ECONOMIC REVIEW OF AGRICULTURE [ERA]

2013

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

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Acronyms

ADC	Agriculture Development Cooperation
AFC	Agricultural Finance Corporation
ARD	Agricultural and Rural Development
ASAL	Arid and Semi Arid Land
ASCU	Agricultural Sector Coordination Unit
CBK	Coffee Board of Kenya
CODA	Cotton Development Authority
CRF	Coffee Research Foundation
EU	European Union
FAO	Food Agriculture Organization
ICAC	International Coffee Advisory Committee
ICO	International Coffee Organization
IFA	International Fertilizer association
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
KSC	Kenya Seed Company
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
kshs	Kenya Shilling
Mt	Metric Tons
NAAIAP	National Accelerated Agriculture Inputs Programme
NCPB	National Cereals and Produce Board
PBK	Pyrethrum Board of Kenya
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
WB	World Bank

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Forward

Economic Review of Agriculture (ERA) is annual publication for the Ministry of Agriculture. The publication gives an overview of overall performance of the agricultural sector over the preceding year. It also gives international performance of key agricultural commodities and inputs and some highlights on contemporary issues on agriculture.

Economic Review of Agriculture, 2013 edition is the 8th release in a series of publications since 2006.

This edition consists of six chapters namely; **chapter on**e that summarizes the country's economic performance and shows the Share of agricultural output to GDP in comparison to other sectors; **chapter two** highlights the government budget allocations to the Ministry over the period under review and gives an expenditure review by the ministry's programs; **chapter three** features key agricultural reforms undertaken and the status of the vision 2030 flagship projects.

Chapter four depicts the world food situation and also highlights the fertilizer situation locally as compared to the world situation; **chapter five** shows time-series data and corresponding analysis on food crops, horticultural crops and industrial crops by county; **chapter six** provides information on key agricultural inputs.

The publication has become a crucial reference point for time-series data on agriculture and efforts have been made to depict both national and county agriculture performance.

Romano M. Kiome, PhD, CBS

Permanent Secretary

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

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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 “

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1.0 OVERVIEW ON ECONOMIC PERFORMANCE

1.1 Overall Economic Performance

The performance of the Kenyan economy in the first nine months of 2012 declined slightly in comparison to 2011. There was slow down in most sectors of the economy in the first half of 2012 which was accompanied by high inflation and interest rates. The period also had adverse weather conditions which impacted negatively on agricultural output and generation of hydro electric power. There was substantial recovery in the performance of the economy in the third quarter of the year where economic growth exceeded that of the same quarter of 2011 which was a contrast to the first two quarters of 2012.

The average growth rate for the first three quarters of 2012 was 3.8 per cent which was a drop from 4.2 percent recorded over the same period in 2011. The first two quarters of 2012 recorded slow rate of economic growth. There was however an impressive performance of the economy in the third quarter.

In the first quarter of 2012, the economy grew by 3.5 per cent which was a decline from 5.1 per cent growth rate recorded in the same quarter of 2011. Transport & Communication and Wholesale & Retail Trade are the only sectors that contributed significantly to the overall growth. The country experienced severe frost in January which negatively affected tea and horticulture sub sectors. High oil prices and tight monetary policy adversely affected inflation and interest rates respectively during the first quarter of the year under review.

During the second quarter of 2012, the economy expanded by 3.3 per cent which was a marginal decline from 3.5 per cent experienced in the same quarter of 2011. Most sectors of the economy registered suppressed activities in the quarter compared with the same quarter in 2011.

Gross Domestic Product (GDP) recorded an impressive performance in the third quarter where it recorded a 4.7 per cent growth compared with 4.0 per cent of the third quarter of 2011.This was the strongest quarterly growth in the year and was mainly due to vibrant performances of the Agriculture & forestry, Fishing, Manufacturing, Transport & communication and a turnaround in the performance of the electricity industry.

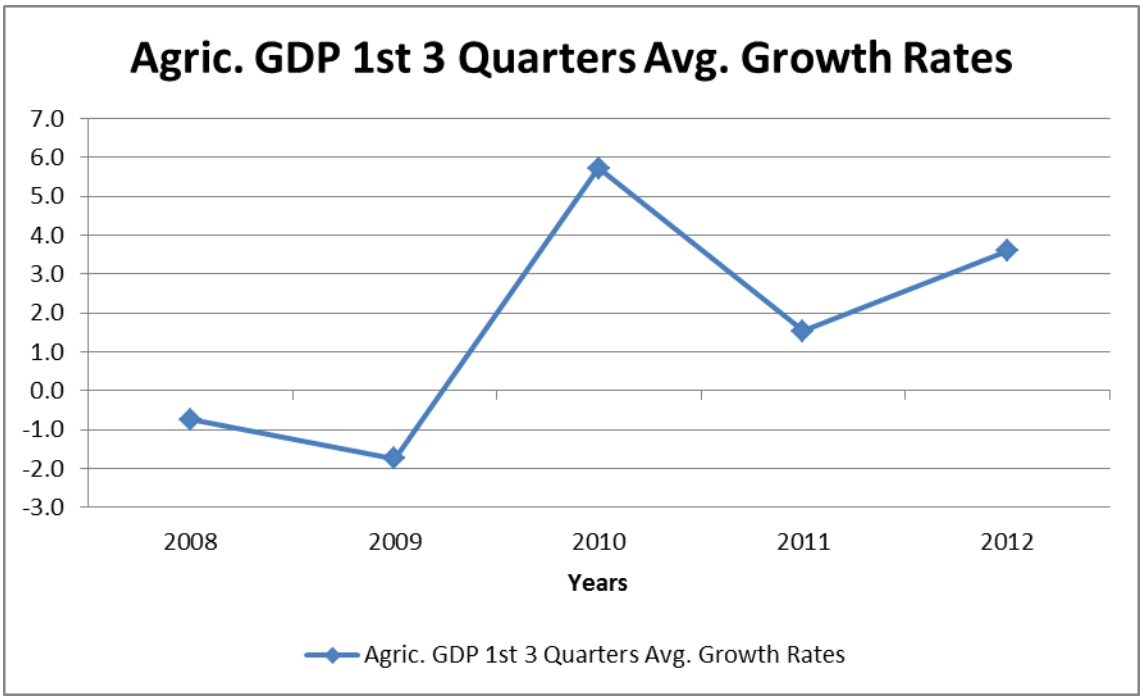
1.2 Performance of the Agricultural sector

