832**	**724,835**	**38.5**

Source: Directorate of Crops

5.14 Beans

Beans form an essential part of plant proteins in the country. Production of beans in the last five years as demonstrated on table 5.7 below has increased from 4.3 million bags in 2010 to 6.4 million bags in 2011. Overall production of beans increased by 48%.

Table 5. 7: Beans Production, 2007 - 2011

Year	2007	2008	2009	2010	2011
Area (Ha)	846,327	610,428	960,705	689,377	1,036,738
Production					
90 Kgs Bags	3,455,512	2,901,237	5,170,696	4,339,980	6,418,596
Tons	310,996	261,111	465,363	390,598	577,674
Unit Price Bag (Kshs.)	4,400	4,500	5,134	4,343	4,693
Yield (Bags/Ha)	4.1	4.8	5.4	6.3	6.2
Estimated Consumption (90 bags)	…	…	…	…	7,200,000
Total Value (billion Kshs.)	**10.0**	**11.2**	**8.7**	**15.3**	**30.1**

Source: Directorate of Crops

… = data not yet available

Table 5.8: Bean Production by Province and County, 2011

Province	County	Area (Ha)	Production (90 Kg Bag)	Yield (Bags/Ha)
Nairobi		**708**	**1,483**	**2.1**
	Nairobi City	708	1,483	2.1
Central		**115,193**	**703,539**	**6.1**
	Kiambu	29,438	180,951	6.1
	Kirinyaga	17,728	148,653	8.4
	Murang'a	38,475	242,392	6.3
	Nyandarua	6,290	42,733	6.8
	Nyeri	23,262	88,810	3.8
Coast		**4,166**	**31,395**	**7.5**
	Kilifi	170	316	1.9
	Kwale	628	4,087	6.5
	Lamu	1,000	3,861	3.9
	Mombasa	2	7	3.6
	Taita/Taveta	2,355	23,081	9.8
	Tana River	11	43	3.9
Eastern		**253,596**	**1,411,529**	**5.6**
	Embu	25,587	161,028	6.3
	Isiolo	431	2,420	5.6
	Kitui	29,348	119,643	4.1
	Machakos	73,710	330,740	4.5
	Makueni	37,526	136,322	3.6
	Marsabit	1,316	8,798	6.7
	Meru	72,291	558,918	7.7
	Tharaka-Nthi	13,387	93,661	7.0
North Eastern		**13**	**-**	**-**
	Garissa	8	-	-
	Mandera	5	-	-
	Wajir	-	-	-
Nyanza		**177,463**	**1,303,000**	**7.3**
	Homabay	31,214	202,002	6.5
	Kisii	41,688	343,931	8.3
	Kisumu	10,950	82,190	7.5
	Migori	16,452	116,547	7.1
	Nyamira	38,055	326,920	8.6
	Siaya	39,104	231,410	5.9

Table 5.8: Bean Production by Province and County, 2011 (cont.)

Province	County	Area (Ha)	Production (90 Kg Bag)	Yield (Bags/Ha)
Rift Valley		**316,920**	**2,152,913**	**6.8**
	Baringo	13,615	71,234	5.2
	Bomet	21,075	160,545	7.6
	Elgeyo/Marakwet	14,780	179,380	12.1
	Kajiado	46,105	569,880	12.4
	Kericho	21,100	172,520	8.2
	Laikipia	22,265	81,105	3.6
	Nakuru	47,905	251,267	5.2
	Nandi	34,100	193,515	5.7
	Narok	25,990	184,531	7.1
	Samburu	290	1,680	5.8
	Trans Nzoia	33,330	140,930	4.2
	Turkana	-	-	-
	Uasin Gishu	24,185	107,886	4.5
	West Pokot	12,180	38,440	3.2
Western		**168,679**	**814,736**	**4.8**
	Bungoma	69,684	385,290	5.5
	Busia	19,815	76,595	3.9
	Kakamega	59,075	281,705	4.8
	Vihiga	20,105	71,146	3.5
Total Production		**1,036,738**	**6,418,596**	**6.2**

Source: Directorate of Crops

- = nil

5.15 Rice Production

During the year the rice production registered a drop of 18% to register 91,055 ton in 2011 from 110,494 achieved in 2010. The area under the crop dropped by 21% from 29,099 ha in 2010 to 22,966 ha achieved in 2011. This was mainly due to shortage of irrigation water in Mwea Irrigation Scheme.

Table 5.9 : Rice Production Nationally

Year	2007	2008	2009	2010	2011
Area (Ha)	15,885	18,329	20,050	29,099	22,966*
Production....					
Tons	62,283	51,822	54,955	110,494	91,055*
Unit Price Bag (Kshs.)	2,650	2,745	…	3,750	3,153
Yield (Tons/Ha)	3.9	2.8	2.7	3.8	4.0
Estimated Consumption (Tons-(e))	.. .	…	…	…	560,000
Import (tons)	203,000	202,000	398,000	398,000	...
Total Value (billion Kshs.)					

Source: Directorate of Crops
…= data not yet available
e = estimated value
** = provisional*

Table 5.10: Rice Production by Province and County, 2011

Province	County	HA	Production (Tons)	Yield (Ton/Ha)
Central		**9,403**	**47,208**	**5.0**
	Kiambu	40	151	3.8
	Kirinyaga	9,363	47,057	5.0
Coast		**4,867**	**10,605**	**2.2**
	Kilifi	779	357	0.5
	Kwale	1,486	1,815	1.2
	Lamu	191	23	0.1
	Mombasa	14	4	0.3
	Taita/Taveta	677	2,348	3.5
	Tana River	1,720	6,057	3.5
Eastern		**36**	**61**	**1.7**
	Embu	23	52	2.3
	Meru	13	9	1
North Eastern		**24**	**108**	**4.5**
	Garissa	24	108	4.5
Nyanza		**6,237**	**29,237**	**4.7**
	Homabay	590	2,745	4.7
	Kisumu	3,300	15,930	4.8
	Migori	12	54	4.5
	Siaya	2,335	10,508	4.5
Rift Valley		**58**	**219**	**3.8**
	Elgeyo/Marakwet	41	158	3.9
	Kericho	17	61	3.6
Western		**2,341**	**3,618**	**1.5**
	Bungoma	24	16	0.7
	Busia	2,296	3,583	1.6
	Kakamega	22	19	0.9
Total Production		**22,966**	**91,055**	**4.0**

5.16 Sorghum Production

Production of sorghum decreased by 3 percent from 1.8 million bags in 2010 to 1.7 million bags 2011. The decline is mainly attributed to early cessation of 2011 short rains that affected major production areas in Eastern and parts of Coast Provinces as shown in Table 5.11. Sorghum production had been increasing since year 2009 especially in the ASAL areas as a result of the Ministry's efforts to revitalize the crop as one of the high value traditional crop tolerant to dry conditions Moreover, in the last few years, the Kenya Agricultural and Research Institute in collaboration with a Kenyan leading brewer have been promoting sorghum as supplement for barley used in alcohol production. Due to prospect of ready market for the produce and good returns, the crop enterprise is becoming increasingly attractive to farmers in ASAL regions.

Table 5.11: Sorghum Production Nationally

Year	2007	2008	2009	2010	2011
Area (Ha)	155,550	104,041	173,172	225,782	254,125
Production					
90 Kg Bags	1,637,391	602,910	1,055,051	1,822,950	1,776,412
Tons	147,365	54,262	94,955	164,066	159,877
Unit Price Bag (Kshs./bag)	1,100	1,230	3,285	2,576	2,298
Yield (Bags/Ha)	10.5	5.8	6.1	8.1	7.0
Total Value (billion Kshs.)	**1.6**	**0.7**	**3.5**	**4.6**	**4.1**

Source: Directorate of Crops

Table 5.12: Sorghum Production by Province and County, 2011

Province	County	Area (Ha)	Production (90 Kg Bags)	Yield (Bags/Ha)
Nairobi		**13**	**29**	**2.3**
	Nairobi City	13	29	2.3
Central		**974**	**5,959**	**-**
	Kiambu	225	263	1.2
	Kirinyaga	366	4,045	11.1
	Murang'a	239	1,052	4.4
	Nyandarua	28	116	4.1
	Nyeri	116	483	4.2
Coast		**5,819**	**26,438**	**4.5**
	Kilifi	2,486	6,638	2.7
	Kwale	1,332	10,422	7.8
	Lamu	1,265	6,300	5.0
	Mombasa	13	116	9.2
	Taita/Taveta	526	2,238	4.3
	Tana River	197	724	3.7
Eastern		**148,208**	**754,813**	**5.1**
	Embu	6,275	29,358	4.7
	Isiolo	56	411	7.3
	Kitui	57,080	228,243	4.0
	Machakos	12,978	66,424	5.1
	Makueni	37,149	200,574	5.4
	Marsabit	144	200	1.4
	Meru	16,352	111,420	6.8
	Tharaka-Nthi	18,174	118,183	6.5
North Eastern		**781**	**1,453**	**1.9**
	Garissa	101	218	2.2
	Mandera	380	680	1.8
	Wajir	300	555	1.9
Nyanza		**60,909**	**720,305**	**11.8**
	Homabay	25,107	325,790	13.0
	Kisii	128	1,407	11.0
	Kisumu	10,890	120,800	11.1
	Migori	9,380	107,955	11.5
	Nyamira	104	1,193	11.5
	Siaya	15,300	163,160	10.7

Table 5.12: Sorghum Production by Province and County, 2011 (cont.)

Province	County	Area (Ha)	Production (90 Kg Bags)	Yield (Bags/Ha)
Rift Valley		**21,411**	**117,285**	**5.5**
	Baringo	820	6,739	8.2
	Bomet	395	5,339	13.5
	Elgeyo/Marakwet	11,068	17,251	1.6
	Kajiando	139	907	6.5
	Kericho	709	5,885	8.3
	Laikipia	1,881	13,737	7.3
	Nakuru	849	9,083	10.7
	Nandi	131	1,640	12.6
	Narok	297	1,992	6.7
	Samburu	4	14	4.0
	Trans Nzoia	540	5,240	9.7
	Turkana	2,194	25,658	11.7
	Uasin Gishu	95	1,120	11.8
	West Pokot	2,290	22,680	9.9
Western		**16,010**	**150,131**	**9.4**
	Bungoma	3,660	35,882	9.8
	Busia	11,139	102,422	9.2
	Kakamega	703	7,384	10.5
	Vihiga	508	4,443	8.7
Total Production		**254,125**	**1,776,412**	**7.0**

Source: Directorate of Crops

5.17 Millet Production

Millet, like sorghum is drought tolerant crop being promoted by the Ministry under Traditional High Value crops project. The crop is mainly produced in Western, Nyanza and Eastern province. In general, Eastern province has the highest potential. The area under the crop increased by 12 percent in 2011 to 113,271 ha up from 99,124 in 2010, while production expanded by 36 percent as depicted by the Table 5.13 below. This increase was attributed to availability of quality seed supplied to farmers by the Ministry during the period.

Table 5.13: Millet Production Nationally

Year	2007	2008	2009	2010	2011
Area (Ha)	128,114	53,155	104,576	99,124	111,271
Production....					
90 Kg Bags	1,328,877	426,928	626,856	598,678	815,509
Tons	119,599	38,424	56,417	53,881	73,396
Unit Price Bag (Kshs./bag)	2,600	2,700	4,680	4,689	2,827
Yield (Bags/Ha)	10.4	8.0	6.0	6.0	7.3
Total Value (billion Kshs.)	**2.5**	**1.2**	**2.9**	**2.8**	**203**

Source: Directorate of Crops

Table 5.14: Millet Production by Province and County, 2011

Province	County	HA	Production (90 Kg Bags)	Yield (Bags/Ha)
Nairobi		**-**	**-**	**-**
	Nairobi City	-	-	-
Central		**45**	**276**	**-**
	Kiambu	19	54	2.8
	Kirinyaga	8	154	19.2
	Murang'a	17	68	4.0
	Nyandarua	1	-	0.2
	Nyeri	-	-	-
Coast		**213**	**653**	**3.1**
	Kilifi	41	54	1.3
	Kwale	47	188	4.0
	Lamu	78	230	2.9
	Mombasa	-	-	-
	Taita/Taveta	28	130	4.7
	Tana River	19	51	2.7
Eastern		**74,259**	**325,138**	**4.4**
	Embu	4,161	21,437	5.2
	Isiolo	5	-	0.0
	Kitui	36,920	92,772	2.5
	Machakos	1,087	3,592	3.3
	Makueni	6,578	29,248	4.4
	Marsabit	10	-	0.0
	Meru	7,906	40,808	5.2
	Tharaka-Nthi	17,592	137,281	7.8
North Eastern		**35**	**30**	**0.9**
	Garissa	13	9	0.7
	Mandera	5	5	1.0
	Wajir	17	16	0.9
Nyanza		**23,556**	**372,430**	**15.8**
	Homabay	8,180	138,725	17.0
	Kisii	674	10,860	16.1
	Kisumu	1,658	24,870	15.0
	Migori	7,060	105,125	14.9
	Nyamira	712	9,975	14.0
	Siaya	5,272	82,875	15.7
Rift Valley		**7,801**	**67,318**	**8.6**
	Baringo	2,205	13,733	6.2
	Bomet	750	8,523	11.4
	Elgeyo/Marakwet	1,230	12,350	10.0
	Kajiando	4	21	5.3
	Kericho	900	5,880	6.5
	Laikipia	66	606	9.2
	Nakuru	390	4,014	10.3
	Nandi	191	1,486	7.8
	Narok	510	3,550	7.0
	Samburu	1	2	4.0
	Trans Nzoia	450	3,885	8.6
	Turkana	-	-	-
	Uasin Gishu	635	8,898	14.0
	West Pokot	470	4,370	9.3
Western		**5,363**	**49,666**	**9.3**
	Bungoma	769	7,408	9.6
	Busia	4,291	40,305	9.4
	Kakamega	239	1,525	6.4
	Vihiga	64	428	6.6
Total Production		**111,271**	**815,509**	**7.3**

Source: Directorate of Crops

- = nil

5.18 Cowpeas Production

Cowpeas is a dual purpose crop used for both green leave and grain consumption. While leave consumption is popular in production areas West of Rift Valley, in other regions, the crop's grain is preferred for consumption. During 2011, area under production and output increased by 18 percent and 13 percent respectively compared to 2010; thus from 168,272 ha in 2010 to 197,980 ha in 2011. On the other hand, production increased from 803,046 bags in 2010 to 905,938 bags in 2011. The increase in production was attributed to increased area of production as well as timely availability of seed by the Ministry. Table 5.15 shows the national performance of the during 2011.

Table 5.15: Cowpeas Production Nationally

Year	2007	2008	2009	2010	2011
Area (Ha)	130,163	148,157	124,302	168,273	197,980
Production					
90 Kg Bags	925,015	532,810	668,361	803,046	905,938
Tons	83,251	47,953	60,152	72,274	81,534
Unit Price Bag (Kshs.)	2,900	3,100	5,503	…	3,934
Yield (Bags/Ha)	7.1	3.6	5.4	4.8	4.6
Estimated Consumption (90 kg bag (e))	..	..	..	..	650,000
Total Value (billion Kshs.)	**2.3**	**1.2**	**3.7**	**...**	**3.6**

Source: Directorate of Crops

e=estimated value

Table 5.16: Cowpeas Production by Province and County, 2011

Province	County	Area (Ha)	Production (90 Kg Bags)	Yield (Bags/Ha)
Nairobi		**0**	**0**	**-**
	Nairobi City	0	0	-
Central		**761**	**8,876**	**11.7**
	Kiambu	163	1,795	11.0
	Kirinyaga	146	850	5.8
	Murang'a	174	1,536	8.8
	Nyandarua	20	760	38.0
	Nyeri	258	3,936	15.3
Coast		**23,631**	**120,295**	**5.1**
	Kilifi	8,233	34,071	4.1
	Kwale	8,826	39,923	4.5
	Lamu	2,727	21,758	8.0
	Mombasa	415	2,760	-
	Taita/Taveta	1,668	10,339	6.2
	Tana River	1,762	11,445	6.5
Eastern		**165,449**	**736,943**	**4.5**
	Embu	10,053	30,744	3.1
	Isiolo	120	835	7.0
	Kitui	65,015	251,936	3.9
	Machakos	29,329	140,064	4.8
	Makueni	45,240	199,895	4.4
	Marsabit	185	288	1.6
	Meru	6,237	46,493	7.5
	Tharaka-Nthi	9,270	66,688	7.2

Table 5.16: Cowpeas Production by Province and County, 2011 (cont.)

Province	County	Area (Ha)	Production (90 Kg Bags)	Yield (Bags/Ha)
North Eastern		**1,484**	**4,917**	**3.3**
	Garissa	289	1,101	3.8
	Mandera	872	3,400	3.9
	Wajir	323	416	1.3
Nyanza		**5,428**	**29,216**	**5.4**
	Homabay	875	4,463	5.1
	Kisii	358	1,819	5.1
	Kisumu	2,537	12,673	5.0
	Migori	275	1,795	6.5
	Nyamira	192	991	5.2
	Siaya	1,191	7,475	6.3
Rift Valley		**1,227**	**5,691**	**4.6**
	Baringo	578	2,250	3.9
	Bomet	0	0	-
	Elgeyo/Marakwet	248	2,370	9.6
	Kajiado	-	-	-
	Kericho	-	-	-
	Laikipia	32	200	6.3
	Nakuru	46	147	3.2
	Nandi	0	0	-
	Narok	21	81	3.9
	Samburu	22	54	2.5
	Trans Nzoia	-	-	-
	Turkana	255	449	-
	Uasin Gishu	-	-	-
	West Pokot	25	140	5.6
Western		**0**	**0**	**-**
	Bungoma	-	-	-
	Busia	-	-	-
	Kakamega	-	-	-
	Vihiga	-	-	-
Total Production		**197,980**	**905,938**	**4.6**

Source: Directorate of Crops

Cowpeas are largely produced in Eastern and Coast provinces as shown in table 5.16. Eastern province alone produced 81 percent of the total national output with Kitui, Makueni and Machakos counties contributing the bulk to the total output. Overall, there was an increase in both area under production and output across all provinces between 2010 and 2011.

North Eastern province recorded the highest increase in area under production of 84 percent from 807 ha in 2010 to 1,484 in 2011, followed by Coast province with 47 percent from 16,112 to 23,631 over the same period. Production almost doubled between 2010 and 2011 in the four provinces of Central, Coast, North Eastern and Nyanza from 4802, 67591, 1104, 15192 bags to 8876, 120295, 4917 and 29216 bags respectively. Improved production in 2011 was attributed to increase in the area under production, availability of good quality seeds as well as high and sustained demand and price for the produce particularly in Coast Province.

5.19 Green Gram Production

There was an expansion in area under production of 9 per cent from 147,352 ha in 2010 to 160,787 in 2011 as shown in table 5.17. The crop also recorded considerable increase in production which rose by 15 per cent from 680,528 bags in 2010 to 782,893 in 2011. Average yield per ha increased marginally from 4.6 in 2010 to 4.9 in 2011.

Table 5.17: Green Grams Production Nationally

Year	2007	2008	2009	2010	2011
Area (Ha)	82,784	91,452	112,997	147,352	159,910
Production....					
90 Kg Bags	688,363	296,808	470,372	680,528	780,283
Tons	61,953	26,713	42,333	61,248	70,225
Unit Price Bag (Kshs.)	5,000	5,000	6,149	…	6,063
Yield (Bags/Ha)	8.3	3.2	4.2	4.6	4.9
Total Value (billion Kshs.)	**3.4**	**1.5**	**2.9**	**…**	4.7

Source: Directorate of Crops

Table 5. 18: Green Grams Production by Province and County, 2011

Province	County	Area (Ha)	Production (90 Kg Bags)	Yield (Bags/Ha)
Nairobi		**21**	**22**	**1.0**
	Nairobi City	21	22	1.0
Central		**251**	**1,552**	**6.2**
	Kiambu	129	630	4.9
	Kirinyaga	108	889	8.2
	Murang'a	14	34	2.4
	Nyandarua	-	-	-
	Nyeri	-	-	-
Coast		**13,456**	**84,042**	**6.2**
	Kilifi	2,897	11,283	3.9
	Kwale	4,868	29,613	6.1
	Lamu	1,930	14,896	7.7
	Mombasa	23	142	6.0
	Taita/Taveta	2,255	16,691	7.4
	Tana River	1,484	11,417	7.7
Eastern		**140,960**	**661,657**	**4.7**
	Embu	6,765	28,676	4.2
	Isiolo	98	904	9.2
	Kitui	58,905	216,113	3.7
	Machakos	12,836	56,965	4.4
	Makueni	35,140	180,360	5.1
	Marsabit	31	72	2.3
	Meru	6,598	37,656	5.7
	Tharaka-Nthi	20,587	140,911	6.8
North Eastern		**621**	**3,896**	**6.3**
	Garissa	278	1,730	6.2
	Mandera	111	1,070	9.6
	Wajir	232	1,096	4.7
Nyanza		**3,546**	**24,253**	**6.8**
	Homabay	743	5,574	7.5
	Kisii	55	234	4.3
	Kisumu	1,653	11,001	6.7
	Migori	316	2,117	6.7
	Nyamira	30	201	6.7
	Siaya	749	5,126	6.8

Table 5. 18: Green Grams Production by Province and County, 2011 (cont.)

Province	County	Area (Ha)	Production (90 Kg Bags)	Yield (Bags/Ha)
Rift Valley		**835**	**4,209**	**5.0**
	Baringo	379	1,323	3.5
	Bomet	-	-	-
	Elgeyo/Marakwet	209	1,912	9.1
	Kajiado	-	-	-
	Kericho	-	-	-
	Laikipia	80	192	2.4
	Nakuru	-	-	-
	Nandi	-	-	-
	Narok	-	-	-
	Samburu	15	52	3.5
	Trans Nzoia	-	-	-
	Turkana	69	99	1.4
	Uasin Gishu	-	-	-
	West Pokot	83	631	7.6
Western		**471**	**2,204**	**4.7**
	Bungoma	82	363	4.4
	Busia	203	920	4.5
	Kakamega	92	438	4.8
	Vihiga	94	483	5.2
Total Production		**159,910**	**780,283**	**4.9**

Source: Directorate of Crops

With the exception of Central province, all other provinces recorded a marginal expansion in the area under production. Western province recorded production of green grams in 2011 for the first time. The region has high potential in production of the crop as indicated in yield per ha in table 5.18. Production doubled in Coast province and more than tripled in North Eastern and Nyanza provinces. This was attributed to timely and adequate short rains in the regions as well as availability of high quality seeds.

5.20 Pigeon Peas Production

The area under production dropped by 13 per cent from 158,746 ha in 2010 to 138,708 in 2011 as shown in table 5.19. The crop also recorded a significant decline in production of 18 per cent from 1,147,040 bags in 2010 to 936,812 in 2011. Average yield per ha decreased though marginally from 7.2 in 2010 to 6.8 in 2011.

Table 5.19: Pigeon Peas Production Nationally

Year	2007	2008	2009	2010	2011
Area (Ha)	846,327	610,428	118,167	158,746	138,708
Production....					
90 Kg Bags	3,455,512	2,901,237	516,377	1,147,040	936,812
Tons	310,996	261,111	46,474	103,234	84,313
Unit Price Bag (Kshs.)	4,400	4,500	6,149	…	4.168
Yield (Bags/Ha)	4.1	4.8	4.4	7.2	6.8
Total Value (billion Kshs.)	**16.9**	**13.1**	**…**	**…**	**…**

Source: Directorate of Crops

Table 5.20: Pigeon Peas Production by Province and County, 2011

Province	County	Area (Ha)	Production (90 Kg Bags)	Yield (Bags/Ha)
Nairobi		**10**	**26**	**-**
	Nairobi City	10	26	-
Central		**1,051**	**7,147**	**6.8**
	Kiambu	767	6,203	8.1
	Kirinyaga	53	198	3.7
	Murang'a	202	615	3.0
	Nyandarua	29	131	4.5
	Nyeri	-	-	-
Coast		**798**	**3,139**	**3.9**
	Kilifi	122	221	1.8
	Kwale	143	482	3.4
	Lamu	183	637	3.5
	Mombasa	6	19	-
	Taita/Taveta	344	1,780	5.2
	Tana River	-	-	-
Eastern		**136,459**	**923,664**	**6.8**
	Embu	1,686	9,709	5.8
	Isiolo	1	10	10.0
	Kitui	34,755	226,185	6.5
	Machakos	48,449	317,453	6.6
	Makueni	35,150	248,275	7.1
	Marsabit	15	54	3.6
	Meru	6,305	54,462	8.6
	Tharaka-Nthi	10,098	67,516	6.7
North Eastern		**-**	**-**	**-**
	Garissa	-	-	-
	Mandera	-	-	-
	Wajir	-	-	-
Nyanza		**-**	**-**	**-**
	Homabay	-	-	-
	Kisii	-	-	-
	Kisumu	-	-	-
	Migori	-	-	-
	Nyamira	-	-	-
	Siaya	-	-	-
Rift Valley		**389**	**2,837**	**7.3**
	Baringo	7	35	5.0
	Bomet	-	-	-
	Elgeyo/Marakwet	-	-	-
	Kajiando	288	2,207	7.7
	Kericho	-	-	-
	Laikipia	33	240	7.3
	Nakuru	57	345	6.1
	Nandi	-	-	-
	Narok	1	4	4.0
	Samburu	2	3	1.3
	Trans Nzoia	-	-	-
	Turkana	-	-	-
	Uasin Gishu	-	-	-
	West Pokot	1	3	3.0
Western		**-**	**-**	**-**
	Bungoma	-	-	-
	Busia	-	-	-
	Kakamega	-	-	-
	Vihiga	-	-	-
Total Production		**138,708**	**936,812**	**6.8**

Source: Directorate of Crops

-= nil

Table 5.20 shows that about 99 percent of Pigeon Peas are produced in Eastern province mainly in Kitui, Machakos and Makueni Counties. The province experience a slight drop of 13 percent and 19 percent in area under production and output in 2011 compared to 2010 respectively. Also note that Central province was able to double output in 2011 by expanding area under production by just 24 percent. The Ministry should intensify campaigns in this province particularly in Kiambu County which is the main producer to increase area under production since this county has high potential for producing the crop.

5.21 Sweet Potatoes Production

Sweet potato production recorded an impressive performance in 2011 after a dismal performance the previous year. The area under production expanded by 54 per cent from 42,312 ha in 2010 to 61,902 in 2011 as shown in table 5.21. Output more than doubled increasing from 383,590 tons in 2010 to 759,471 in 2011. Average yield per ha improved substantially from 7.6 tons in 2010 to 12.1 in 2011 but still below the record achieved in 2008 of 14.3 tons per ha. This was attributed to increased distribution of improved planting materials.

Table 5. 21: Sweet Potatoes Production Nationally

Year	2007	2008	2009	2010	2011
Area (Ha)	61,111	62,786	77,821	42,312	61,902
Production					
Tons	811,531	894,781	1,034,204	383,590	759,471
Unit Price Bag (Kshs.)	2,900	3,100	5,503	…	…
Yield (Bags/Ha)	13.3	14.3	13.3	7.6	12.3

Source: Directorate of Crops

Table 5.22: Sweet Potatoes Production by Province and County, 2011

Province	County	Area (Ha)	Production (tons)	Yield (tons/Ha)
Nairobi		**34**	**75**	**2.2**
	Nairobi City	34	75	2.2
Central		**4,481**	**65,594**	**14.6**
	Kiambu	2,809	15,201	5.4
	Kirinyaga	568	10,877	12.1
	Murang'a	666	8,873	13.3
	Nyandarua	80	918	11.5
	Nyeri	359	3,805	10.6
Coast		**1,279**	**10,877**	**8.4**
	Kilifi	421	2,454	5.8
	Kwale	597	6,279	10.5
	Lamu	59	1,416	23.9
	Mombasa	18	139	7.6
	Taita/Taveta	143	1,006	7.0
	Tana River	41	677	16.7
Eastern		**10,432**	**100,809**	**9.7**
	Embu	185	2,501	13.5
	Isiolo	10	138	14.5
	Kitui	523	2,130	4.1
	Machakos	3,205	28,255	8.8
	Makueni	992	7,835	7.9
	Marsabit	10	138	14.5
	Meru	1,986	28,700	14.5
	Tharaka-Nthi	326	2,995	9.2

Table 5.22: Sweet Potatoes Production by Province and County, 2011 (cont.)

Province	County	Area (Ha)	Production (tons)	Yield (tons/Ha)
Nyanza		**20,361**	**344,313**	**16.9**
	Homabay	8,180	138,725	17.0
	Kisii	674	10,860	16.1
	Kisumu	1,658	24,870	15.0
	Migori	7,060	105,125	14.9
	Nyamira	712	9,975	14.0
	Siaya	5,272	82,875	15.7
Rift Valley		**4,387**	**53,529**	**12.2**
	Baringo	149	942	6.3
	Bomet	807	7,936	9.8
	Elgeyo/Marakwet	91	1,245	13.7
	Kajiando	15	116	7.7
	Kericho	549	5,855	10.7
	Laikipia	88	1,056	12.0
	Nakuru	132	1,174	8.9
	Nandi	198	3,648	18.5
	Narok	1,857	23,861	12.8
	Samburu	2	14	9.3
	Trans Nzoia	360	6,010	16.7
	Uasin Gishu	105	1,338	12.7
	West Pokot	35	334	9.5
Western		**20,929**	**182,983**	**8.7**
	Bungoma	5,658	47,576	8.4
	Busia	10,053	94,237	9.4
	Kakamega	4,164	32,370	7.8
	Vihiga	1,054	8,800	8.3
Total Production		**65,097**	**787,391**	**12.1**

Source: Directorate of Crops

Nyanza province accounts for 57 percent of Sweet Potatoes produced nationally as indicated in table 5.22. Migori and Homabay are the main producing counties in the province. Compared to 2010, Nyanza province doubled the area under production from 10,653 ha to 23,556 in 2011 while production rose from 119,769 to 372,430. This improved performance was attributed to effective and sustained campaigns by the THVC project in the Ministry as well as availability of certified planting materials and favourable climate in the region in 2011.

Conversely, Western province expanded area under production by half from 15,245 ha in 2010 to 20,929 ha in 2011. Subsequently, production in this province increased by 74 percent from 109,202 tons in 2010 to 182,983 tons in 2011 mainly due to adequate short rains.

5.22 Cassava Production

The crop recorded mixed performance between 2010 and 2011. The area under production continued to decline, this time by 2 per cent from 61,573 ha in 2010 to 60,473 in 2011. A similar trend had been recorded between 2009 and 2010. However, production doubled from 323,389 tons in 2010 to 679,167 in 2011 resulting from the high average yield per ha from 5.3 to 11.3 during the same period as shown in table 5.23.

Table 5.23: Cassava Production Nationally

Year	2007	2008	2009	2010	2011
Area (Ha)	53,610	54,673	70,426	61,573	60,473
Production					
Tons	397,705	750,964	911,074	323,389	679,167
Yield (tons/Ha)	7.4	13.7	12.9	5.3	11.2

Source: Directorate of Crops

Table 5.24: Cassava Production by Province and County, 2011

Province	County	HA	Production (tons)	Yield (tons/Ha)
Nairobi		**22**	**30**	**1.4**
	Nairobi City	22	30	1.4
Central		**679**	**5,869**	**8.6**
	Kiambu	658	4,924	7.5
	Kirinyaga	61	511	8.4
	Murang'a	157	890	5.7
	Nyandarua	-	-	-
	Nyeri	150	766	5.1
Coast		**11,963**	**179,974**	**15.0**
	Kilifi	8,436	137,938	16.4
	Kwale	2,295	25,603	11.2
	Lamu	688	3,444	5.0
	Mombasa	275	3,469	12.6
	Taita/Taveta	150	1,576	10.5
	Tana River	119	7,945	67.0
Eastern		**8,139**	**98,487**	**12.1**
	Embu	339	5,002	14.8
	Isiolo	8	81	10.8
	Kitui	1,448	27,521	19.0
	Machakos	3,632	38,560	10.6
	Makueni	1,260	12,147	9.6
	Marsabit	4	8	2.0
	Meru	1,092	13,840	12.7
	Tharaka-Nthi	356	1,328	3.7
North Eastern		**-**	**-**	**-**
	Garissa	-	-	-
	Mandera	-	-	-
	Wajir	-	-	-
Nyanza		**18,185**	**186,662**	**10.3**
	Homabay	2,847	31,860	11.2
	Kisii	97	840	8.7
	Kisumu	3,477	34,770	10.0
	Migori	7,922	80,720	10.2
	Nyamira	40	220	5.5
	Siaya	3,802	38,252	10.1

Table 5.24: Cassava Production by Province and County, 2011 (cont.)

Province	County	HA	Production (tons)	Yield (tons/Ha)
Rift Valley		**661**	**12,390**	**18.7**
	Baringo	97	1,212	12.5
	Bomet	26	376	14.5
	Elgeyo/Marakwet	198	5,300	26.8
	Kajiando	16	86	5.4
	Kericho	16	879	54.9
	Laikipia	44	547	12.6
	Nakuru	39	553	14.2
	Nandi	69	1,654	24.1
	Narok	29	222	7.7
	Samburu	1	2	3.0
	Trans Nzoia	57	1,004	17.6
	Turkana	-	-	-
	Uasin Gishu	17	218	12.8
	West Pokot	54	338	6.3
Western		**20,825**	**195,756**	**9.4**
	Bungoma	1,515	12,310	8.1
	Busia	18,279	176,280	9.6
	Kakamega	804	5,193	6.5
	Vihiga	228	1,973	8.7
Total Production		**59,794**	**673,299**	**11.3**

Source: Directorate of Crops

Cassava was mainly produced in Coast province in Kilifi County, Nyanza province in Migori and Siaya Counties and Western province in Busia County which together contributed 64 percent of cassava production nationally as shown in table 5.24. The area under production in Coast province declined by half while output doubled in 2011 compared to 2010 statistics. This was attributed to the adoption of new cassava varieties by farmers that are high yielding and early maturing promoted under the THVC project.

This was attributed to adoption of new cassava varieties in particular the MM series that are high yielding, early maturing and resistant to the devastating cassava mosaic virus disease and cassava brown streak virus disease that had negatively affected cassava production in the region. The new varieties are being promoted by THVC project, the Great Lakes Cassava Initiative (GLCI), managed by Catholic Relief Services (CRS), and KARI .The region received well distributed short rains between July and mid-December 2011 which greatly enhanced good yields. There was also a sustained demand for processed cassava and sweet potatoes from Busia and Bungoma Counties by millers based at Kariobangi in Nairobi.

5.24 Cocoyam Production

Area under production and output increased significantly by 22 per cent in both cases. The hectreage under production increased from 2,774 ha in 2010 to 3,372 in 2011 while production rose from 19,054 tons in 2010 to 782,893 in 2011as shown in table 5.25. Average yield per ha remained unchanged between 2010 and 2011 at 6.9 tons.