The sector expanded by 2.3 per cent in the first quarter of 2012 which was an improvement from 0.2 per cent registered in the same quarter of 2011. The sector recorded mixed results where positive growth was experienced in farming of food crops while there was a decline in production of industrial crops. Unpredictable rainfall pattern, in terms of timing, with varied intensity, largely accounted for the performance of the sector in the quarter. There was growth in production of coffee, sugar cane and cut flowers in the quarter. There was however a decline in production of tea, vegetables and fruits.

In the second quarter of 2012, the growth of the agriculture sector declined to 1.6 per cent from 4.2 per cent experienced in the same quarter of 2011. The quarter recorded reduction in production of tea, exports of cut flowers, fruits and vegetables which was due to slowed demand in Europe caused by recession experienced in that region.

The third quarter of 2012 witnessed remarkable improvement in the sector which recorded 6.9 per cent expansion from 0.2 per cent recorded in third quarter of 2011. This was a significant recovery from the first two quarter of 2012. The growth was mainly due to improved and well spread rains recorded in most parts of the country. There was significant increase in production of maize, beans, sugar cane and fruits

Figure 1: Kenya's Agric-GDP Growth Rates, 2008 – 2012



Source: KNBS

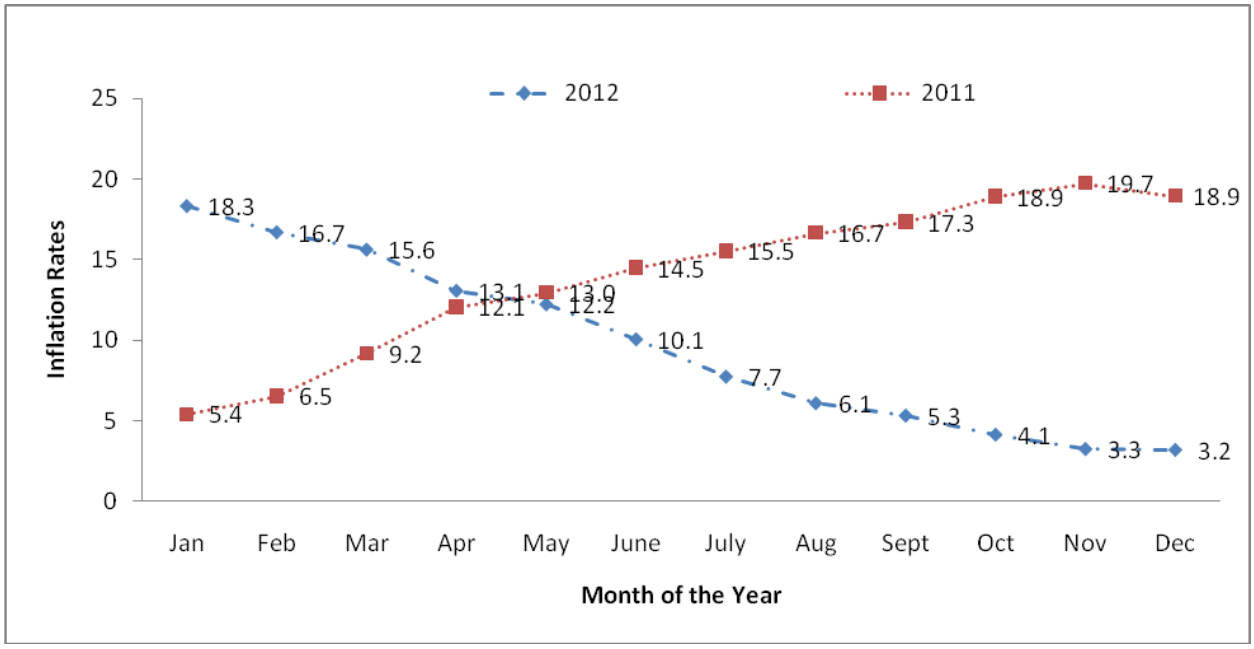
1.3 Inflation

The tumultuous period experienced in 2011 was overturned in 2012 where the rate of inflation was in the on a declining path throughout the year in contrast to 2011 where the trend was opposite direction. Figure 2 shows how the rate of inflation had been declining in the year under review compared to the previous year. In January 2012, the rate of inflation had reached 18.3 per cent and was mainly driven by high oil prices. Inflationary pressures eased slightly in the second quarter mainly due to lower food and fuel prices and the tightening of the monetary policy. The reduction in inflation rate was sustained in the third and fourth quarters. The average rate of inflation for 2012 was 9.64 per cent compared to 13.96 per cent recorded in 2011.