Table 5.25: Cocoyam Production Nationally

Year	2007	2008	2009	2010	2011
Area (Ha)	1,896	2,254	2,588	2,774	4,549
Production					
Tons	16,050	16,872	24,901	19,054	30,635
Yield (Tons/Ha)	8.5	7.5	9.6	6.9	6.7

Source: Directorate of Crops

Table 5. 26: Cocoyam Production by Province and County, 2011

Province	County	Area (Ha)	Production (tons)	Yield (tons/Ha)
Nairobi		**29**	**115**	**3.9**
	Nairobi City	29	115	3.9
Central		**1,176**	**7,419**	**6.3**
	Kiambu	684	5,100	7.5
	Kirinyaga	61	511	8.4
	Murang'a	284	1,590	5.6
	Nyandarua	-	-	-
	Nyeri	150	766	5.1
Coast		**1,565**	**1,297**	**0.8**
	Kilifi	-	0	-
	Kwale	10	43	4.2
	Lamu	1,512	620	0.4
	Mombasa	5	59	11.9
	Taita/Taveta	38	575	15.1
	Tana River	-	-	
Eastern		**1,034**	**17,063**	**16.5**
	Embu	153	1,530	10.0
	Isiolo			
	Kitui	3	26	8.7
	Machakos			
	Makueni	51	224	4.4
	Marsabit			
	Meru	731	14,403	19.7
	Tharaka-Nthi	96	880	9.2
North Eastern		**-**	**-**	**-**
	Garissa	-	-	-
	Mandera	-	-	-
	Wajir	-	-	-

Table 5. 26: Cocoyam Production by Province and County, 2011 (cont.)

Province	County	Area (Ha)	Production (tons)	Yield (tons/Ha)
North Eastern		**-**	**-**	**-**
	Garissa	-	-	-
	Mandera	-	-	-
	Wajir	-	-	-
Nyanza		**-**	**-**	**-**
	Homabay	-	-	-
	Kisii	-	-	-
	Kisumu	-	-	-
	Migori	-	-	-
	Nyamira	-	-	-
	Siaya	-	-	-
Rift Valley		**91**	**974**	**10.8**

Source: Directorate of Crops

The crop is mainly produced in Coast province in Lamu and Taita/Taveta Counties, Eastern province in Meru and Embu Counties and Western province in Busia and Kakamega Counties. During 2011, Meru County alone contributed 62 percent of cocoyam production nationally as can be seen in table 5.26. Though Coast province increased area under production by a high margin from 62 ha in 2010 to 1,565 in 2011, the corresponding production from 300 tons in 2010 to 1,297 in 2011 reflected a severely low yield, which should form the basis for future interventional efforts. This poorly compares with Eastern province whose production tripled with an increase of just 31 percent in area under production. The high production in Eastern province was attributed to incentives to farmers in form of ready market, high price for the produce and adequate short rains in the region.

5.25 Yams Production

Area under production and output increased significantly by 22 per cent in both cases. The hectreage under production increased from 2,774 ha in 2010 to 3,372 in 2011 while production rose from 19,054 tons in 2010 to 782,893 in 2011as shown in table 5.25. Average yield per ha remained unchanged between 2010 and 2011 at 6.9 tons.

Table 5.27: Yams Production Nationally

Year	2007	2008	2009	2010	2011
Area (Ha)	925	808	882	1,224	1,057
Production					
Tons...	6,905	6,123	4,427	8,035	9,635
Yield (Bags/Ha)	7.5	7.6	5.0	6.6	9.1

Source: Directorate of Crops

Table 5.28: Yams Production by Province and County, 2011

Province	County	Area (Ha)	Production (tons)	Yield (tons/Ha)
Central		**165**	**1,105**	
	Kiambu	274	3,001	10.9
	Kirinyaga	52	668	12.9
	Murang'a	306	1,977	6.5
	Nyandarua	12	131	114
	Nyeri	35	92	2.6
Eastern		**841**	**8,289**	**9.9**
	Embu	111	1,126	10.1
	Isiolo	-	-	-
	Kitui	3	26	8.7
	Machakos	-	-	-
	Makueni	-	-	-
	Marsabit	-	-	-
	Meru	624	6,097	9.8
	Tharaka-Nthi	103	1,040	10.1
North Eastern		**-**	**..**	**-**
	Garissa	-	-	-
	Mandera	-	-	-
	Wajir	-	-	-
Total Production		**841**	**8,289**	**9.9**

Source: Directorate of Crops

In 2011, the crop was exclusively produced by Eastern province in Embu, Meru and Tharaka-Nithi Counties as shown in table 5.28. The area under production dropped by 22 percent from 1,078 ha in 2010 to 841 in 2011. However, the province achieved higher yield which improved by 3.3 bags/ha pushing production from 8,035 tons in 2010 to 8,289 in 2011. The higher yield resulted from the ever increasing demand for the produce.

5.26 Oil Crops

Table 5.29 shows that production of various oil crops has been improving over years both in terms of area under production and output. Soya beans recorded the highest increase in production of 2.8 times from 1,540 tons in 2010 to 4,335 in 2011 despite the marginal increase in area under production. A similar trend can be noted for Seed Cotton between 2010 and 2011. However, there is need to pay more attention to performance of ground nuts where despite increasing area under production by 18 percent, output increased only insignificantly by 6 percent.

Table 5.29: Oil Crops Production, 2007 - 2011

Year Crop	 Indicator	2007	2008	2009	2010	2011
Soya Beans	Area (Ha)	1,645	2,456	2,950	1,621	1,734
	Production (Tons)	9,720	1,923	2,110	1,540	4,335
Sun Flower	Area (Ha)	5,756	6,073	6,310	3,752	5,157
	Production (Tons)	4,112	5,540	6,000	3,128	5,613
Ground Nuts	Area (Ha)	29,908	26,089	25,745	10,894	12,803
	Production (Tons)	16,761	14,710	15,040	11,801	12,526
Oil Palm	Area (Ha)		171	212	1,079	1,079
	Production (Tons)		1,815	2,112	3,000	3,350
Sim Sim	Area (Ha)	380	483	1,516	150	192
	Production (Tons)	123	21	167	5	65
Coconut	Area (Ha)	44,057	49,669	50,956	50,143	50,663
	Production (Tons)	55,280	59,897	65,160	74,613	87,479
Cashew nuts	Area (Ha)	27,921	29,950	30,297	29,837	30,455
	Production (Tons)	12,873	15,597	17,683	17,568	20,927
Castor Oil	Area (Ha)	5	4,335	6	6	6
	Production (Tons)	2		2	3	3
Seed Cotton	Area (Ha)	35,929	43,035	39,963	24,553	32,200
	Production (Tons)	24,993	15,093	14,886	11,822	22,000

Source: Directorate of Crops

The main challenges facing the subsector include: the prevailing low market prices, cheap oil imports and inappropriate oil milling technology at community level. The draft consolidate oil crops and nuts policy is envisaged to guide the development of these crops and save on the huge import bill to meet the national consumption demand.

5.3 Horticulture Production and Exports

5.31 Horticulture Production

The value of production in the horticultural sector in 2011 amounted to Kshs. 205.1 billion as compared to Kshs. 186.3 billion in 2010, a 10 percent increase as shown in Table 5.30. During the same year, the area cultivated increased by 5 percent from 539,337 to 566,228 Ha. The volume of fresh horticultural exports crops recorded a decline of about 46% to reach 216,247,000 MT in 2011 from 403,026,000 MT exported in 2010. At the same time the value of the exports increased by 14% from Kshs. 77.7 billions achieved 2010 compared to Kshs. 88.6 billion achieved in 2011.

Table 5.30: Trend of Horticulture Performance, 2009 - 2011

Indicator	2009	2010	2011
Area (Ha) ...	518,631	539,337	566,228
Production ('000 MT)			
('000' MT) ...	6,850,055	8,182,788	7,785,707
Value (Million KSHS)...	143,794	186,331	205,139
Export			
Volume ('000' MT)...	349,736	403,026	216,247
Value (Million KSHS)...	71,012	77,710	88,622
Estimated Consumption			
('000' MT) ...	6,500,319	7,779,762	7,569,460

Source: Directorate of Crops & HCDA for Fresh Exports

Table 5.31: Horticulture Performance by Categories, 2009-2011

Category	Indicators	2009			2010			2011		
		Area (Ha)	Volume ('000 MT)	Value (Million Kshs)	Area (Ha)	Volume ('000 MT)	Value (Million Kshs)	Area (Ha)	Volume ('000 MT)	Value (Million Kshs)
Vegetable	Production	239,350	3,986,159	65,008.90	258,548	5,006,055	82,513.70	258,348	4,471,801	91,442.20
Fruits	Production	160,669	2,525,481	43,253.80	158,291	2,768,435	50,578.40	177,715	2,848,028	60,644.60
Flowers	Production	1,947	49,656	28,611.40	3,419	133,736	44,964.40	3,213	123,270	41,608.30
Nuts	Production	91,341	119,306	2,953.90	94,838	123,221	3,796.00	99,576	147,583	5,875.90
African leafy Vegetables	Production	17,149	115,746	2,241.80	17,200	120,878	2,714.60	17,390	149,944	3,500.00
Herbs and Spices	Production	1,193	7,955	725.7	1,333	10,337	1,212.10	1,142	9,239	1,017.70
Asian Vegetables	Production	1,230	13,712	369.8	1,536	17,451	507.9	1,840	20,807	621.3
Maps	Production	5,753	32,040	629.1	4,173	2,673	44.3	7,004	15,034	429.3
Total	**Production**	**518,631**	**6,850,055**	**143,794.50**	**539,337**	**8,182,788**	**186,331.30**	**566,228**	**7,785,707**	**205,139.40**

Source: Directorate of Crops

Table 5.32: Horticultural Production by Counties, 2009-2011

No.	County	2009			2010			2011		
		Area_Ha	Qty (MT)	Value (Kshs.Million)	Area_Ha	Qty (MT)	Value (Kshs.Million)	Area_Ha	Qty (MT)	Value (Kshs.Million)
1	Meru	54,008	844,307	30,054	43,452	657,699	29,124	47,468	631,474	30,327
2	Nakuru	24,556	193,397	18,974	25,257	300,519	30,481	24,569	395,653	30,105
3	Kiambu	23,844	561,130	15,485	28,480	566,947	18,129	27,802	551,230	18,906
4	Nyandarua	37,000	1,204,268	8,850	54,306	1,382,208	18,962	54,110	1,352,866	18,796
5	Kisii	14,021	261,223	4,593	14,429	272,751	5,289	15,454	299,228	7,202
6	Elgeyo Marakwet	10,961	252,971	3,329	11,507	279,382	3,812	18,720	416,017	6,427
7	Murang'a	13,566	172,022	4,459	13,990	209,826	7,019	16,421	184,588	6,365
8	Kwale	53,259	296,139	4,448	49,954	334,543	5,091	52,727	368,380	6,182
9	Embu	9,071	298,117	2,410	11,851	308,585	3,080	12,205	251,386	5,556
10	Tharaka Nithi	50,480	209,194	2,611	32,496	258,438	3,151	36,821	285,461	5,523
11	Kilifi	52,726	248,615	3,580	54,567	303,006	4,536	56,035	324,779	5,201
12	Bomet	6,853	126,702	2,615	6,797	100,230	1,671	8,570	214,842	4,858
13	Migori	8,542	118,519	2,048	10,187	148,791	2,953	11,504	168,682	4,658
14	Kirinyaga	9,466	234,522	4,154	10,137	252,395	4,212	10,621	299,970	4,512
15	Taita Taveta	7,101	168,770	3,483	7,444	180,774	3,680	5,789	127,166	4,043
16	Nyamira	10,833	165,027	3,726	11,128	166,478	4,979	10,488	168,726	3,986
17	Machakos	5,024	38,366	949	6,328	51,931	3,501	7,441	71,600	3,783
18	Bungoma	13,083	183,896	3,042	15,102	226,920	4,301	18,786	191,174	3,528
19	Kajiado	1,953	44,999	3,326	1,901	41,822	2,824	1,953	58,243	3,332
20	Nyeri	10,735	191,635	2,332	12,779	258,870	3,659	10,262	179,911	3,153
21	Makueni	4,666	66,886	1,332	12,603	115,957	2,871	10,043	92,266	3,046
22	Kericho	4,680	99,838	1,218	5,315	114,104	2,516	5,756	118,662	2,986
23	Laikipia	6,387	54,763	1,948	8,536	67,239	2,426	7,636	58,504	2,676
24	Homa bay	11,119	67,287	1,475	13,696	97,697	1,587	17,223	114,247	2,598
25	Narok	10,014	126,052	2,306	9,704	800,835	2,177	10,795	135,184	2,470
26	Uasin-Gishu	2,693	45,438	1,108	2,917	70,019	2,539	2,652	61,522	2,384
27	Transnzoia	3,337	42,314	1,082	3,457	37,967	1,318	3,450	83,412	1,821
28	Lamu	13,256	98,490	1,568	15,247	90,181	1,484	15,589	88,872	1,555
29	Busia	6,576	66,398	748	6,890	65,653	934	7,622	91,009	1,103
30	Baringo	3,686	34,338	578	4,334	47,643	992	4,537	66,653	1,062
31	Siaya	9,699	58,767	893	10,964	101,106	1,309	9,907	71,941	951
32	Kisumu	5,114	46,633	1,032	4,708	58,234	1,192	4,051	38,690	949
33	Kitui	1,711	18,703	365	2,248	26,597	625	2,659	32,673	809
34	Nandi	2,254	32,982	570	2,432	35,770	760	2,186	41,600	793
35	West Pokot	1,355	10,144	264	1,874	14,908	404	2,002	20,713	604
36	Kakamega	2,751	23,158	475	2,914	30,579	525	3,360	26,849	503

Table 5.32: Horticultural Production by Counties, 2009-2011 (cont.)

No.	County	2009			2010			2011		
		Area_Ha	Qty (MT)	Value (Kshs.Million)	Area_Ha	Qty (MT)	Value (Kshs.Million)	Area_Ha	Qty (MT)	Value (Kshs.Million)
36	Kakamega	2,751	23,158	475	2,914	30,579	525	3,360	26,849	503
37	Vihiga	1,698	22,874	431	1,878	24,012	456	1,891	18,725	491
38	Garissa	1,190	14,162	264	1,376	15,004	279	1,623	18,448	480
39	Tana River	4,832	81,662	1,107	2,448	32,234	523	1,769	24,665	451
40	Nairobi	240	2,890	84	305	11,752	359	288	10,708	317
41	Mombasa	1,617	12,815	199	1,816	11,179	273	1,757	15,163	263
42	Mandera	675	6,422	181	835	7,274	194	878	8,348	213
43	Isiolo	150	1,630	42	236	2,519	63	198	2,782	77
44	Marsabit	95	496	25	118	595	30	158	826	42
45	Wajir	53	464	17	99	661	21	127	874	32
46	Samburu	157	420	10	161	756	16	182	780	18
47	Turkana	84	211	4	135	197	4	143	217	5
	All Counties Total	517,169	6,850,055	143,794	539,337	8,182,788	186,331	566,228	7,785,707	205,139

Source: Directorate of Crops

5.33 Production of Selected Horticultural Produce by County

5.34 Production of Irish Potatoes by County

Table 5.33: Production of Irish Potatoes by County

County	2009			2010			2011		
	Ha	Metric Tons	Value (KES)	Ha	Metric Tons	Value (KES)	Ha	Metric Tons	Value (KES)
Baringo	1,700	23,238	304,150,000	1,878	30,264	392,120,000	2,279	51,863	441,452,000
Bomet	2,763	59,622	1,408,600,000	2,900	37,350	697,600,000	3,680	109,840	2,862,600,000
Bungoma	2,494	81,188	1,080,590,000	5,113	86,988	1,197,975,000	6,051	33,805	370,500,000
Busia	—	—	—	—	—	—	—	—	—
Elgeyo Marakwet	7,599	144,315	1,507,393,935	8,311	165,347	1,639,691,596	15,097	290,151	3,297,508,935
Embu	360	5,175	51,750,000	349	3,500	40,950,000	412	6,936	103,500,600
Garissa	—	—	—	—	—	—	—	—	—
Homabay	—	—	—	—	—	—	—	—	—
Isiolo	—	—	—	—	—	—	—	—	—
Kajiado	4	5	112,500	—	—	—	—	—	—
Kakamega	5	41	506,000	7	54	1,480,000	9	55	606,000
Kericho	198	1,811	54,330,000	467	4,667	125,212,500	489	4,887	113,225,000
Kiambu	9,111	198,248	3,009,000,000	11,271	91,097	1,943,000,000	10,092	92,710	3,339,380,000
Kilifi	—	—	—	—	—	—	—	—	—
Kirinyaga	441	9,990	146,740,000	418	9,336	137,270,000	400	8,500	125,100,000
Kisii	101	2,210	50,200,000	96	2,060	45,700,000	97	2,062	38,970,000
Kisumu	—	—	—	—	—	—	—	—	—
Kitui	—	—	—	—	—	—	—	—	—
Kwale	—	—	—	—	—	—	—	—	—
Laikipia	3,202	30,340	892,200,000	3,362	25,620	805,880,000	3,223	27,830	960,250,000
Lamu	—	—	—	—	—	—	—	—	—
Machakos	—	—	—	—	—	—	—	—	—
Makueni	65	278	13,620,000	75	328	19,120,000	139	576	28,040,000

Table 5.33: Production of Irish Potatoes by County (cont.)

County	2009			2010			2011		
	Ha	Metric Tons	Value (KES)	Ha	Metric Tons	Value (KES)	Ha	Metric Tons	Value (KES)
Mandera	—	—	—	—	—	—	—	—	—
Marsabit	—	—	—	—	—	—	—	—	—
Meru	28,697	412,203	8,892,804,500	17,463	245,849	5,962,841,500	12,500	186,538	4,465,289,940
Migori	1	14	900,000	2	30	1,780,000	4	60	2,550,000
Mombasa	—	—	—	—	—	—	—	—	—
Muranga	4,341	22,178	562,964,000	3,929	45,027	1,329,065,182	3,511	20,917	643,677,758
Nairobi	—	—	—	—	—	—	—	—	—
Nakuru	17,741	121,028	3,748,847,000	16,053	162,503	4,627,270,000	16,804	270,986	7,738,220,000
Nandi	438	8,674	153,472,000	512	8,238	165,380,000	411	8,154	184,620,000
Narok	7,642	103,088	1,870,851,200	6,836	771,959	1,666,303,554	7,808	106,000	1,942,347,468
Nyamira	355	1,095	19,540,000	63	1,041	23,100,000	66	1,066	21,355,000
Nyandarua	20,841	946,154	6,157,150,000	28,688	869,283	11,482,800,000	30,577	983,050	12,205,930,000
Nyeri	6,833	109,229	1,235,785,000	8,067	133,446	1,462,471,250	6,404	94,721	1,490,494,700
Samburu	5	2	60,000	9	10	200,000	7	6	140,000
Siaya	—	—	—	—	—	—	—	—	—
Taita Taveta	32	285	7,813,800	31	373	11,190,000	36	432	12,969,000
Tana River	—	—	—	—	—	—	—	—	—
Tharaka Nithi	2,845	274	50,240,000	2,847	10,115	97,449,000	173	220	5,112,000
Transnzoia	787	4,490	16,300,000	892	4,574	92,692,000	1,272	46,704	145,710,000
Turkana	—	—	—	—	—	—	—	—	—
Uasin Gishu	946	10,374	156,008,000	968	10,636	152,489,000	911	10,922	175,740,000
Vihiga	—	—	—	—	—	—	—	—	—
Wajir	—	—	—	—	—	—	—	—	—
West Pokot	702	4,257	93,654,000	937	6,241	152,450,000	940	6,274	187,604,000
Total	**120,246**	**2,299,806**	**31,485,581,935**	**121,542**	**2,725,936**	**34,273,480,582**	**123,390**	**2,365,263**	**40,902,892,401**

Source: Directorate of Crops

5.34 Production of Cabbages by County

Table 5.34: Production of Cabbages by County

County	2009			2010			2011		
	Ha	Metric Tonnes	Value (KES)	Ha	Metric Tonnes	Value (KES)	Ha	Metric Tonnes	Value (KES)
Baringo	81	1,215	23,768,000	90	1,340	34,558,400	85	604	35,724,000
Bomet	813	35,680	363,400,000	821	33,780	344,600,000	870	34,000	349,000,000
Bungoma	405	18,400	145,770,000	509	23,514	784,615,000	404	17,752	281,300,000
Busia	42	981	10,214,000	43	1,322	11,906,000	52	1,717	17,830,000
Elgeyo Marakwet	1,169	26,288	205,970,000	1,174	29,312	250,639,500	1,333	38,835	962,222,000
Embu	60	1,285	12,850,000	59	1,270	12,700,000	85	1,382	23,800,000
Garissa	–	–	–	–	–	–	–	–	–
Homabay	23	138	1,925,000	38	519	8,760,000	42	687	26,110,000
Isiolo	–	–	–	–	–	–	–	–	–
Kajiado	98	1,285	11,590,000	30	1,560	14,340,000	52	442	4,620,000
Kakamega	40	452	14,785,500	42	7,106	87,268,000	52	318	5,716,000
Kericho	578	11,795	147,425,000	671	17,554	252,835,000	704	17,850	221,230,000
Kiambu	1,413	38,697	754,745,000	1,658	53,191	901,187,000	1,512	44,284	805,223,000
Kilifi	–	–	–	–	–	–	–	–	–
Kirinyaga	89	3,130	84,900,000	111	5,227	100,100,000	122	5,316	95,800,000
Kisii	430	8,923	132,880,000	459	9,268	138,060,000	481	8,690	129,960,000
Kisumu	3	91	2,895,000	4	76	6,020,000	4	63	520,000
Kitui	5	100	1,044,000	5	78	880,000	6	120	2,000,000
Kwale	0	2	72,000	–	–	–	0	0	2,400
Laikipia	533	6,497	102,920,000	814	5,655	130,120,000	664	4,951	110,231,000
Lamu	–	–	–	–	–	–	–	–	–
Machakos	–	–	–	13	132	2,420,000	20	211	8,040,000
Makueni	140	2,710	79,994,000	141	3,211	53,686,400	66	2,168	58,580,000
Mandera	–	–	–	–	–	–	–	–	–
Marsabit	–	–	–	–	–	–	–	–	–
Meru	2,000	73,861	748,227,000	3,653	80,081	3,664,705,000	3,875	75,859	3,741,296,190
Migori	37	440	17,500,000	66	830	32,000,000	57	730	34,000,000
Mombasa	–	–	–	–	–	–	–	–	–
Muranga	322	1,894	84,750,000	294	5,376	230,825,000	243	3,835	106,810,350
Nairobi	–	–	–	–	–	–	–	–	–
Nakuru	923	22,402	361,124,000	1,447	25,598	445,386,000	846	21,107	691,810,000
Nandi	282	4,201	58,735,000	283	4,389	69,270,000	230	3,637	55,105,000
Narok	244	3,876	33,680,000	333	5,722	52,520,000	428	5,444	50,651,250
Nyamira	746	14,968	229,360,000	829	16,128	257,440,000	903	17,318	287,480,000
Nyandarua	4,517	179,634	1,230,431,000	5,807	366,170	3,712,090,000	6,449	233,550	2,981,150,000
Nyeri	820	34,280	306,150,000	1,205	56,458	544,634,000	899	33,671	303,680,000
Samburu	2	12	360,000	3	25	500,000	5	36	1,080,000
Siaya	23	225	3,800,000	37	455	6,300,000	37	400	7,300,000
Taita Taveta	68	1,060	29,583,900	124	2,041	61,230,000	141	2,340	70,188,000
Tana River	–	–	–	–	–	–	–	–	–
Tharaka Nithi	383	155	2,178,000	418	308	4,086,000	40	379	8,440,000
Transnzoia	331	7,085	50,820,000	270	5,400	70,000,000	366	5,721	69,000,000
Turkana	–	–	–	–	–	–	–	–	–
Uasin Gishu	306	9,317	134,091,000	405	21,103	308,130,000	289	15,575	228,675,000
Vihiga	3	14	1,030,000	5	25	1,548,660	5	30	784,000
Wajir	–	–	–	–	–	–	–	–	–
West Pokot	54	600	4,560,000	62	654	5,598,000	52	604	7,298,000
Total	**16,980**	**511,693**	**5,393,527,400**	**21,923**	**784,876**	**12,600,957,960**	**21,415**	**599,625**	**11,782,656,190**

Source: Directorate of Crops

5.35 Production of Kales by County

Table 5.35: Production of Kales by County

County	2009			2010			2011		
	Ha	Metric Tons	Value (KES)	Ha	Metric Tons	Value (KES)	Ha	Metric Tons	Value (KES)
Baringo	207	2,473	9,430,000	184	2,098	8,530,000	85	550	5,945,000
Bomet	940	7,660	158,000,000	770	8,324	74,100,000	1,240	14,838	115,304,000
Bungoma	692	10,308	63,090,000	767	23,253	280,323,000	738	17,284	221,390,000
Busia	422	2,744	53,780,000	514	3,338	70,000,000	528	4,405	91,570,000
Elgeyo Marakwet	399	12,966	208,530,000	340	12,264	215,100,000	390	13,418	263,320,000
Embu	163	992	10,960,000	185	1,756	20,278,000	185	2,223	139,970,000
Garissa	12	54	2,420,000	20	77	4,560,000	42	167	8,350,000
Homabay	1,034	14,484	162,408,000	1,057	15,102	167,225,000	1,115	17,790	257,050,000
Isiolo	8	24	235,000	48	70	552,000	18	39	358,700
Kajiado	115	508	9,856,000	132	783	12,764,000	200	978	20,010,450
Kakamega	284	1,751	28,185,000	326	1,702	28,880,000	382	1,486	25,300,000
Kericho	697	11,986	128,632,000	701	11,045	138,450,000	730	11,485	136,815,000
Kiambu	2,640	47,905	350,210,000	3,179	75,853	491,700,000	2,932	62,426	347,230,000
Kilifi	165	2,321	23,210,000	291	4,945	49,450,000	252	4,484	67,260,000
Kirinyaga	170	1,542	16,060,000	184	1,633	16,020,000	191	1,694	17,532,000
Kisii	1,668	31,038	404,558,000	1,777	35,566	506,724,000	2,261	48,339	740,376,000
Kisumu	773	2,782	44,804,000	792	9,599	131,345,000	517	7,653	114,734,000
Kitui	208	4,149	20,815,636	238	4,741	64,132,040	255	5,065	66,289,648
Kwale	75	1,206	12,060,000	106	2,042	20,420,000	88	1,716	25,740,000
Laikipia	257	2,217	29,470,000	1,143	3,026	56,540,000	223	1,193	24,174,000
Lamu	56	840	8,400,000	53	1,050	10,503,000	31	381	5,715,000
Machakos	210	1,880	24,580,000	40	440	4,840,000	35	325	5,195,000
Makueni	70	3,016	26,460,000	169	5,658	52,238,000	95	1,867	26,315,000
Mandera	22	135	5,300,000	27	84	3,955,000	33	137	6,550,000
Marsabit	10	68	2,800,800	12	92	3,724,000	17	140	5,496,400
Meru	1,007	2,831	55,820,000	484	4,562	125,636,000	1,241	13,676	221,443,333

Table 5.35: Production of Kales by County (cont.)

County	2009			2010			2011		
	Ha	Metric Tons	Value (KES)	Ha	Metric Tons	Value (KES)	Ha	Metric Tons	Value (KES)
Migori	793	7,890	78,900,000	935	7,010	70,100,000	1,255	12,550	125,500,000
Mombasa	12	182	1,820,000	12	177	1,770,000	12	173	2,589,000
Muranga	369	1,452	17,590,000	355	4,565	47,838,000	355	1,716	28,211,150
Nairobi	115	1,301	22,875,000	150	1,424	28,470,000	164	1,663	25,260,000
Nakuru	1,016	10,190	329,640,000	1,205	16,333	324,496,667	782	14,545	349,290,000
Nandi	572	5,937	63,307,000	550	5,505	60,688,000	434	4,128	49,819,000
Narok	286	2,876	36,858,000	319	3,627	39,656,650	329	3,810	41,864,020
Nyamira	727	15,470	199,800,000	712	14,170	205,600,000	732	14,591	235,500,000
Nyandarua	290	3,180	31,030,000	1,082	22,519	147,840,000	1,130	21,203	91,985,000
Nyeri	173	4,317	36,700,000	210	6,819	67,414,250	130	1,896	18,626,000
Samburu	64	145	1,305,000	56	180	2,190,000	65	210	3,450,000
Siaya	676	4,125	49,260,000	827	5,471	46,610,000	748	2,806	24,680,000
Taita Taveta	221	3,999	40,795,560	323	6,211	62,110,000	510	9,588	194,472,000
Tana River	54	855	8,553,600	106	1,632	16,320,000	71	1,020	12,300,000
Tharaka Nithi	76	736	12,815,000	689	1,208	26,940,000	984	4,614	112,575,000
Transnzoia	455	6,175	81,500,000	526	7,028	89,360,000	266	3,900	40,200,000
Turkana	46	55	1,110,000	41	48	1,412,000	41	49	1,421,000
Uasin Gishu	417	10,553	179,260,000	456	18,851	202,710,800	387	17,522	234,590,000
Vihiga	287	2,049	60,000,000	280	2,073	62,610,000	218	1,739	65,998,000
Wajir	6	48	1,920,000	11	46	2,600,000	19	79	6,080,000
West Pokot	76	732	28,200,000	109	1,280	36,280,000	95	931	27,460,000
Total	**19,035**	**250,145**	**3,143,313,596**	**22,494**	**355,280**	**4,101,005,407**	**22,548**	**352,491**	**4,651,303,701**

Source: Directorate of Crops

5.36 Production of Tomatoes by County

Table 5.36: Production of Tomatoes by County

County	2009			2010			2011		
	Ha	Metric Tons	Value (KES)	Ha	Metric Tons	Value (KES)	Ha	Metric Tons	Value (KES)
Kirinyaga	1,824	41,060	933,600,000	1,890	43,612	927,200,000	1,979	44,555	944,700,000
Taita Taveta	1,485	61,481	1,342,662,098	1,690	70,328	1,507,932,500	1,702	70,743	1,768,575,000
Kisumu	1,371	10,700	490,620,000	600	6,328	181,545,000	695	8,270	265,160,000
Bungoma	1,201	11,178	299,940,000	837	11,793	340,340,000	885	15,802	451,900,000
Muranga	921	7,561	239,744,000	904	15,743	748,820,000	1,073	7,308	333,328,000
Kajiado	740	26,630	629,358,130	1,024	25,706	573,622,500	947	43,085	1,041,367,780
Kisii	647	15,552	465,800,000	542	12,571	437,360,000	521	11,473	455,516,000
Homabay	617	7,368	207,150,000	618	7,681	247,260,000	731	13,806	743,100,000
Migori	592	6,000	144,000,000	628	12,300	538,000,000	897	17,210	1,154,200,000
Narok	564	6,784	154,595,313	654	7,552	158,230,405	627	7,259	175,781,799
Siaya	552	6,411	156,000,000	434	5,782	176,690,000	337	2,353	81,755,000
Meru	548	22,668	290,800,000	761	19,304	578,786,000	1,169	18,982	693,630,000
Embu	531	12,737	177,550,000	632	16,470	340,720,000	165	9,520	281,100,000
Kericho	436	6,036	142,500,000	490	8,031	196,525,000	512	7,962	196,230,000
Nyamira	423	9,460	238,440,000	355	7,625	203,725,000	344	7,650	211,300,000
Busia	407	5,423	139,303,000	329	5,291	201,011,000	379	7,468	214,969,900
Bomet	386	7,140	82,806,200	218	1,410	55,007,000	312	22,000	438,412,000
Baringo	380	1,000	31,830,000	766	2,054	72,060,000	724	2,325	88,265,250
Transnzoia	376	8,640	87,200,000	289	8,624	110,080,000	470	10,620	367,400,000
Laikipia	345	4,777	112,470,000	563	8,740	198,340,000	420	7,654	174,967,500
Garissa	240	3,122	85,050,000	242	3,408	102,500,000	263	3,458	101,140,000
Machakos	222	5,497	112,900,000	262	6,284	125,630,000	201	6,030	180,900,000
Tana River	214	8,424	210,595,000	139	5,442	136,050,000	102	4,125	103,125,000
Kilifi	212	8,028	200,450,000	167	5,980	149,500,000	240	8,525	213,125,000

Table 5.36: Production of Tomatoes by County (cont.)

County	2009			2010			2011		
	Ha	Metric Tons	Value (KES)	Ha	Metric Tons	Value (KES)	Ha	Metric Tons	Value (KES)
Uasin Gishu	205	8,655	325,325,000	178	7,865	371,350,000	129	5,891	259,640,000
Nakuru	202	2,722	86,641,250	491	7,986	368,802,500	439	6,651	303,748,000
Elgeyo Marakwet	196	8,906	333,489,168	134	5,218	256,944,451	134	5,416	184,457,310
Makueni	184	4,460	110,200,000	172	3,795	121,150,000	82	1,515	45,350,000
Tharaka Nithi	182	213	6,265,000	228	480	14,400,000	357	484	17,407,500
Kiambu	128	900	33,300,000	142	1,155	30,900,000	167	1,719	43,500,000
Kwale	124	4,960	124,000,000	94	3,565	89,125,000	59	1,770	44,250,000
Kitui	122	3,098	91,443,826	127	3,211	100,917,004	194	4,869	144,064,018
Nandi	111	1,859	47,346,000	129	2,110	65,088,000	76	1,242	41,535,000
Kakamega	109	1,722	61,100,000	109	1,191	46,070,000	153	1,340	50,013,000
Nyeri	102	5,996	140,427,500	201	12,899	342,855,000	179	7,916	229,960,000
Lamu	77	2,926	73,150,000	110	4,196	104,900,000	96	3,840	96,000,000
Nairobi	74	1,157	34,695,000	85	2,070	82,800,000	69	903	45,125,000
Mandera	43	629	22,480,000	70	1,007	17,700,000	75	1,288	17,040,000
Isiolo	28	684	13,680,000	53	874	18,474,000	54	1,338	37,790,000
Mombasa	27	1,123	28,063,000	31	1,261	31,525,000	27	729	21,870,000
Vihiga	27	193	25,660,000	28	561	25,570,644	62	250	15,875,000
West Pokot	15	156	3,375,000	37	451	18,450,000	45	636	27,130,000
Turkana	12	12	300,000	11	11	285,000	13	17	560,000
Nyandarua	11	56	1,614,000	39	412	12,860,000	31	794	23,720,000
Marsabit	10	88	5,560,000	12	108	6,960,000	18	184	11,720,000
Wajir	7	140	4,200,000	10	180	3,300,000	21	335	9,700,000
Samburu	3	24	1,500,000	6	90	4,200,000	5	65	3,250,000
Total	**17,230**	**354,356**	**8,549,178,484**	**17,529**	**378,756**	**10,441,561,004**	**18,178**	**407,374**	**12,353,653,058**

Source: Directorate of Crops

5.38 Production of Carrots by County

Table 5.37: Production of Carrots by County

County	2009			2010			2011		
	Ha	Metric Tons	Value (KES)	Ha	M Metric Tons	Value (KES)	Ha	Metric Tons	Value (KES)
Baringo	15	263	11,600,000	39	432	17,280,000	41	164	21,400,000
Bomet	29	1,852	28,040,000	36	2,191	39,620,000	39	2,243	364,090,000
Bungoma	76	349	10,540,000	58	291	9,260,000	76	402	10,590,000
Busia	2	8	285,000	1	7	310,000	1	6	240,000
Elgeyo Marakwet	30	619	9,342,000	38	798	11,810,000	45	954	12,136,000
Embu	117	2,340	46,800,000	172	2,480	49,400,000	200	1,402	16,060,000
Garissa	–	–	–	–	–	–	–	–	–
Homabay	–	–	–	–	–	–	–	–	–
Isiolo	–	–	–	–	–	–	–	–	–
Kajiado	2	6	86,400	2	6	86,400	3	9	1,296,000
Kakamega	5	18	634,000	8	21	840,000	11	38	1,208,400
Kericho	16	125	3,015,000	31	245	4,212,500	255	266	14,606,000
Kiambu	340	4,515	76,280,000	354	9,910	145,690,000	295	4,962	82,790,000
Kilifi	–	–	–	–	–	–	–	–	–
Kirinyaga	12	322	5,900,000	7	233	5,250,000	11	359	8,050,000
Kisii	65	875	23,514,000	70	1,147	32,674,000	80	1,455	49,610,000
Kisumu	–	–	–	–	–	–	–	–	–
Kitui	1	8	90,000	1	10	150,000	1	12	360,000
Kwale	–	–	–	–	–	–	–	–	–
Laikipia	29	259	4,350,000	43	463	8,020,000	33	507	8,970,000
Lamu	–	–	–	–	–	–	–	–	–
Machakos	–	–	–	–	–	–	–	–	–
Makueni	–	–	–	–	–	–	–	–	–
Mandera	–	–	–	–	–	–	–	–	–
Marsabit	–	–	–	–	–	–	–	–	–

5.38 Production of Carrots by County

Table 5.37: Production of Carrots by County (cont.)