The government through the Central Bank used monetary policy instruments to bring down the rate of inflation. The monetary policy also helped to stabilize the exchange

rates which were propelled by unfavorable price developments in the international commodity market.

Figure 2: Overall Inflation Rates (2011 and 2012)



Source: KNBS

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 & Marketing, Forestry & Wildlife and 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 & Fisheries Research Institute (KMFRI).

The Ministry has was implementing three programmes under Programme Based Budgeting (PBB). In the implementation of these programmes, major achievements were realized on policy reviews and development; strengthening agricultural extension; linking research and extension to the market; access to agricultural inputs and financial services; food security initiatives; development and promotion of agro-processing technologies; promotion of appropriate arid and semi-arid land technologies; promotion of agribusiness, investments and exports.

In 2012/13 financial year, the Ministry fast tracked the implementation of the flagship projects envisaged in the Vision 2030 blue print (Enactment of the Consolidated Agricultural Reform and the Development and Implementation of 3-tier Fertilizer Cost Reduction Programme). It also implemented smallholder irrigation programmes and water Harvesting projects, input support and subsidy programmes, community grain storage, market infrastructure projects and provision of extension and support services to farmers to boost food security and improve incomes for farmers in the country.

The Ministry was allocated Kshs 22,004 million for the financial year 2012/13. This comprised; Kshs 9,224 million in recurrent expenditure and Kshs 12,780 in development expenditure. The Ministry resource requirement in the following financial year 2013/14 is projected to rise to Kshs 46,979 million with recurrent and development budget taking Kshs 10,098 and Kshs 36,881 million respectively.

The projected increase in recurrent expenditure is prompted by increases in personal emoluments. Funds requested in the development budget are to be utilized for counterpart funding of donor projects, establishment of Fertilizer and Seed Fund which was estimated to take Kshs 15 billion, smallholder irrigation taking Kshs 6 billion, purchase of agricultural machinery taking Kshs 5 billion, agro-forestry taking Kshs 3 billion, construction of community grain storage facilities taking Kshs 800 million and funding of development projects which are ongoing.

In 2013/1 4 financial year, the Ministry intends to recruit additional tecnical staff at a total cost of Kshs 245 million while anticipated promotions will require Kshs 83 million. The recruitment, promotions and annual increment was anticipated to raise the wage bill to about Kshs 4.5 billion in 2013/14.

2.1 Agriculture Sub-sector

Total resource allocation by government to the subsector increased during the review period by 33.5 percent from Kshs. 15,306 million in 2009/10 to Kshs. 23,028 million in 2010/11 before decreasing by 9.3 percent to Kshs 20,880 million in 2011/12. The decrease was due to a reduction in the allocation of the fertilizer subsidy funds and other major budget cuts under the development expenditure. The trends in the total expenditure were as summarised in table 1.

Table 1: Ministry of Agriculture allocation and expenditure analysis for 2008/09 – 2010/11 (Kshs million)

	Printed Estimates			Approved Estimates			Actual Expenditures		
Vote									
	2009/10	**2010/11**	**2011/12**	**2009/10**	**2010/11**	**2011/12**	**2009/10**	**2010/11**	**2011/12**
Recurrent	7,799	8,188	8,668	8,098	8,570	8,668	7,918	8,328	8,840
Development	5,674	10,775	9,222	7,208	14,458	12,212	4,834	8,989	9,013
Total	**13,473**	**18,963**	**17,890**	**15,306**	**23,028**	**20,880**	**12,752**	**17,317**	**17,853**
Recurrent as percent of total	57.9	43.2	48.5	52.9	37.2	41.5	62.1	48.1	49.5
Dev't. as percent of total	42.1	56.8	51.5	47.1	62.8	58.5	37.9	51.9	50.5

Source: CPPMU

Absorption capacity decreased from 83.3 percent in 2009/10 to 75.2 percent in 2010/11 then increased to 85.5 percent in 2011/12. Recurrent expenditures grew marginally during the review period. Absorption capacity of the sub-sector has averaged 98.6 percent over the period under review due to the Ministry's ability to target planned activities in its annual work plans. In 2009/10 the absorption capacity was 96.6 percent, in 2010/11, it was was at 97.1 percent and 102 percent in 2011/12. This increase was attributed to the issuance of the Ministry request tHat amounted to about Kshs.172 million and partly due to implementation of austerity measures in the financial year.

Development budget allocations to the sub-sector doubled from Kshs. 7,208 million in 2009/10 to Kshs. 14,458 million in 2010/11 then decreased by 14.1 percent to Kshs.12,212 million in 2011/12. Absorption capacity on the other hand fluctuated between 67.1, 62.2 and 73.8 percent in 2009/10, 2010/11 and 2011/12 financial years respectively.

The main reason for reduced absorptions is delayed reporting on funds expended directly by development Partners on behalf of government.

2.2 Expenditure Review by Programmes

The Ministry budget allocation focused on three programmes and agricultural research.

2.2.1 Programmes and their Objectives

Programme 1: Policy, Strategy and Management of Agriculture

The development of the agricultural sector depends on the creation of an enabling environment through appropriate policy, legal and regulatory frameworks and provision of strategic management direction to the stakeholders.

Programme 2: Crop Development and Management

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

Programme 3: Agribusiness and Information Management

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: Ministry Expenditure Review by Programmes (Kshs Millions)

Programme	Original Budget Estimates			Actual Expenditure		
	2009/10	2010/11	2011/12	2009/10	2010/11	2011/12
Policy, Strategy and Management of Agriculture	2,703	2,578	2,309	2,887	1,470	2,031
Crop Development and Management	9,816	11,637	7,701	8,619	13,481	13,961
Agribusiness and Information Management	586	6,686	4,642	397	350	203
Kenya Agricultural Research Institute	2,831	3,984	4,070	2,746	3,919	4,002
Coffee Research	531	442	471	519	501	691
Tea Research	239	230	429	169	242	279
Sugar Research	404	491	581	404	537	554
Total	**17,110**	**21,767**	**20,193**	**15,741**	**20,588**	**21,721**

Source: CPPMU

Kenya Agriculture Research Institute (KARI) expenditure of Kshs. 4,002 million was the largest compared to other research institutions due to it huge mandate in terms of research programmes.

Only a few of the parastatals under the Ministry received grants from the Ministry. These are KARI, KESREF, CRF, TRF, HCDA, PCPB, KEPHIS, CODA, KCDA, CBK, TBK and Bukura Agricultural College. The grants to these parastatals under recurrent and development budgets recorded an increase over the years with the allocation during 2010/011 amounting to Kshs. 3.39 billion and 793.4 million for recurrent and development budgets respectively. During 2011/12 financial year, the level of grants to these SAGAs increased to Kshs. 3.47 billion and 818.4 million for both budgets.

3.0 KEY RECENT REFORMS

3.1 Policy Development and Reviews

To ensure the agriculture sector is transformed from subsistence and low productivity to commercial and globally competitive industry, various policies and strategies Have been developed. Some of these include;

- National Food and Nutrition Security Policy (NFNSP)
- National Seed Policy
- National Agriculture Sector Extension Policy
- National Agribusiness Strategy

Several other policies such as the National Urban and Per-Urban Agriculture Policy; National Emerging Crops Policy; National Cotton Policy; National Cereals Policy; and National Oil & Nut Crops Policy are being developed and are at different stages.

The Tea Amendment Act and its requisite regulations were passed into law. Warehouse Receipting Bill was finalized and various others were forwarded to parliament which include; Seed and Plant Varieties Amendment bill, Sugar Amendment Bill, and Coffee Amendment bill.

3.2 Recent Enabling Legislations

The Ministry realized 6 Policies and 4 Acts of Parliament between late 2011 and early 2013. The overall aim of these legislations is to create a more business-oriented and efficient sector to boost food security interventions.

	Policies	**Year**
1	National Agricultural Sector Extension Policy	2012
2	National Seed Policy	2011
3	National Horticulture Policy	2012
4	National Food and Nutrition Security Policy	2012
5	National Agribusiness Strategy	2012
6	National Agricultural Research System Policy	2012
	Acts of Parliament	
1	Agricultural, Fisheries and Food Authority (AFFA) Act	2013
2.	Crops Act	2013
3.	Kenya Agricultural and Livestock Research Act	2013
4	Kephis Act	2012

Source: MOA – Policy and External Relations Directorate

Agricultural, Fisheries and Food Authority (AFFA) Act, for instance brings together all agriculture research institutions, marketing as well as regulatory bodies in the sector.

3.3 Vision 2030 Flagship Projects

3.3.1 Consolidated Agricultural Reform Bill

The flagship project on Enactment of Consolidated Agricultural Reform Bill is cross cutting among the agriculture sector ministries and is therefore being coordinated by the Agriculture Sector Coordinating Unit (ASCU). Agriculture, Fisheries and Food Authority (AFFA) Bill, The National Agricultural Research (NAR) Bill & Crops Bills were assented to by the President and became the following Acts.

(i) Agriculture, Fisheries and Food Act (AFFA) 2013

(ii) Crops Act 2013

(iii) Kenya Agricultural and Livestock Research Act 2013

As way forward the sector has commenced steps towards rolling out implementation of the three Acts including establishment of Agriculture, Fisheries and Food Authority (AFFA) and Kenya Agricultural Research Organization (KARO). The Livestock Bill is still being reviewed to be tabled in parliament. It is expected that the reforms will increase operational efficiency, reduce transaction costs and increase the role of private sector.

3.3.2 Fertilizer Cost Reduction Strategy

The Ministry is spearheading the implementation of the Vision 2030 flagship project on three-tier Fertilizer Cost Reduction Strategy. The feasibility study for viability of a manufacturing plant was completed and some potential investors were identified. A total of 274,000MT of fertilizer was procured between 2008 and 2012 as a price stabilization mechanism. This intervention aimed at contributing cheap fertilizer into the market to prompt private dealers to reduce their profit margins hence making fertilizer cheaper. Table 3 shows the funds spent by the government since the intervention started.