County	2009			2010			2011		
	Ha	Metric Tons	Value (KES)	Ha	M Metric Tons	Value (KES)	Ha	Metric Tons	Value (KES)
Meru	1,067	21,529	218,708,000	1,051	21,316	191,515,000	1,089	21,545	248,145,000
Migori	6	43	1,720,000	11	100	4,000,000	13	121	4,880,000
Mombasa	—	—	—	—	—	—	—	—	—
Muranga	42	159	4,320,000	20	59	26,957,500	24	62	1,843,550
Nairobi	—	—	—	—	—	—	—	—	—
Nakuru	117	943	20,220,000	638	3,141	58,969,300	226	1,796	34,110,000
Nandi	12	79	1,770,400	15	119	2,615,800	16	115	2,792,800
Narok	39	242	7,758,261	88	541	14,416,695	67	336	12,487,930
Nyamira	18	165	2,940,000	21	203	3,676,000	22	271	4,632,000
Nyandarua	918	12,312	130,495,000	1,506	23,437	326,240,000	1,086	19,726	357,220,461
Nyeri	172	5,048	65,548,006	240	8,158	97,991,000	145	3,265	26,927,900
Samburu	0	1	30,000	0	3	140,000	0	1	72,000
Siaya	—	—	—	1	10	200,000	1	5	100,000
Taita Taveta	15	156	2,689,200	16	302	4,530,000	18	346	5,193,000
Tana River	—	—	—	—	—	—	—	—	—
Tharaka Nithi	245	78	2,150,000	126	29	720,000	276	44	920,000
Transnzoia	35	504	1,531,200	42	653	9,290,000	35	280	7,360,000
Turkana	—	—	—	—	—	—	—	—	—
Uasin Gishu	48	435	6,673,750	54	535	7,014,450	57	567	9,019,200
Vihiga	1	84	1,146,200	3	95	1,383,000	4	54	930,800
Wajir	—	—	—	—	—	—	—	—	—
West Pokot	1	4	80,000	1	6	112,000	1	8	160,000
Total	**3,475**	**53,338**	**688,256,417**	**4,693**	**76,940**	**1,074,373,645**	**4,171**	**61,319**	**1,308,201,041**

Source: *Directorate of Crops*

5.40 Industrial Crops

5.41 Coffee

Coffee production declined by 13.7% from 42,000tons in 2010 to 36,260 tons in 2011 which is attributed to erratic weather, high pest and disease incidence. The price of processed coffee increased by 38.5% from 237.50 US$ per 50kg to 329 US$ per 50kg this can be attributed to the volatile exchange rate.

Table 5.38: Coffee Production

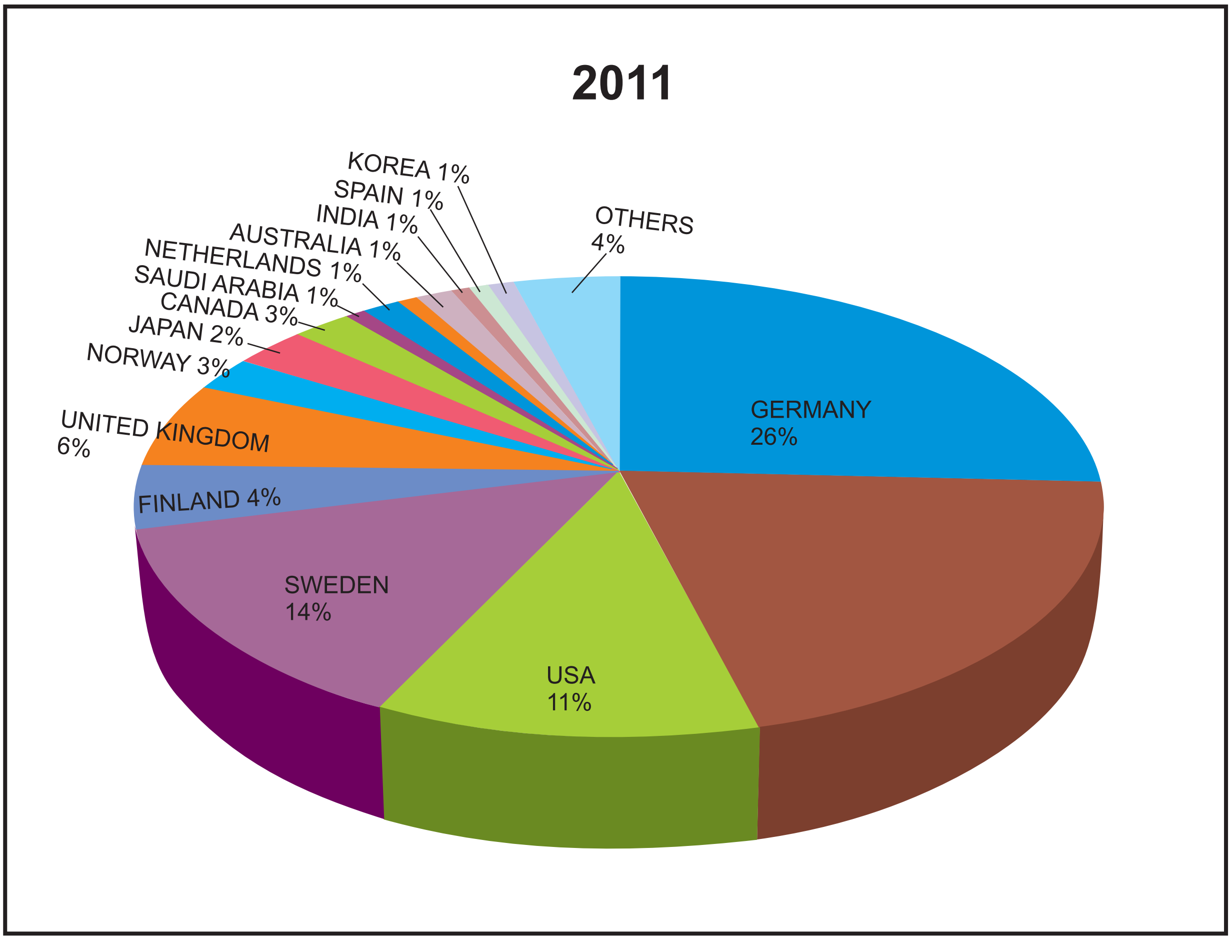
YEAR		2007	2008	2009	2010	2011
Production -Estates	Area (Ha)	42,000	40,680	53,344	40,000	40,000
	Tons	21,257	19,740	24,650	19,720	16,660
Production -Small Holders	Area (Ha)	128,000	122,040	106,656	120,000	120,000
	Tons	27,046	22,260	29,370	22,280	19,600
Yield (tons/ha) Total crop area (Ha)	Estate	0.5	0.5	0.5	0.5	0.5
	Small Scale	0.2	0.2	0.3	0.2	0.2
Total Crop area (Ha)		170,000	162,720	160,000	160,000	160,000
Total Production (Tons)		53,368	42,000	54,020	42,000	36,260
Price of Processed Coffee(US$/ 50kg)		133.98	177.23	154.64	237.50	329
Local Consumption (tons)		1,932	1,680	1,341		
Exports (MT)		44,901	30,296	47,985	35,108	35,000
Total Value (Billion Kshs.)		**8.7**	**9.0**	**10.7**	**16.1**	**22**

Source: *Coffee Board of Kenya*

5.42 Coffee Export Destination

Germany was the leading market destination for Kenyan coffee, absorbing 10.2 thousand tons. It was followed by Belgium, which imported 8.0 thousand tons, Sweden (5.4 thousand tons), USA (4.3 thousand tons) and United Kingdom (2.4 thousand tons). These five export destinations are key markets for Kenyan coffee which accounted for 77 percent of the total export volume.

Figure 5 3: Coffee Exports



Source: *Coffee Board of Kenya*

Table 5.39: Coffee Exports, 2011- 2010

	2011		2010	
DESTINATION	WEIGHT (TONS)	NO. OF BAGS (60KGS)	WEIGHT (TONS)	NO. OF BAGS (60KGS)
GERMANY	10,171	169,522	10,562	176,040
BELGIUM	7,930	132,160	7,044	117,404
USA	4,317	71,954	5,449	90,814
SWEDEN	5,434	90,558	5,360	89,333
FINLAND	1,762	29,360	4,277	71,283
UNITED KINGDOM	2,374	39,572	2,296	38,263
NORWAY	988	16,474	1,396	23,263
CANADA	1,077	17,955	1,257	20,955
JAPAN	915	15,246	1,258	20,970
NETHERLANDS	282	4,695	581	9,680
SAUDI ARABIA	586	9,764	554	9,233
AUSTRALIA	294	4,903	321	5,354
INDIA	587	9,783	-	-
SPAIN	261	4,356	-	-
FRANCE	253	4,210	-	-
KOREA	452	7,538	-	-
OTHERS	1,609	26,823	4,579	67,640
TOTAL	***39,292***	***654,873***	***44,934***	***740,232***

Source: *Coffee Board of Kenya*

5.43 Tea

Tea confirmed to be the leading foreign exchange earner in Kenya. Area under the crop increased from 171,916 ha in 2010 to 187,855 ha in 2011. Tea production for the year 2011 stood at 377 million kgs, 5% lower compared to 399 million kgs recorded in 2010.

The Low production was largely attributed to adverse weather conditions experienced during the last half of the year.

Table 5 40: Tea Production, 2007- 2011

Year		2007	2008	2009	2010	2011
Production Estates	Area (ha)	51,011	50,605	51,126	56,893	64,470
	Production Tons	139,992	134,963	141,593	174,025	159,358
	Yield (tons/ha)	3.1	2.8	2.9	3.4	3.1
Production-Small Holders	Area (ha)	98,185	107,115	107,268	115,023	123,385
	Production Tons	229,614	210,854	172,605	224,981	218,553
	Yield (tons/ha)	2.6	2.4	1.9	2.2	2.0
Total Area (ha)		149,196	157,720	158,394	171,916	187,855
Total Production (tons)		369,606	345,817	314,198	399,006	377,912
Price of Black Tea (USD per 100 kg)		176	233	272	275	299
Consumption (tons)		17,643	17,387	18,102	18,704	20,017
Exports (tons)		345,877	383,444	342,482	441,024	421,272
Exports (million Kshs.)		43,146	62,199	69,603	97,740	109,408

Source: Tea Board of Kenya

The average Auction price for Kenya Tea increased by 22USD per 100kgs from 277 USD per 100kg recorded in 2010 to 299 USD this was largely attributed to increased demand, particularly in emerging economies as well as less supply occasioned by unfavorable weather conditions.

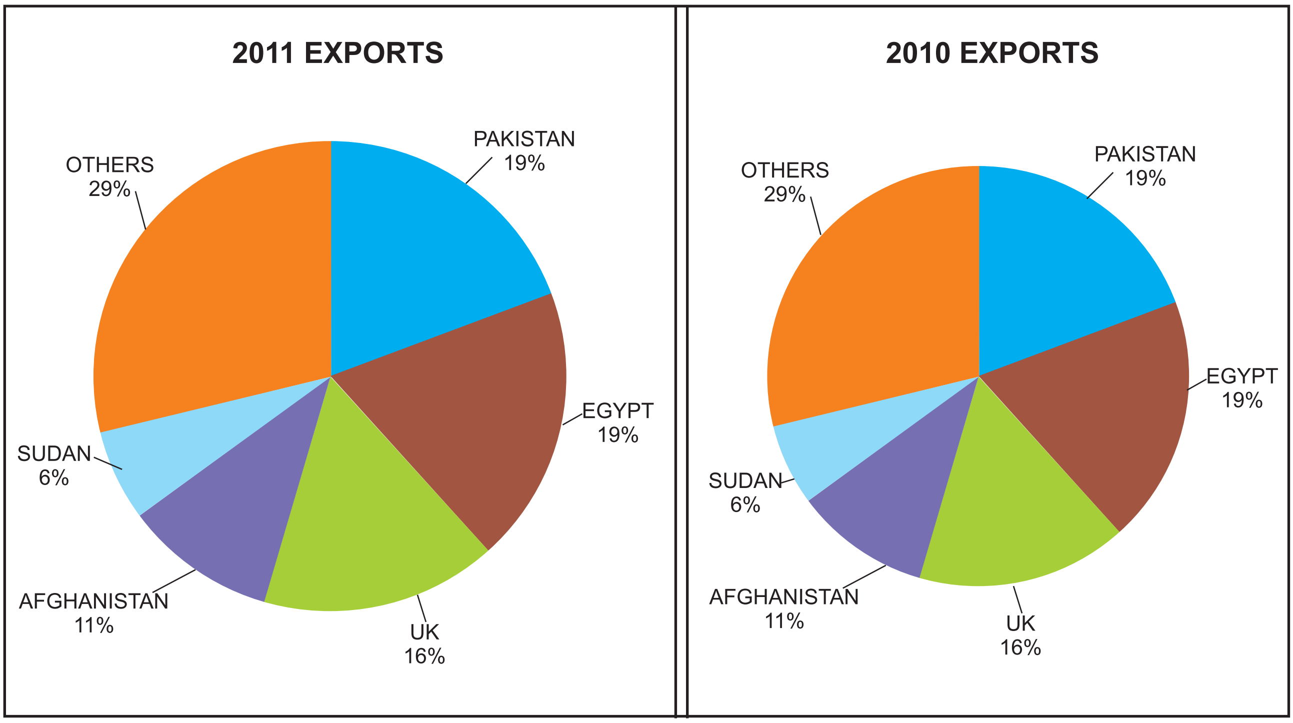
The cumulative local tea consumption for the year 2011 stood at 20 Million Kgs which was 7% higher compared to 18.7 Million Kgs recorded in 2010. This higher local consumption is a consequence of sustained promotion campaign by the Tea Board of Kenya, intensive brand promotion by the tea packers as well as intense sales by factories through factory door sales. Over the last five years local tea consumption has been growing at an average rate of 3% per annum.

Tea exports volume decreased by 19.8 thousand tons from 441.0 thousand tons recorded in 2010 to 421.2 thousand tons in 2011. Owing to improved prices and depreciation of the Kenya Shilling to the dollar, the total tea earnings rose by 12% from Kshs. 97.7 Billion recorded in 2010 to Kshs. 109.4 Billion in 2011.

5.44 Tea Export Destination

Pakistan was the leading market destination for Kenya tea, absorbing 80.8 thousand tons. It was followed by Egypt, which imported 79.9 thousand tons, UK (68.3 thousand tons), Afghanistan (44.4 thousand tons) and Sudan (26.1 thousand tons). The five export destinations, which are key markets for Kenyan tea accounted for 71% of the total export volume. During the year most market destinations recorded improvement in tea imports.

Figure 5.4: Kenya's Tea Export Destinations



Source: *Tea Board of Kenya*

5.41: Tea Exports, 2011- 2010

	2011		2010		
DESTINATION	QUANTITY TONS	VALUE MILLION KSHS	QUANTITY TONS	VALUE MILLION KSHS	VARIANCE QUANTITY TONS
PAKISTAN	80,810	21,813	76,210	17,135	4,600
EGYPT	79,955	20,657	93,218	20,197	- 13,263
UK	68,316	16,641	73,035	15,071	- 4,719
AFGHANISTAN	44,446	13,163	49,335	12,031	- 4,889
SUDAN	26,119	4,914	31,238	5,752	- 5,119
U.A.E	22,604	5,850	22,157	4,811	447
RUSSIA	17,458	4,719	15,694	3,540	1,764
YEMEN	14,803	4,247	16,345	4,013	- 1,542
KAZAKHSTAN	11,932	3,606	10,082	2,824	1,850
POLAND	5,729	1,550	5,552	1,245	177
IRAN	5,432	1,605	3,195	785	2,237
INDIA	4,510	1,048	5,392	1,084	- 882
NIGERIA	4,486	1,211	3,360	747	1,126
IRELAND	3,781	1,014	4,298	1,213	- 517
SOMALIA	3,735	313	2,943	271	792
SRI LANKA	3,364	871	3,475	730	- 111
SAUDI ARABIA	2,338	643	1,999	490	339
JAPAN	2,134	845	2,538	948	- 404
CHINA	2,112	612	1,510	421	602
U.S.A.	2,095	706	3,618	1,202	- 1,523
DJIBOUTI	1,922	197	3,059	314	- 1,137

5.42: Tea Exports, 2011- 2010 (cont.)