Table 3: Quantities of Fertilizer Procured under Government Bulk Procurement initiative

Financial Year	Total fertilizer requirement	Quantity of conventional fertilizers required	Quantity Procured (MT)	percent of conventional fertilizers procured	Treasury allocation for Fertilizer Procurement (Kshs. M)
2007/2008	390,740	330,131	4,500	1.36	384
2008/2009	455,508	346,103	52,050	15.04	2,440
2009/2010	503,784	384,406	15,711	4.09	630
2010/2011	505,489	365,561	103,000	28.18	3,840
2011/2012	539,910	387,401	99,116	25.58	3,173
Total	**2,395,431**	**1,813,602**	**274,377**	**15.12**	**10,467**

Source: MOA – Agribusiness Directorate

From table 3, it can be noted that the initiative contributed 15 percent of the conventional fertilizer requirement in the country for the last five years. Funding has been the major constraint since allocation from treasury on fertilizer procurement has been low. Under the bulk procurement initiative, the Ministry has been teaming up with Government entities namely National Cereals and Produce Board, Agricultural Development Corporation (ADC) and Kenya Seed Company (KSC) Ltd. The ADC and KSC usually purchase their quantities for certified seed production while the Ministry and NCPB procure quantities which are sold to farmers through NCPB network at subsidized prices.

Table 4: How Fertilizer Subsidies are fixed

S/no.	Fertilizer Type	Market price for 50kg bag Price (Kshs.)	Subsidized price for 50kg bag Price (Kshs.)
1.	DAP	4,200	2,500
2.	CAN	2,500	1,600
3.	NPKs	3,800	2,000

Source: MOA – Agribusiness Directorate

3.4 Other Achievement and Progress

This section outlines efforts put in place by the Ministry to improve access to agricultural credit and inputs during the review period.

3.4.1 Access to Agricultural Credit and Inputs

Credit: AFC has been fully operational and many commercial banks have significantly increased lending to the sector. In the financial years 2009/10 and 2010/11, AFC disbursed Kshs. 1.53 and Kshs. 1.78 billion to farmers respectively. It also disbursed Kshs. 1.88 billion to 8,499 beneficiaries in the financial year 2011/12.

Commodity specific funds such as Sugar Development Fund and Coffee Development Fund have also continued to offer credit to farmers. Lending to the sector has further been strengthened by the public private partnership.

Table 5: AFC Lending to the Agricultural Sector

Financial Year	Amount Disbursed in Kshs. Millions	Number of Beneficiaries
2002/2003	109	368
2007/2008	1,383	11,292
2008/2009	1,482	6,346
2009/2010	1,533	6,256
2010/2011	1,775	7,742
2011/2012	1,882	8,499

Source: MOA – Agribusiness Directorate

The Ministry through the Kilimo Biashara initiative disbursed Kshs. 500 million guarantee to the commercial banks namely; Equity, Co-operative, Family Finance and Kenya Women Finance Trust Banks This amount is expected to enable the banks release about Kshs. 4.5 billion to farmers.

Inputs: In the year 2011/12 the Ministry procured and distributed 2,667 MT of assorted seeds, out of which 327.55 MT worth Kshs. 56 million was realized through EU/WB financial support. These were improved assorted seeds mainly on cereals, pulses and Irish potatoes. Under the National Accelerated Agricultural Inputs Access Program (NAAIAP) some 63,500 small scale farmers were supported through the provision of fertilizer and assorted seeds in form of grants.

4.0 WORLD COMMODITY AND FERTILIZER SITUATION

4.1 Cereals

World cereal supply and demand balance in 2012 was lower than in 2011. Global production fell short of the projected demand and cereal stocks declined sharply. However, the reduction was not uniform across all cereals. Maize and wheat supplies were compromised by reduced amount harvested; however supplies of rice were abundant, which prompted further build-up of inventories.

Global cereal production in 2012 fell by 2.7 percent from 2011 record, but almost matched the second best performance since 2008. The overall decrease reflects a 5.5 percent reduction in wheat, and a 2.5 percent decline in coarse grains, while the global rice crop grew by 0.7 percent compared to 2011 records.

Severe drought experienced in the United States and most parts of Europe and central Asia was the main cause of the reduced wheat and coarse grains harvested.

World cereal utilization in 2012/13 is projected to decline slightly from 2011/12, but still anticipated to exceed production. Wheat utilization is set to decline by 1.4 percent, mostly on lower feed use after 2011/12 record. Total utilization of coarse grains is forecast to drop nearly 1 percent, largely because of reduced industrial maize use for ethanol production in the United States. By contrast, world rice utilization could increase by 1.5 percent, helping cereal consumption to remain stable.

Based on the latest forecasts for global production and utilization, world cereal stocks at the close of crop seasons ending in 2013 could fall to 497 million tons, 4.8 percent (25 million tons) less than their opening level.