DESTINATION	2011 QUANTITY TONS	2011 VALUE MILLION KSHS	2010 QUANTITY TONS	2010 VALUE MILLION KSHS	VARIANCE QUANTITY TONS
INDONESIA	1,801	492	2,328	477	- 527
CANADA	1,604	361	1,562	318	42
GERMANY	1,184		817		367
NETHERLANDS	1,171	322	817	177	354
BANGLADESH	1,149	155	99	13	1,050
UKRAINE	973	265	899	205	74
TURKEY	897	245	1,753	458	- 856
OMAN	869	98	811	89	58
MALAYSIA	733	206	836	242	- 103
SOUTH AFRICA	660	187	706	158	- 46
ERITREA	420	102	384	73	36
CHILE	362	96	623	149	- 261
BELGIUM	361	60	177	26	184
SWITZERLAND	293	58	-	-	293
SINGAPORE	132	56	190	89	- 58
TAIWAN	81	22	13	2	68
ITALY	78	39	219	90	- 141
KYRGYZSTAN	76	22	35	8	41
FINLAND	57	15	-	-	57
NEW ZEALAND	43	11	23	5	20
GREECE	35	6	34	5	1
TANZANIA	26	13	-	-	26
CHAD	24	2	-		24
GEORGIA	23	6	13	3	10
ISRAEL	22	3	-	-	22
MAURITIUS	21	4	22	4	- 1
PUERTO RICO	16	4	266	62	- 250
EPZ (MOMBASA)	14	4	15	3	- 1
UGANDA	12		-	-	12
JORDAN	11	2	27	4	- 16
BRAZIL	*8*	*7*	-	-	*8*
SEYCHELLES	*7*	*1*	*6*	*1*	*1*
AUSTRALIA	*4*	*2*	-	-	*4*
SYRIA	-	-	*65*	*15*	- *65*
SWAZILAND	-	-	*4*	*1*	- *4*
GTOTAL	***421,248***	***109,392***	***440,997***	***97,720***	***- 19,749***

Source: Tea Board of Kenya

Table 5.42: Tea Production by District (in Tons) 2011 and 2010

DISTRICT	*2011*	*2010*	*VARIANCE (+/-)*
Kericho	*82,165*	*90,331*	*-8,166*
Bomet	*9,674*	*10,646*	*-972*
Bureti	*24,334*	*20,374*	*3,960*
Nandi	*52,176*	*57,917*	*-5,741*
Nakuru	*5,248*	*5,023*	*225*
Total Rift Valley	***173,597***	***184,291***	***-10,694***
Nyamira	*16,176*	*17,956*	*-1,780*
Kisii	*16,081*	*16,764*	*-683*
Sotik	*22,676*	*22,738*	*-62*
Total Nyanza	***54,933***	***57,458***	***-2,525***
Kakamega	*2,797*	*2,954*	*-157*
Trans-nzoia	*1,269*	*1,466*	*-197*
Total Western	***4,066***	***4,420***	***-354***
EAST OF RIFT			
Kiambu	*24,267*	*27,184*	*-2,917*
Thika	*20,151*	*20,485*	*-334*
Maragwa	*11,625*	*11,424*	*201*
Muranga	*18,106*	*19,227*	*-1,121*
Nyeri	*17,944*	*20,094*	*-2,150*
Total Central	***92,093***	***98,414***	***-6,321***
Kirinyaga	*15,448*	*17,988*	*-2,540*
Embu	*9,882*	*11,095*	*-1,213*
Meru Central	*16,339*	*14,657*	*1,682*
Meru South	*3,555*	*3,352*	*203*
Meru North	*7,999*	*7,331*	*668*
Total Eastern	***53,223***	***54,423***	***-1,200***
TOTAL	***377,912***	***399,006***	***-21,094***

Source: *Tea Board of Kenya*

5.46 Sugar

Total sugar production in 2011 was 487,022 tons compared to 523,652 tons in the preceding year, registering a decrease of 7%. In the two year comparisons (2010 and 2011), all the sugar factories registered decreased sugar production from the previous year except for South Nyanza. Sugar production levels in the year would have been much lower were it not for the commissioning of Butali Sugar Company in late January 2011 which contributed 6.7% of the total production hence the increase on the total are under cane.

Table 5 44: Sugar Production, 2007- 2011

YEAR		2007	2008	2009	2010	2011*
Area(Ha)	Under cane	158,568	169,421	154,298	157,583	179,269
	Harvested	59,201	54,465	65,774	68,738	64,091
Crop Production (tons)		5,204,214	5,176,670	5,610,702	5,475,180	5,338,562
Average Yield(Ton/Ha)		87.9	95	85.3	79.7	83.3
Price of Cane (Kshs/ton)		2,249	2,400	2,761	3,094	3,487
Sugar production (tons)		520,404	517,667	548,208	523,652	487,022
National Consumption (tons)		741,190	751,523	605,358	772,731	783,700
Domestic Price of Sugar (Kshs/ tons)		57,063	52,240	78,320	79,580	104,060
Exports (tons)		20,842	27,900	1,952	47	16,716
Imports (tons)		230,011	218,607	184,530	258,578	139,076
Value of Imports (million Kshs)		7,299	6,885	7,238	13,345	9,986

Source: Kenya Sugar Board

The country is able to supplement local production with sugar imports when there is shortage of sugar production. A total of 139,076 tons of sugar was imported in 2011 compared to 258,578 tons in 2010, giving a decrease of 46 percent. The shortage of sugar for export from the regional and international markets is attributed to.

- Adverse weather conditions in some of the major world sugar producing countries, drought in the Centre South of Brazil and frost in China.
- Following the reforms in the EU sugar regime, the region is now a net sugar importer. In order to satisfy the EU market, attractive offers have been made especially to ACP net exporters. Countries such as Swaziland which previously formed the bulk of sugar imports into Kenya have now focused their export to the EU and the SACU market, where long term supply contracts have been executed.

Table 5.45: Sugar production by Company

	MUMIAS	SOUTH NYANZA	NZOIA	WEST KENYA	BUTALI*	KIBOS	MUHORONI	CHEMELIL	SOIN	TOTALS
2010	**225,698**	**55,004**	**71,945**	**72,165**	**N/A**	**33,067**	**35,832**	**37,254**	**1,627**	**523,652**
2011	**188,405**	**71,945**	**60,778**	**59,234**	**32,680**	**26,461**	**24,932**	**21,369**	**1,218**	**487,022**

Source: *Kenya Sugar Board*

Mumias Sugar Company maintained its lead position accounting for 39 percent of the total production followed by South Nyanza (15 percent), Nzoia (13 percent) and West Kenya (12 percent). Butali Sugar Company contributed 7 percent of total sugar production while Muhoroni and Chemelil gave 5 percent and 4 percent respectively. Soin Sugar Company production was minimal, contributing only 0.3 percent.

*Butali Sugar Company started operation in late January 2011

5.47 Cotton

Cotton production increased by 87 percent in 2011 from 11,822 metric tons realized in 2010 to 22,104Metric tons. The area under production increased by 7,647 from 24,553 ha in 2010 to 32,200 ha in 2011.

Productivity rose by 20kg/ha up from 580kg/ha in 2010 to 600kg/ha in 2011this high productivity was associated to improved agronomic practices by farmers and the improved seed cotton prices in the current season.

Meanwhile price of seed cotton per kilogram has increased steadily by 35.4 percent from Ksh 48 in 2010 to Ksh 65 in 2011. With improved producer prices, the area under production is targeted to gradually increase in all the cotton producing areas in the year 2012.

Table 5.46: Cotton Production, 2007 - 2011

Year	**2007**	**2008**	**2009**	**2010**	**2011**
Area (Ha)	35,929	43,035	39,963	24,553	32,200
Production of seed cotton (tons)	24,993	15,093	14,886	11,822	22,104
Price of seed Cotton (Kshs/kg)	20	22	26	48	65
Yield (tons/ha)	0.69	0.35	0.37	0.58	0.60
Total value of seed cotton (Million Ksh)	**1,250**	**332**	**387**	**567**	**1,400**

Source: Cotton Development Authority

5.48 Pyrethrum

Kenya once accounted for over 70 percent of world pyrethrum market. The country has the potential to produce and process over 20,000 metric tonnes (MT) of pyrethrum flowers per year.

Acreage recorded 34 percent increase from 6,100 hectares in 2010 to 8,168 hectares in 2011. Deliveries to PBK factory realised a 12 percent increase from 462 MT (2009/10) to 518 MT (2010/11) all this can be attributed to over 30 million clonal seedlings and 6 million varietal seedlings distributed by PBK during the revival period. More than four times this amount has been realised on inter-farm transfers as planting material.

A drastic decline in flower deliveries to Pyrethrum Board of Kenya (PBK) in the last decade called for revival efforts, leading to preparation of a strategic plan to reverse the decline. In its revival road map, the Board has identified first wins as:

- raising producer prices
- advance payment for flower deliveries
- prompt payment after processing
- provision of planting material
- resumption of bonus payment,
- Improvement of operational efficiencies.

Table 5.47: Pyrethrum Production

Year	2007	2008	2009	2010	2011
Area (Ha)	5,120	3,916	4,084	6,100	8,168
Production of dry flowers (tons)	846	776	754	462	518
Price of dry flowers (Kshs/kg)	108.8	73.7	101.2	95	200
Yield (tons/ha)	0.3	0.2	0.2	0.1	0.06
Exports(Tons of pyrethrum extract)	142	5.8	8.5	7	10
Total value of seed cotton (Million Ksh)	**230**	**69.2**	**102**	**130**	**160**

Source : Pyrethrum Board of Kenya

Prices of dry flowers Producer prices increased from the range of Ksh. 58-219 per kg to Ksh. 100-375 per kg of dry flowers based on pyrethrins content. The national average pyrethrins content has increased from 1.3 percent (June 2009) to 1.6 percent (June 2011), which has raised farmers' average income from Ksh. 95 per kg (June 2009) to Ksh. 200.00 per kg (June 2011) of dry flowers.

Advance payment of Ksh. 100 per kg on delivery was introduced and was fairly responsible for attracting farmers back to the crop. The balance is paid after processing and analysis of the flowers for pyrethrins content.

Table 5.48: Sales performance of refined Pyrethrum extract,2011

Market segment	Refined Extract (kg)	Value (Ksh)'000'	% market share
Americas	2,000	36,829	20.3
Europe	4,100	60,675	41.6
Australia/New Zealand	2,075	47,917	21.0
Kenya	1,025	20,806	10.4
Rest of Africa	663	13,356	6.7
Totals	**9,863**	**179,583**	**100**

The Board made sales of about 10 metric tonnes of the refined extract against customer demand of 112 metric tonnes for the year. About 90 percent of the product was exported, earning about Ksh. 160 million in foreign exchange against a possible Ksh. 13 billion from the refined extract alone. The refined extract was inadequate to spare some for the formulation of the Board's end use products.

5.49 SISAL

Total sisal fibre production increased by 15 percent to 27,559.36 MT in 2011 compared to 23,924.05 MT in the previous year 2010 which was from both the Estate and smallholder farms.

The total value of sisal fibre exported in 2011 was Ksh. 2,272,898,178.50 compared to ksh. 1,522,934,420.62 in 2010. The big increase of 49 percent is largely due to the weakness of the shilling as experienced during the 2011 period and also partly due to the increase in fibre production during the period as mentioned earlier.

Table 5.48: Sisal Production

YEAR		2007	2008	2009	2010	2011*
Area (Ha)	**TOTAL**	**32,126**	**44,462**	**29,353**	**29,353**	**29,255**
	Estate	32,126	40,176	25,068	25,068	24,970
	Small Holder	-	4,286	4,285	4,285	4285
Production (tons)	**TOTAL**	**24,602**	**24,494**	**19,048**	**23,924**	**27,560**
	Estate	24,602	22,064	18,646	23,492	**26,326**
	Small Holder	-	2,430	402	432	**1,234**
Average Yield (tons/ha)		0.8	1	0.6	0.8	0.9
Local Consumption(tons)		2,793	4,336	2,790	2,840	3,530
Exports		21,809	20,157	18,706	19,986	23,908
Value of Exports (Million Kshs)		1,335	1,370	1,118	1,379	2,273

Source: Kenya Sisal Board
2011 are provisional figures*

The Board has stepped up efforts to revitalize this sector through sisal extension specifically by carrying out the following among other activities:-

- Training staff of the Ministry of Agriculture on sisal production, processing and marketing in West Pokot.
- Establishing sisal demonstrations and bulking sites in Eastern, Coast, and Nyanza and Rift Valley provinces.
- Training of farmers on sisal production, processing and marketing.
- Establishing stakeholders' forums in Nyanza province.
- Promotion of a fabricated motorized sisal decorticator appropriate for use by smallholder farmers.

6.0 Farm Inputs

6. 1 Seed Production

Table 6.1: Seed Production, Imports and Exports, 2011

Common name	Quantity imported in Kgs	Quantity locally produced in Kgs	Quantity of seed exported in Kgs
Maize	4,294,805	21,322,856	923,164
Wheat		4,035,700	709,701
Sorghum	97,000	3,641,064	30,000
Barley		2,110,550	31,155
Beans		823,357	44,126
Green grams		218,651	1,590
Sunflower	100	215,226	54,163
Cowpeas		189,625	460
Oats		93,533	
Rhodes grass		84,736	4,140
Sugar peas	485,447	61,156	5,231
Brassicas	103,824	50,069	13,991
Rice		43,133	
Finger Millet		23,894	
French Beans	378,597	15,660	8,215
Crotalaria		10,003	
Okra	18,955	8,085	1,189
Amaranth		5,840	323
Eggplant	9,192	5,538	972
Dolichos		4,190	
Sudan grass	7,568	3,775	2,225
Spider plant		3,717	
Pigeon peas		3,587	
Cotton		3,250	
Columbus grass		2,957	
Black night shade		2,655	
Pearl Millet		1,890	
Pepper	15,030	1,871	
Chick peas		1,170	
Spinach		400	
Runner bean	51,175	250	
Coloured Guinea Grass		204	
Pumpkin/squash	19,640	167	844
Green leaf	3,651	120	
Tomato	31,391	106	3,799
Jews mallow		50	
Lettuce	988	45	56
setaria		27	
Coriander	33,825	2	
Bentgrass	5		
Onion	158,656		20,141
Welsh onion	704		
Leek	7,515		1,145
Chives	100		
Dill	355		55
Chervil	50		

Table 6.1: Seed Production, Imports and Exports, 2011 (cont.)

Common name	Quantity imported in Kgs	Quantity locally produced in Kgs	Quantity of seed exported in Kgs
Celery	639		
Garden orach	2		
Chard,beet	39,915		481
Signalgrass	30		
Chinese cabbage	2,116		
Brown mustard	1,000		
turnip	5,443		
Pepper	4,235		3,006
Watermelon	27,023		1,969
Cosmos	2		
Billy button / Drumstick	0		
Sun Hemp	750		
Cantaloupe/Melon	650		
Cucumber	5,467		30,628
Bermuda grass	8,486		1,113
Carrot	52,911		17,113
Delphinium	30		
Wild Rocket	30		
Purple coneflower	0		
Roquette	100		
Fescue	120		
Fennel	40		
Bottle gourd	10		
Italian ryegrass	50		
Perenial ryegrass	1,138		
Gourd	19		
Lucerne	11,249		
Balm	5		
Moluccella	275		
Bitter gourd	45		
Tobacco	50		
Devil in the bush	30		
Basil	68		1
Oreganum	10		
Kikuyu grass	1,404		170
Parsley	1,322		127
Radish	3,481		54
Spinach	1,601		
Fenugreek	1,792		
Broad beans	100		

Source: KEPHIS

6.3 Fertilizer Off-Take

Table 6.2: Fertilizer off-takes, 1989 - 2011

Year	Imports (metric tonnes)	Consumption (metric tonnes)
1988/89	270,531	271,531
1989/90	237,362	233,022
1990/91	228,215	227,715
1991/92	254,087	253,087
1992/93	232,895	232,895
1993/94	286,519	286,620
1994/95	281,211	281,771
1995/96	299,934	295,625
1996/97	262,701	254,022
1997/98	255,044	255,032
1998/99	210,869	264,251
1999/00	345,903	335,644
2000/01	350,989	317,409
2001/02	325,812	329,449
2002/03	312,281	380,236
2003/04	333,866	323,112
2004/05	473,810	351,776
2005/06	470,081	383,284
2006/07	481,784	410,217
2007/08	381,439	390,740
2008/09	440,689	470,508
2009/10	465,674	503,784
2010/11	493,567	505,489

** Imports from July 2009 to may 2010*

***Source:** Directorate of Agri-business*

6.4 Fertilizer Prices

Table 6.3: Fertilizer Prices

FERTLIZER							2007						
TYPE	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**Average**
DAP	1,700	1,900	2,000	2,000	2,000	2,000	2,200	2,300	2,300	2,800	2,800	2,800	2,233
MAP	1,800	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,300	2,800	2,800	2,800	2,208
SSP	1,100	1,200	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,200	1,200	1,200	1,133
20:20:00	1,700	1,800	1,800	1,800	1,800	1,900	1,900	1,900	1,900	1,900	2,000	2,000	1,867
23:23:00	1,700	1,800	1,800	1,800	1,800	1,800	1,900	1,900	1,900	1,900	2,000	2,000	1,858
17:17:17	1,700	1,800	1,800	1,800	1,800	1,800	1,800	1,900	1,900	2,000	2,100	2,000	1,867
CAN	800	900	2,000	1,500	1,500	1,500	1,500	1,500	1,500	1,600	1,600	1,500	1,450
UREA	900	1,000	1,800	1,700	1,700	1,700	1,800	1,800	1,800	2,000	2,000	2,000	1,683
							2008						
TYPE	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**Average**
DAP	2,500	3,600	4,000	4,000	4,250	4,250	4,500	4,700	5,200	6,500	6,000	4,500	4,500
MAP	2,500	3,600	3,800	4,000	4,250	4,250	4,500	4,700	5,200	6,500	6,000	4,500	4,483
SSP	1,200	1,500	1,650	2,000	2,500	2,500	2,500	2,500	2,650	2,650	2,650	2,650	2,246
20:20:00	2,200	2,500	3,400	3,600	3,800	3,800	3,800	4,000	4,200	4,500	4,500	3,800	3,675
23:23:00	2,200	2,500	3,400	3,600	3,800	3,800	3,800	4,000	4,200	4,500	4,500	3,800	3,675
17:17:17	2,000	2,500	3,000	3,400	3,400	3,400	3,400	3,800	4,000	4,300	4,300	3,600	3,425
CAN	1,400	1,500	2,000	2,500	2,500	2,500	2,500	2,500	2,500	2,800	3,000	2,500	2,350
UREA	1,800	2,000	3,100	2,500	2,500	2,500	2,500	2,500	2,600	3,000	3,000	2,600	2,550

Table 6.3: Fertilizer Prices (cont.)