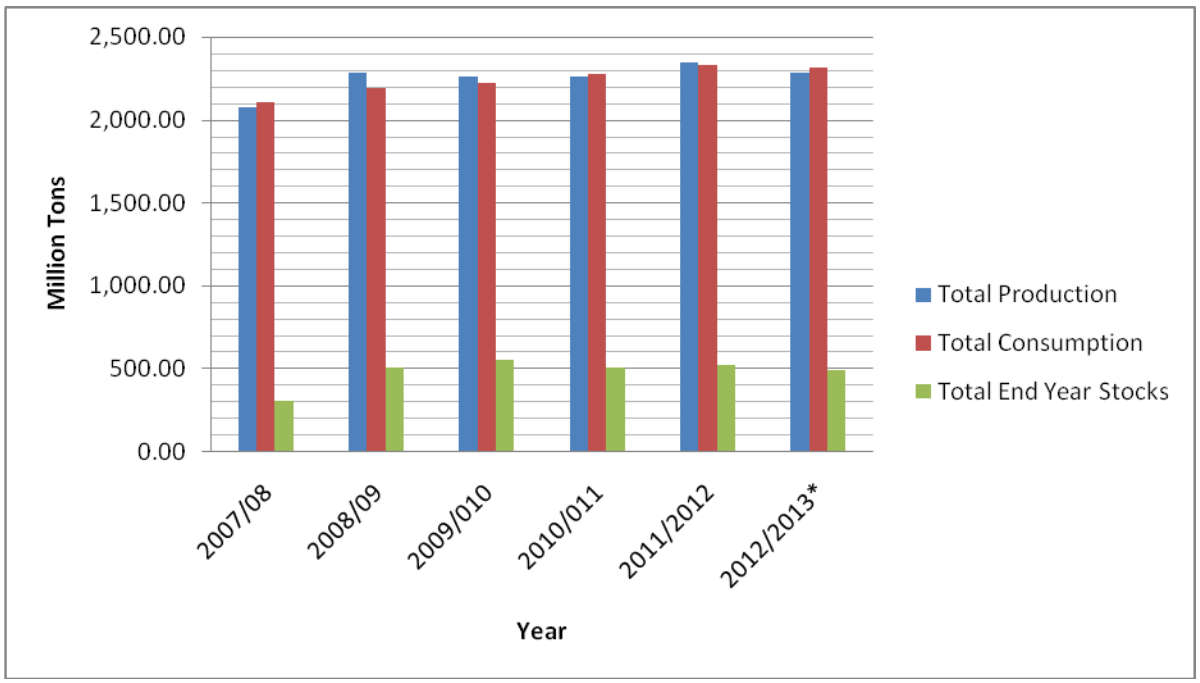
The decline would also reduce the world cereal stock-to-use ratio from 22.6 percent in 2012 to 20.6 percent in 2013, which compares with the low of 19.2 percent registered in 2007/08. This season's shrinking supplies have caused an increase in international prices. In October, the FAO Cereal Price Index averaged 259 points, down slightly from September, but 12.0 percent higher than in October last year. Reduced export supplies and more expensive grains are forecast to result in a 6.9 percent reduction in cereal trade in 2012/13.

Table 6: World Cereals Situation, 2007-2012 (million Tons)

Year	2007/08	2008/09	2009/010	2010/011	2011/2012	2012/2013*
Wheat	603.6	681.4	682.0	655.3	699.4	661.2
Coarse grains	1,051.9	1 143.1	1,123.0	1135	1165.9	1136.9
Rice	420.6	459.6	455.0	468.5	480.2	485.9
Total Production	**2,076.1**	**2,284.1**	**2,260.0**	**2258.8**	**2345.5**	**2284**
Wheat	619.0	647.6	659.0	663.0	697.6	687.5
Coarse grains	1,062.5	1 095.7	1,113.0	1 155.8	1 161.5	1 151.8
Rice	423.7	446.3	449.0	460.1	468.5	474.7
Total Consumption	**2,105.1**	**2,189.6**	**2,221.0**	**2278.8**	**2327.6**	**2313.9**
Wheat	109.7	172.3	202.0	192.7	189.2	166.7
Coarse grains	126.0	208.9	225.0	169.5	174.0	161.0
Rice	72.1	124.4	130.0	143.7	159.3	169.8
Total End Year Stocks	**307.7**	**505.6**	**557.0**	**505.9**	**522.5**	**497.5**

*Source: FAO, GIEWS, * Projections as at Nov.2012*

Figure 3: Trend in World Cereal Production, Consumption and Stocks (2007-2012)