	2009												
TYPE	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**Average**
DAP	3,500	3,500	3,500	3,100	3,100	3,000	3,000	3,000	3,000	2,900	2,800	2,700	3,092
MAP	3,500	3,500	3,500	3,100	3,100	3,000	3,000	3,000	3,000	2,900	2,800	2,700	3,092
SSP	2,600	2,600	2,600	2,100	2,000	1,900	1,900	1,900	1,900	1,800	1,800	1,800	2,075
20:20:00	3,200	3,200	3,200	2,800	2,800	2,800	2,800	2,800	2,800	2,700	2,600	2,400	2,842
23:23:00	3,200	3,200	3,200	2,800	2,800	2,800	2,800	2,800	2,800	2,700	2,600	2,400	2,842
17:17:17	3,000	3,000	3,000	2,600	2,600	2,600	2,800	2,800	2,800	2,600	2,600	2,400	2,733
CAN	2,000	2,000	2,000	2,000	2,100	2,200	2,200	2,200	2,100	2,000	2,000	2,000	2,067
UREA	2,100	2,100	2,100	2,100	2,200	2,300	2,300	2,300	2,200	2,100	2,100	2,100	2,167

	2009												
TYPE	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**Average**
DAP	3,500	3,500	3,500	3,100	3,100	3,000	3,000	3,000	3,000	2,900	2,800	2,700	3,092
MAP	3,500	3,500	3,500	3,100	3,100	3,000	3,000	3,000	3,000	2,900	2,800	2,700	3,092
SSP	2,600	2,600	2,600	2,100	2,000	1,900	1,900	1,900	1,900	1,800	1,800	1,800	2,075
20:20:00	3,200	3,200	3,200	2,800	2,800	2,800	2,800	2,800	2,800	2,700	2,600	2,400	2,842
23:23:00	3,200	3,200	3,200	2,800	2,800	2,800	2,800	2,800	2,800	2,700	2,600	2,400	2,842
17:17:17	3,000	3,000	3,000	2,600	2,600	2,600	2,800	2,800	2,800	2,600	2,600	2,400	2,733
CAN	2,000	2,000	2,000	2,000	2,100	2,200	2,200	2,200	2,100	2,000	2,000	2,000	2,067
UREA	2,100	2,100	2,100	2,100	2,200	2,300	2,300	2,300	2,200	2,100	2,100	2,100	2,167

Source: *Directorate of Agri-business*

Table 6.3: Fertilizer Prices (cont.)

2010													
TYPE	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**Average**
DAP	2,800	2,800	2,800	2,600	2,700	2,650	2,900	2,900	2,900	3,000	3,200	3,300	2,879
MAP	2,800	2,800	2,800	2,600	2,700	2,700	3,000	3,000	3,000	3,000	3,200	3,300	2,908
SSP	1,800	1,800	1,900	1,900	1,800	1,800	1,900	1,900	1,900	2,000	2,200	2,200	1,925
20:20:00	2,600	2,500	2,400	2,500	2,100	2,100	2,200	2,500	2,500	2,500	2,800	2,900	2,467
23:23:00	2,600	2,500	2,400	2,500	2,100	2,200	2,500	2,500	2,500	2,500	2,800	2,900	2,500
17:17:17	2,600	2,500	2,400	2,600	2,450	2,500	2,650	2,500	2,500	2,500	2,800	3,100	2 592
CAN	1,900	1,900	1,900	1,850	1,850	1,950	2,000	1,900	1,900	1,900	2,200	2,200	1,954
UREA	2,000	2,000	2,000	2,100	2,400	2,100	2,200	2,000	2,000	2,000	2,200	2,200	2,100
2011													
TYPE	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**Averages**
DAP	3,400	3,500	3,500	3,550	3,550	3,660	3,700	3,800	4,000	4,350	4,500	4,500	3,834
MAP	3,400	3,500	3,500	3,550	3,550	3,660	3,700	3,800	4,000	4,350	4,500	4,500	3,834
SSP	2,300	2,300	2,300	2,300	2,400	2,400	2,400	2,400	2,450	2,600	2,600	2,600	2,421
20:20:00	3,000	3,050	3,050	3,100	3,150	3,350	3,400	3,450	3,500	3,650	3,700	3,700	3,342
23:23:00	3,000	3,050	3,050	3,100	3,200	3,450	3,450	3,450	3,500	3,650	3,700	3,700	3,358
17:17:17	3,100	3,150	3,150	3,200	3,300	3,500	3,500	3,550	3,600	3,650	3,800	3,800	3,442
CAN	2,300	2,400	2,400	2,450	2,450	2,550	2,600	2,750	2,850	2,900	3,000	3,000	2,638
UREA	2,300	2,475	2,475	2,500	2,550	2,650	2,750	2,800	2,850	2,900	3,050	3,100	2,700

Source: *Directorate of Agri-business*

6.4 Wholesale and Retail Prices

Table 6.4: Annual Wholesale Prices for Agricultural Commodities

		Annual Whole Prices for Selected Commodities, 2006 - 2011					
Commodity	**Unit (kg)**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Avocado	90	992	679	1,044	1,555	1,405	1,524
Banana Cooking	22	304	958	365	395	386	473
Banana Ripe	14	314	328	391	562	482	557
Beans Canadian	90	3,700	3,045	4,911	5,077	4,781	5,716
Beans Dolichos	90	4,472	3,131	5,251	6,857	8,358	6,561
Beans Mwezi moja	90	...	2,573	4,691	5,382	4,465	5,010
Beans Mwitemania	90	3,194	2,716	5,088	5,347	4,351	5,425
Beans Rose coco	90	3,357	3,109	5,052	5,217	4,629	5,661
Brinjals	44	1,138	1,017	1,220	1,347	1,454	1,305
Cabbages	99	1,347	1,178	1,269	1,971	1,528	1,618
Capsicumus	50	1,214	1,478	1,606	2,120	2,169	2,391
Carrots	138	1,916	1,529	2,464	3,522	2,583	3,067
Cassava Fresh	99	1,176	2,859	1,145	1,716	1,471	1,609
Cauliflower	39	1,265	1,370	1,930	2,028	1,887	1,779
Challies	38	987	1,301	1,257	2,010	1,505	1,952
Cowpeas	90	4,228	3,351	4,523	6,231	5,263	5,662
Cucumber	50	943	692	1,418	1,568	1,672	1,733
Eggs	Tray	161	279	223	232	323	400
Finger Millet	90	2,870	2,107	3,890	4,693	4,462	4,927
Fresh Peas	51	1,803	1,333	2,259	2,970	2,457	2,755
Green Grams	90	5,560	3,433	5,093	6,976	7,050	8,619
Groundnut_shell	110	5,461	4,979	7,190	7,921	8,674	9,928
Irish Potatoes	110	1,801	1,747	2,308	2,874	2,503	3,279
Kales	50	978	598	676	1,116	799	773
Lemons	95	760	829	1,009	967	1,110	1,953
Lettuces	51	980	1,500	1,611	2,240	1,613	1,994
Limes	13	619	1,228	1,094	869	891	581
Maize Dry	90	1,368	1,118	2,016	2,667	1,652	2,907
Maize Green	115	2,018	1,514	2,110	2,644	2,237	2,466
Mangoes_local	126	1,036	901	1,013	1,141	1,183	1,424
Mangoes_Ngowe	126	766	1,538	710	899	848	807
Onion_dry	13	409	780	583	738	736	621
Onion_spring	142	1,097	1,669	1,770	1,931	1,773	2,131
Oranges	93	1,560	1,493	1,726	2,070	2,168	2,631
Passion fruits	57	1,680	1,414	1,825	2,313	2,962	3,140
Paw paw	54	718	1,017	923	1,031	983	1,201
Pinneapples	13	453	925	587	667	738	769
Sorghum	90	1,899	1,544	2,257	3,275	2,590	3,064
Sweet potatoes	98	1,522	1,371	1,909	2,428	1,904	2,668
Tomatoes	64	1,453	1,797	1,796	2,133	2,486	2,752
Wheat	90	...	1,009	4,113	3,656	3,477	4,055

Source: *Directorate of Agri-business*

Table 6.5: Maize Retail Prices, 2005-2010

Maize	KES/KG	MONTH												
Province	Year	JAN	FEB	MAR	APR	June	June	JULY	AUG	SEPT	OCT	NOV	DEC	Annual
Central	2005	...	22.5	21.9	21.3	20.9	20.3	19.9	18.1	17.5	16.2	16.0	14.8	19.0
	2006	18.0	19.1	19.3	19.4	20.3	20.8	19.6	18.9	18.3	18.1	18.6	17.5	19.0
	2007	16.9	16.5	16.3	15.3	15.7	16.3	14.2	15.2	14.8	14.7	14.6	14.7	15.4
	2008	18.3	18.9	18.5	20.2	25.2	27.1	27.4	29.2	32.3	31.3	42.7	43.4	27.9
	2009	33.3	35.1	31.1	31.9	37.0	37.0	42.0	. . .	. . .	33.8	31.7	31.0	34.4
	2010	25.9	24.6	25.0	26.3	20.6	19.8	17.6	16.9	16.4	19.7	19.5	19.1	20.9
Rift Valley	2005	20.0	19.0	18.6	18.2	19.5	20.4	19.5	18.6	18.9	14.4	16.3	16.4	18.3
	2006	14.8	16.5	16.6	17.6	18.5	20.5	19.0	17.6	16.0	15.4	17.0	16.0	17.1
	2007	15.7	16.2	15.8	16.2	15.6	19.6	17.0	17.9	18.4	14.7	16.6	15.7	16.6
	2008	19.6	18.1	18.8	19.2	23.3	23.6	25.8	28.1	27.4	33.0	34.0	31.8	25.2
	2009	26.1	29.3	35.0	35.7	36.3	40.7	39.4	39.2	35.0	28.8	31.4	29.3	33.8
	2010	30.5	30.4	28.5	25.4	23.6	23.4	22.0	20.0	18.2	18.0	17.9	17.0	22.9
Coast	2005	...	20.4	20.9	24.2	23.2	22.7	24.5	21.5	20.4	20.6	20.9	20.2	21.8
	2006	20.9	21.4	22.1	23.7	23.9	24.8	22.1	22.2	21.5	18.5	21.0	22.0	22.0
	2007	21.1	20.3	21.6	23.4	22.0	19.2	17.8	19.9	19.2	19.3	21.2	21.0	20.5
	2008	22.4	21.6	22.4	25.3	26.9	26.4	25.5	27.0	38.0	30.0	30.0	25.0	26.7
	2009	30.4	34.3	33.0	33.0	34.0	35.0	35.0	35.0	. . .	30.0	35.0	35.0	33.6
	2010	35.0	30.0	30.0	30.0	26.0	25.0	26.8	25.0	25.0	20.0	20.0	18.8	26.0
Eastern	2005	...	...	10.0	17.2	17.7	18.8	18.5	17.0	16.5	16.2	16.1	16.3	16.4
	2006	17.8	18.7	18.2	19.5	20.2	19.4	19.3	17.6	16.5	18.7	18.8	16.9	18.5
	2007	16.8	16.4	12.5	11.2	11.8	11.3	10.7	12.4	12.0	13.0	14.4	13.5	13.0
	2008	16.0	16.8	16.8	18.5	19.3	18.2	18.2	31.4	30.0	30.5	28.8	29.0	22.8
	2009	32.2	33.7	33.5	42.9	40.2	34.9	33.9	35.0	30.0	32.2	33.3	30.2	34.3
	2010	31.5	24.5	19.7	16.8	15.4	15.8	14.8	15.5	15.0	21.1	16.8	17.9	18.7
Nyanza	2005	...	...	16.5	17.0	17.9	18.2	16.4	13.8	13.2	13.7	13.3	14.7	15.5
	2006	14.6	16.8	17.4	19.7	21.4	21.5	14.9	14.1	15.2	14.9	15.8	16.2	16.9
	2007	14.4	12.9	13.0	14.4	15.2	12.4	13.8	12.6	13.2	14.2	13.9	15.8	13.8
	2008	18.9	18.1	18.8	22.3	24.7	28.1	25.1	25.4	26.1	27.8	28.9	32.5	24.7
	2009	29.3	33.4	31.8	38.6	33.3	31.8	. . .	. . .	. . .	31.8	29.5	29.5	32.1
	2010	26.3	25.8	25.1	23.4	20.4	18.1	17.4	15.6	16.0	17.4	18.4	20.0	20.3
Western	2005	15.0	17.0	16.0	17.0	17.6	18.8	17.1	16.5	14.7	10.3	11.5	11.9	15.3
	2006	12.9	16.1	16.9	18.2	20.0	23.6	18.1	16.7	12.5	13.0	13.0	13.7	16.2
	2007	13.5	13.8	14.3	14.7	15.9	16.4	16.2	15.3	14.7	13.3	13.8	13.9	14.6
	2008	20.0	19.8	19.3	18.9	22.6	26.1	26.6	23.2	24.6	28.2	28.0	27.4	23.7
	2009	28.2	33.8	32.4	36.7	39.0	39.2	38.8	37.5	30.0	26.3	27.5	29.2	33.2
	2010	27.6	24.7	24.5	21.9	20.4	18.8	18.7	18.7	16.4	16.7	15.3	16.9	20.1
Nairobi	2005	...	...	...	22.1	22.5	22.6	22.0	20.9	19.8	20.9	19.4	19.5	21.1
	2006	21.1	21.5	21.9	21.4	23.7	23.9	26.7	22.9	21.2	18.6	21.1	22.8	22.2
	2007	19.9	19.9	19.8	19.4	19.7	19.4	18.7	19.1	17.6	18.2	19.2	20.7	19.3
	2008	21.8	22.2	23.4	25.1	32.0	29.4	34.2	31.1	33.0	33.4	34.5	36.2	29.7
	2009	36.0	44.8	47.1	40.2	39.7	38.7	38.3	37.4	38.2	37.0	37.4	37.1	39.3
	2010	33.7	31.9	31.2	30.1	23.2	22.2	22.1	22.3	20.8	19.7	19.7	19.7	24.7

Source: KNBS

Table 6.6: Beans Retail Prices, 2005 - 2010

Beans KES/KG Province	Year	JAN	FEB	MAR	APR	June	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	Annual
Central	2005	…	42.7	38.2	36.7	39.5	38.4	37.3	33.0	32.2	33.5	33.0	34.8	36.3
	2006	41.0	44.9	45.6	46.1	45.2	42.6	39.3	36.8	34.0	41.0	40.4	43.3	41.7
	2007	39.6	40.5	38.5	40.8	40.7	40.8	38.1	38.2	42.5	40.0	41.6	40.6	40.2
	2008	50.5	46.2	53.5	57.2	64.3	63.2	62.6	71.7	73.6	79.8	70.3	67.6	63.4
	2009	73.6	76.2	63.1	65.6	68.5	66.6	60.0	…	…	67.2	67.9	60.9	67.0
	2010	60.8	65.2	66.2	65.4	62.2	59.2	63.8	59.5	61.9	68.6	63.2	61.6	63.1
Rift Valley	2005	45.0	…	39.5	35.9	40.3	38.3	35.4	36.5	39.6	27.2	34.8	37.0	37.2
	2006	42.7	41.6	39.8	40.4	39.9	40.2	28.3	33.5	36.0	36.4	37.5	38.1	37.9
	2007	38.4	37.8	37.1	40.4	39.6	38.2	38.5	39.1	34.3	37.6	41.4	38.9	38.4
	2008	51.0	51.1	53.3	65.6	68.7	61.6	51.9	57.2	58.7	57.9	69.8	68.9	59.6
	2009	70.2	67.9	70.8	74.9	70.6	71.6	61.6	62.4	…	68.9	74.2	71.5	69.5
	2010	63.9	67.8	63.8	65.4	66.7	58.5	54.7	58.0	55.3	58.3	56.5	62.7	61.0
Coast	2005	…	39.3	43.2	38.5	42.5	41.8	42.3	40.9	39.3	39.5	40.9	39.8	40.7
	2006	43.3	46.0	46.5	49.2	54.2	46.5	43.8	42.0	40.4	40.3	40.5	40.8	44.4
	2007	41.8	42.0	43.7	41.9	43.3	42.9	41.3	41.5	41.0	40.8	40.7	45.4	42.2
	2008	57.3	58.5	61.0	59.8	67.7	71.1	68.0	73.3	75.0	80.0	80.0	73.3	68.7
	2009	77.1	80.0	78.0	80.0	76.0	80.0	80.0	83.3	…	70.0	70.0	…	77.4
	2010	70.0	65.0	65.0	65.0	65.0	63.3	63.8	56.7	56.7	54.5	53.5	61.4	61.7
Eastern	2005	…	…	23.8	34.4	36.9	32.8	32.4	32.7	31.2	32.2	31.6	30.8	31.9
	2006	34.8	38.0	44.9	46.1	47.7	35.0	37.2	35.6	37.7	38.0	37.7	36.3	39.1
	2007	34.1	31.5	32.7	32.7	32.9	33.0	36.2	33.7	36.0	41.1	42.8	43.2	35.8
	2008	42.6	45.9	54.6	58.9	58.2	63.6	59.1	72.0	70.1	62.0	62.0	56.7	58.8
	2009	69.5	74.9	75.0	75.8	74.0	62.7	65.2	70.0	70.0	67.3	69.0	59.7	69.4
	2010	55.4	53.9	57.1	57.7	53.8	55.1	53.0	54.6	53.8	60.0	59.1	56.8	55.9
Nyanza	2005	…	…	39.5	38.2	39.3	34.6	35.1	33.6	35.4	35.0	32.3	36.6	36.0
	2006	36.3	42.7	42.7	42.5	37.5	33.8	30.7	32.7	37.2	34.6	32.7	36.5	36.7
	2007	35.7	34.0	32.6	40.9	34.3	27.8	31.7	32.2	42.7	35.1	36.6	41.3	35.4
	2008	44.0	55.9	59.0	68.3	65.4	53.8	60.5	55.5	71.7	65.7	63.4	100.0	63.6
	2009	74.8	77.3	59.1	59.1	45.5	45.5	…	…	…	45.5	54.5	52.3	57.1
	2010	61.2	61.1	62.4	56.3	51.3	53.3	50.4	51.5	53.2	47.3	49.5	49.7	53.9
Western	2005	29.0	34.5	34.0	42.4	40.9	32.4	30.7	28.5	34.5	28.9	28.5	29.8	32.9
	2006	35.7	39.0	43.3	43.5	44.0	28.9	29.2	31.9	31.5	31.5	32.3	34.9	35.5
	2007	35.1	35.2	34.5	36.7	35.5	37.0	33.4	35.9	37.0	39.7	38.9	43.2	36.8
	2008	58.9	65.3	60.4	63.6	67.1	57.3	66.8	55.2	63.2	76.7	70.7	66.2	64.3
	2009	68.6	75.7	72.5	74.3	72.2	70.0	55.0	65.0	70.0	60.0	63.3	63.3	67.5
	2010	62.4	62.5	63.8	59.3	54.5	58.3	45.9	55.1	48.6	67.9	53.3	70.6	58.5
Nairobi	2005	…	…	…	46.2	45.7	45.4	45.3	41.0	41.1	40.4	41.4	40.8	43.0
	2006	46.3	52.3	57.0	59.0	56.1	55.5	43.2	46.8	45.1	42.9	44.7	42.8	49.3
	2007	41.9	40.5	46.8	39.7	40.0	36.5	39.8	40.3	38.6	41.3	35.6	43.0	40.3
	2008	47.7	50.0	59.7	66.7	72.3	75.7	76.2	76.6	86.2	85.3	88.4	85.1	72.5
	2009	82.2	81.6	83.6	79.1	81.4	85.0	86.1	86.3	88.5	88.0	87.4	87.8	84.7
	2010	78.8	78.9	73.3	72.2	72.3	68.5	67.0	68.7	64.5	70.3	70.8	74.4	71.6

Source: KNBS

6.5 Agricultural Training Centres (ATCs)

6.5.1 Background on ATCs

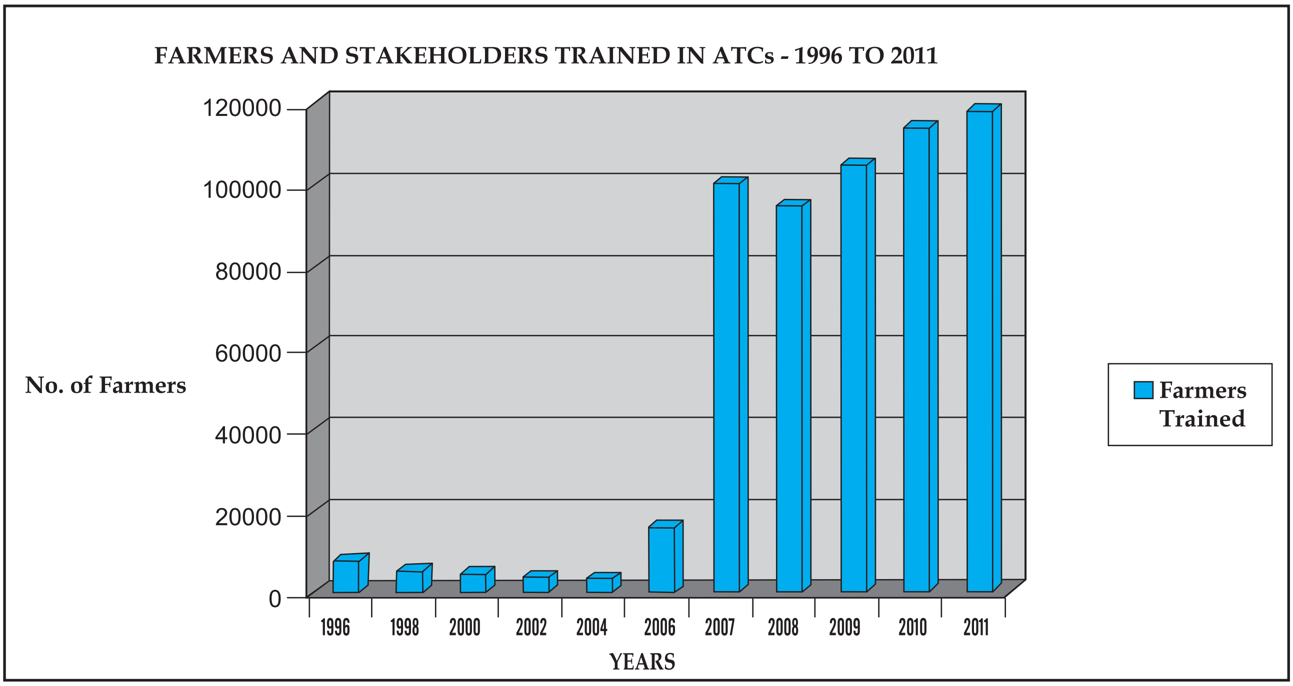
The ATCs were started in Kenya in the 1950's after the Swynnerton plan, which called for intensification of African agriculture. There are currently 27 ATCs distributed in diverse agro-ecological zones in Kenya. The main objective of ATCs since inception was to design and offer residential and non-residential programmes on new and appropriate farming technologies backed with practical demonstrations, provision of training facilities to government departments and other stakeholders who are involved in agriculture and rural development, and maintenance of a model farm for training purposes.

(a) Farmers and Stakeholders trainings in ATCs

The trainings in ATCs are carried out by the MOA, other government ministries, NGOs and Private firms either as individually or in partnerships. The trainings mainly cover agriculture and rural development aspects.

The number of farmers and stakeholders trained annually from 1996 – 2011 are shown in the table below.

Figure 6.1: Farmers and Stakeholders Training in ATCs



Source: *Directorate of Extension*

(b) ATCs Modernization Programme

Since 2004 the MOA embarked on revitalizing agriculture through the SRA. For ATCs a countrywide programme to increase their capacity so that they can meet the future estimated demands for trainings in the sector. The focus was on upgrading and modernizing facilities in ATCs.

The projects covered under 2010/11 programme and the money invested is shown in the table below:

Table 6.7: ATCs Budgetary Allocation

Specific Project	**Amount allocated for the project (Kshs)**
Construction or rehabilitation of hostels	34,000,000
Purchase of standby generators	2,750,000
Construction of agro-processing units	6,300,000
Laying or rehabilitation of water systems	7,300,000
Construction or rehabilitation of classrooms/offices	4,200,000
Construction of dining hall/kitchen	7,200,000
Sinking or rehabilitation of boreholes	4,200,000
*Other investments	12,850,000
	78,800,000

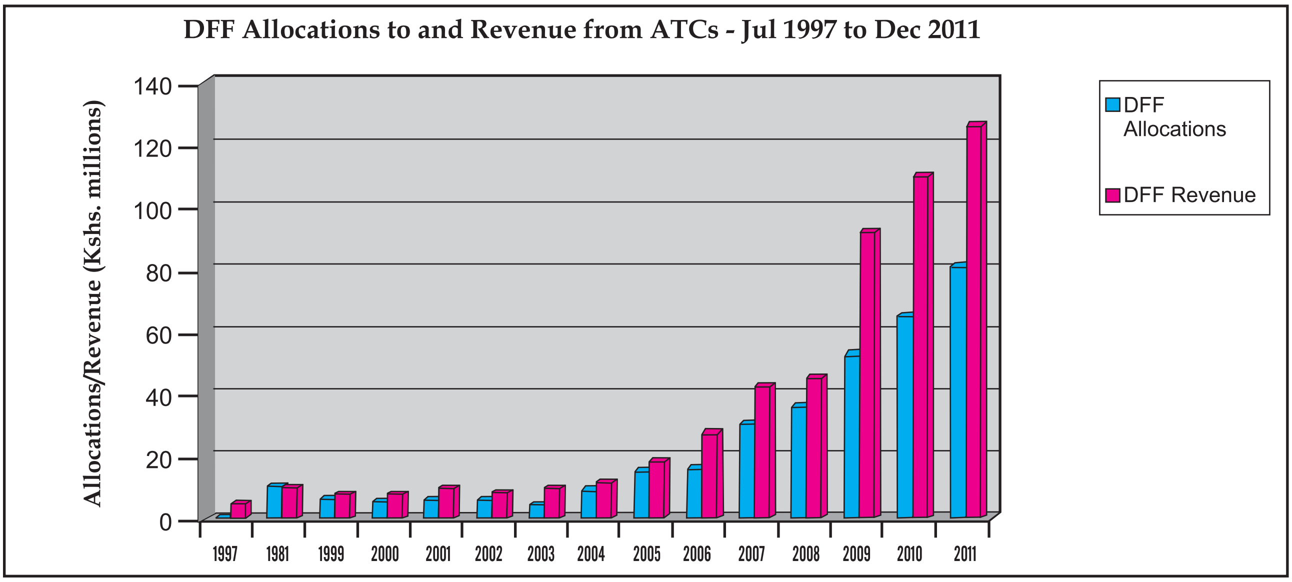
Note:*Includes purchase of various equipments, fencing, biogas units, septic tank, poultry unit etc*

c) Demonstration Farms Fund (DFF)

As a strategy to make farming sustainable and attractive to the youth, the MOA put focus on training farmers in 'farming as a business'. ATCs again took up the challenge of training farmers on commercializing their farming activities, and as part of the training a revolving fund (DFF) was initiated to enable ATCs to carryout selected farming activities commercially as a practical demonstration to farmers. DFF was therefore established in October 1990 with the initial seed capital of Kshs. 6 million. It was also had a long-term goal of making them self-sustaining.

The allocations to and revenue generated from ATCs in the DFF project for the period 1997 – 2011 is shown in the table below:

Figure 6 2: DFF allocations and Revenue from the ATCs



Source: *Directorate of Extension*

(d) Seed multiplication programme

Over time due to the increase in demand for clean planting materials, ATCs also took up the role of bulking the materials especially those that have not been taken up by seed companies, in addition to multiplication of livestock for distribution to farmers which had been ongoing.

Production of clean starter materials for farmers especially for crops is implemented under the High Value Traditional Crops Project which has included ATCs as venues for trainings and the multiplication of clean planting materials for farmers.

The crop type, quantity produced and value during 2011 is shown in the table below:

Table 6.8: Seed Bulking by ATCs

Type planting material/seed	Quantity Produced	Value (Kshs)
Sweet potatoe vines	586,400 vines	1,172,800
Bean seeds	5,800 kg	928,000
Cassava cuttings	1,197,000 cuttings	1,197,000
Maize seeds	130,000 kg	15,600,000
Pigeon peas seeds	3,000 kg	450,000
Sorghum seed	9,500 kg	1,140,000
Finger millet seed	7,600 kg	950,000
Green grams seed	5,700 kg	912,000
Dolichos seed	3,800 kg	380,000
Irish potatoes (seed)	800 bags (50 kg bags)	1,600,000
Wheat seed	85,000 kg	2,550,000
Cow peas seeds	1,100 kg	121,000
Soya bean seeds	980 kg	49,000
		27,049,800

Source: *Directorate of Crops*

(e) **Business Incubation Centres**

The concept of incubation centres advocates for nurturing of a entrepreneurs business ideas for periods of 6 months to 2 years through availing of working space, technology and machinery to entrepreneurs under one roof, at a pre-determined fee. After the incubation period expires, the entrepreneur moves shop to his premises and it is assumed that by that time he will have procured the technology and machinery required to continue on same scale or higher. It is in the East-Asian countries that the concept has taken root and made great contribution towards developing a mass of entrepreneurs especially in manufacturing including agro-processing.

The concept of incubation centres was introduced in ATCs in 2009 with a focus on agro-processing. The implementation is at the foundation stages of construction of incubation/agro-processing units first, then equipping them with the necessary machinery.

The ATCs that have constructed the agro-processing units are, Ol Joro Orok, Kisii and Embu, they now need to be equipped. A sustained investment over the next 5 years is required to cover all ATCs.

7.5 Agricultural Mechanization in Kenya

Agricultural mechanization is a major agricultural production input and a catalyst for rural development. It is the application of mechanical technology and increased power to agriculture, largely as a means to enhance, the productivity of human labour and, often to achieve results well beyond the capacity of human labour. Agricultural mechanization aims to:-

- Increase the power inputs to farming activities hence putting more land into production;
- Reduce drudgery in farming activities, thereby enhancing lifestyles;
- Improve the timeliness and efficiency of farm operations;
- Accomplish tasks that are difficult to perform without mechanical aids;
- Improve the quality and value of work produced and processed products;
- Provide employment (entrepreneurship) and sustainable rural livelihoods; and
- Provide agriculture-led industrialization and markets for rural economic growth among others.

In Kenya however, the agricultural mechanization situation is inadequate most farmers are often unaware of the available and appropriate mechanization technologies that would enhance their labour productivity and reduce drudgery associated with agricultural production. Farmers are not adequately informed and trained on the selection, utilization, adjustment and maintenance of agricultural machinery. This situation has resulted in low utilization of mechanization technologies in the country.

Kenya has an estimated fleet of 10, 000 units of farm tractors ranging from 70 HP and above that are considered to be within economic life. There could be up to 30,000 more units that have outlived their economic life span or are grounded for various reasons. However, of those tractors within the economic life span, 50% of them are grounded at any one time mainly due to:

- Mechanical failure resulting from handling or complicated component designs.
- Inadequate operating and serving capital, and
- Inadequate service back-up.

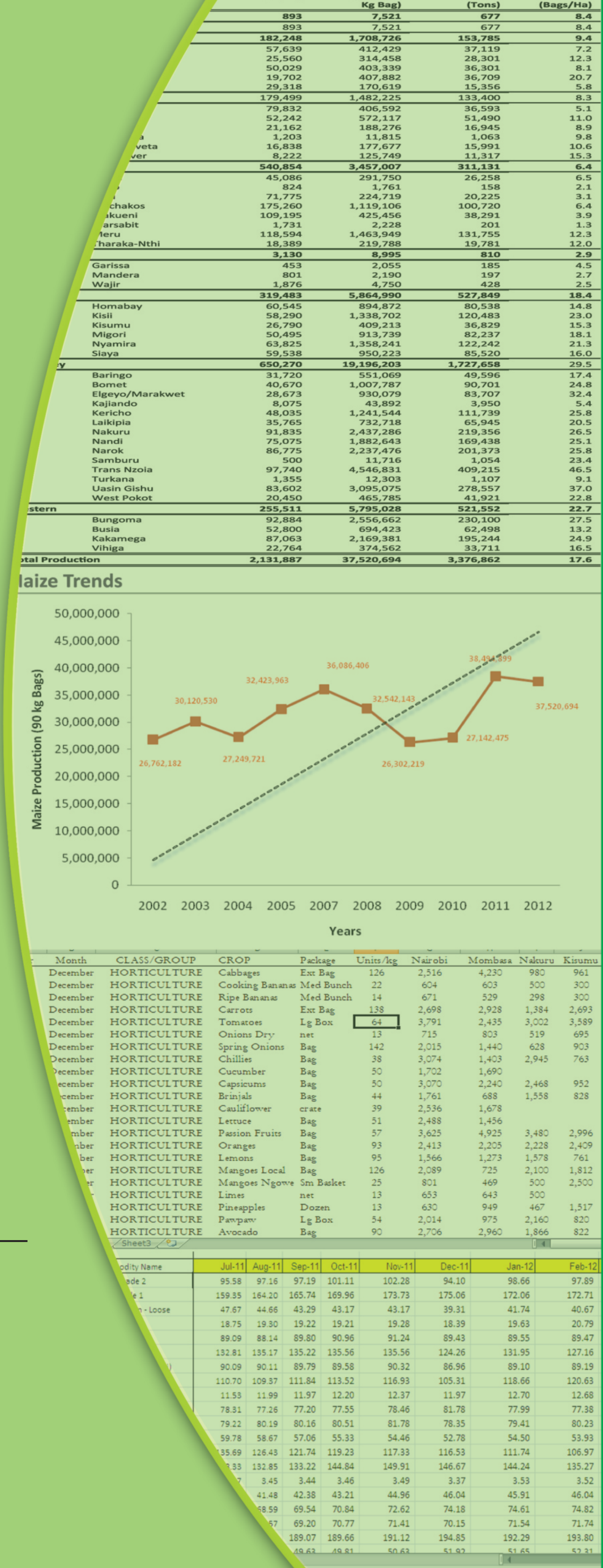
The present level of agricultural mechanization in Kenya, on the basis of motorized power, ranges from 95% in large farms to 4% in smallholder farming system. The degree of mechanization in the Country is a paltry 3 tractors per 1,000 hectares of cultivated land.

In ASAL regions of Kenya, a total of about 460,000 ha of old land and 180,000 ha of new land is merchandisable but with little option of using animal power. To expand the area under cultivation by 1.2 million ha as envisaged in the Agriculture Sector Development Strategy (ASDS) and Kenya Vision 2030 strategy, would require an additional 9,000 tractor units (This assumes an average of 127 ha per tractor under high level management) over a six month ploughing period. Table 6.4 shows the trend of tractor imports between years 2004 to 2011.

Table 6.9: Tractor Imports in year 2004 to 2011

Make	2004	2005	2006	2007	2008	2009	2010	2011
MF	39	66	119	367	678	211	67	72
FORD/NEW HOLLAND	115	112	146	434	439	213	460	482
SAME	0	0	0	35	8	2	54	30
JOHN DEERE	3	2	4	53	1	28	0	0
FIAT	0	0	0	10	0	4	0	0
OTHERS	2	3	3	22	55	0	40	55
TOTAL	**159**	**183**	**272**	**921**	**1181**	**458**	**621**	**639**

Source: *Directorate of Engineering*



Ministry of Agriculture
Kilimo House, Cathedral Road
P. O. Box 30028-00100
Nairobi, Kenya
Tel: +254-20-2718870
Fax: +254-20-273884
E-mail: planning@kilimo.go.ke