Source : CPPMU

**** = Preliminary figure***

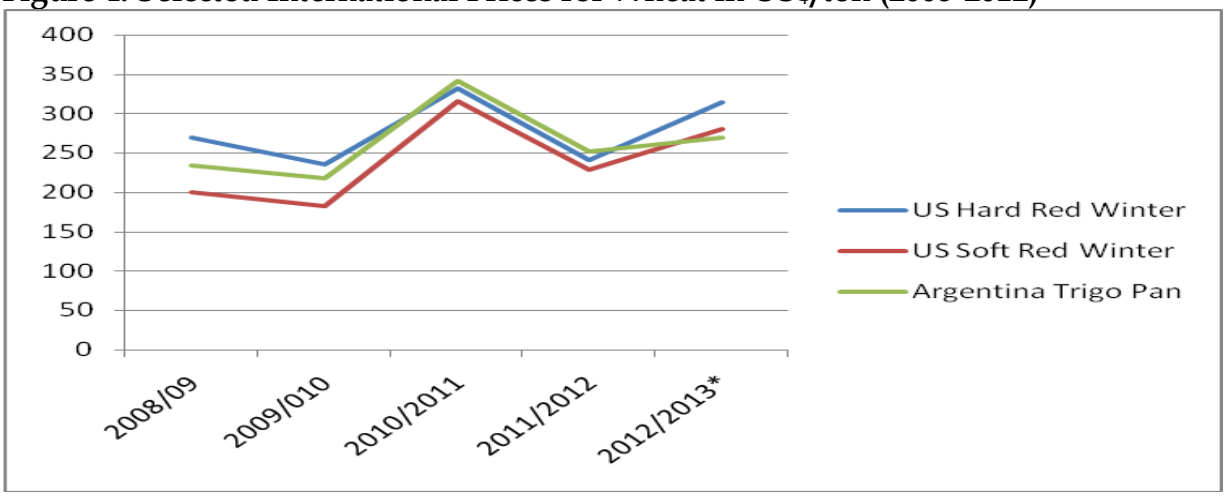
4.2 Wheat

By November, 2012, FAO's forecast for global wheat production predicted a 5.5 percent decline from 2011 record level to 661 million tons. The forecast, largely reflected the impact of severe drought in eastern Europe and central Asia and reduced prospects in the southern hemisphere. Biggest declines were expected in the Common Wealth of Independent States countries, where production by the three largest wheat producers, Kazakhstan, the Russian Federation and Ukraine, was projected to fall by 36 million tons.

Global wheat utilization in 2012/13 is projected to drop slightly to 687 million tons. This will exceed production for the second consecutive year. Over the same period, however, world wheat trade is expected to contract sharply – by 8.2 percent from the record volume registered in 2011/12 – to only 135 million tons. This fall reflects larger supplies in several wheat importing countries but also some reduction in feed wheat import demand and reduced exportable supplies. Against this background, world wheat stocks could be cut by 11.9 percent from their opening level, to 167 million tons by the close of 2012/13. At this level, the world wheat stock-to-use ratio could drop to 24.0 percent, from 27.4 percent in 2011/12, but still remain above the 22 percent low registered in 2007/08.

FAO's early outlook points to a recovery in world wheat production in 2013. As indicated in table 4.2, all 2012 prices were higher than a year ago but were not as high as those recorded in 2010/011. Wheat remained an attractive option for farmers in 2012 due to high demand that resulted in high prices. With anticipated supply response, international wheat prices are unlikely to retreat to lower levels in 2013.

Figure 4: Selected International Prices for Wheat in US$/ton (2008-2012)



*Sources: International Grain Council and USDA, *Average prices from Nov. 011 – Oct. 012.*

4.3 Coarse Grains

International prices for maize followed an upward trend from July 2012 until it peaked in late August to early September, and then drifted lower in October. The upward price movement closely followed repeated downward adjustments to production prospects in the United States as crop conditions worsened due to the severe drought. In October, prices of major coarse grains fell slightly, an early signs of demand rationing from the livestock and bio-fuels sectors and slowing trade activity, especially with regard to export pace from the United States. The benchmark US yellow maize (No. 2 delivered Gulf) averaged US$ 320 per ton in October, down slightly from September by US$ 45 per ton, or 16 percent, above the average price in October 2011. As indicated in table 4.3, there was a general price increase for maize compared to 2011 prices.

FAO's November forecast for world production of coarse grains in 2012 stood at about 1, 137 million tons, sharply down from earlier forecasts by 2.5 percent and below the 2011 record. By far, the bulk of the decrease since the start of the season is attributed to the United States, which witnessed one of the largest turnarounds ever recorded for its maize crop: comparing prospects at planting time until Harvest, favorable sowing conditions and attractive prices prompted farmers to plant one of the largest maize areas ever recorded but, thereafter, the season was characterized by widespread severe drought, which devastated crops throughout the major growing areas. The reduction in the United States maize crop also accounted for most of the year-on-year decrease in global maize output, projected at 856 million tons; a 3.2 percent decline from 2011 yields. In Europe, summer drought in central and eastern parts of the region also reduced yield potential for maize crops as the season progressed, resulting in smaller Harvests than earlier forecast. Output in the EU for 2012 was estimated at some 54 million tons, 21.8 percent down from 2011 yields.

Table 7: Selected International Prices for Coarse Grains, 2008-2012 (US$/Ton)

Source	2008/09	2009/010	2010/011	2011/012	2012/013*
US Yellow Maize	188	160	185	281	290
Argentina Maize	180	168	196	269	265
US Sorghum	170	165	184	264	267

Sources: International Grain Council and USDA, **Average prices from Nov. 011 – Oct. 012.*

4.4 Rice

The 2012 rice season was positive in most regions, as a revival of the monsoon rains allayed fears of a repeat of the 2009 drought in India. As a result, global production is forecast to exceed last year's record by about 1 percent and reach 486 million tons

(milled rice basis), a level more than sufficient to cover world consumption in 2012/13 and enable countries to increase their end-of-season inventories.

Import demand was particularly strong in 2012, supported by a decline in export prices from the high 2011 levels, as large export availabilities intensified competition among several of the world suppliers. Consequently, international trade in rice was anticipated to grow by 2.5 percent in 2012 to a new high of 37.3 million tons. Early prospects for 2013 are also positive, with trade forecast even higher, at 37.5 million tons. Among the major developments which contributed to rice trade in 2012 and probably 2013, are the very large size of China's imports, contrasting with subdued purchases by traditional importers, such as Bangladesh, Indonesia and the Philippines. As regards exports, India replaced Thailand as the world's major rice exporting country, in 2012.

Global rice utilization in 2012/13 is predicted to increase by 1.4 percent to 475 million tons, of which 402 million tons are destined for human consumption, with only small amounts diverted to feed or industrial uses. Per capita food consumption is expected to reach an estimated average of 56.8 kg per year, up from 56.7 kg in 2011/12.

While international prices were rather subdued in the first four months of the year, they resumed an upward trend in May 2012, sustained by the high price policy implemented by Thailand and, in recent months, by pressure from other cereal markets. Coinciding with the arrival to the market of the main paddy crops in major northern-hemisphere exporting countries, international rice prices have retreated since October 2012, bringing the FAO All Rice Price Index down by 3.3 percent to 236 points in January 2013. The weakness was especially marked for Japonica and Indica rice varieties, while strong demand sustained aromatic rice quotations. According to the index, prices in calendar 2012 averaged 238 points, 5 percent less than in 2011. Prices of Japonica and Pakistani Basmati rice varieties subsided most, by nearly 10 percent, amidst accrued competition from the USA, Australia, Egypt and the Russian Federation.

Thus, although prospects for increasingly abundant rice supplies will call for a retrenchment of rice quotations in 2013, their future direction will be very much influenced by the policies of the major country players, in particular Thailand, and developments in the wheat and maize markets.

Table 8: Selected International Prices for Rice, 2008-2012 (US$/Ton)

Source	2008	2009	2010	2011	2012
Thai 100 percent B second grade	695	587	518	548	594

Thai Broken	506	329	386	441	542
US Long grain 2.4 percent	782	545	510	572	563
Pakistan Basmati	1,077	937	881	1047	859
Indica	295	253	212	230	239
Japonica	314	344	264	280	249

Source: FAO Rice price indices, 2012

4.5 Cotton

Global cotton stocks for 2012/13 remained unchanged as higher production was offset by increased consumption. Trade improved, primarily due to a higher import forecast for China. U.S. ending stocks were reduced due to higher exports. The average price continued to be strong as result of China's policy which limited supplies in the world market.

Table 9: World Cotton Situation, 2007/08-2012/013 (Million Bales)

	2007/08	2008/09	2009/010	2010/011	2011/012	2012/013*
Production	119.91	107.10	101.63	115.28	124.13	119.87
Consumption	122.99	109.95	119.01	114.35	103.19	107.11
End of Year Stock	60.61	60.55	44.34	45.22	69	81.74

Source: USDA – WASDE,*Projection as at Nov. 2012

Global cotton output in 2013/14 may fall for the second consecutive season resulting in the smallest output in four years. International Cotton Advisory committee (ICAC) has projected reduced cotton prices as a result of increased attractiveness of alternative crops. This will decrease global cotton production by 11 percent to 23.2 million tons,.

World cotton trade is projected to remain stable at 7.8 million tons, as projected further drop in Chinese imports could be offset by increased demand from the rest of the world.

4.6 Sugar

According to FAO initial forecasts for 2012/13 season, world sugar production is set to increase by 3.8 million tons, or 2.2 percent, from 2011/12. For the third consecutive year, production is anticipated to surpass consumption, with the surplus expected to be around 5.4 million tons. The growth in sugar output is attributed to an expansion in area and input use, sustained by attractive international sugar prices and good weather. World sugar consumption is set to grow by about 2 percent in 2012/13.

In 2012 there was a volatile trend in international prices. The prices opened at a relatively high level of kshs. 44,000 per ton in January 2012, before rising to kshs 45,000 per ton in March, and then declined in May and June. Prices increased again in July and August following reports of unfavourable weather in both Brazil and India. However, with improved harvesting conditions in Brazil, and normal weather in India, prices retreated in September to average Kshs. 37,450 per ton.

On annual basis, international sugar prices have been on an upward trend since 2007/08 but are projected to decline in 2012/013, as indicated in table 10.

Table 10: World Sugar Situation, 2007/08-2012/013

	2007/08	2008/09	2009/010	2010/011	2011/012	2012/013*
Production in million tons	169	154.7	160.5	166.3	173.5	177.3
Consumption in million tons	161	160.9	164.3	164.1	168.6	171.9
Price in Kshs per ton	14,360.5	21,120	29,139	47,678	49,000	41,000
Ending Stocks (million tons)	67	68.4	57.3	56.5	59.3	62.2

Source: International Sugar Association *Projection

4.7 Coffee

Total production in 2012/013 is estimated at around 8.06 million tons compared to 7.93 million tons recorded in 2011/012, as indicated in table 11. This represents a 1.6 percent increase; this was as result of improvement in production recorded in Brazil over the same period.

Although coffee prices remained relatively high in historical terms, they are projected to decline during coffee year 2012/2013: the average of the International Coffee Organization (ICO) composite indicator price is expected be about Kshs 41,000 compared to Kshs 49,000 recorded during coffee year 2011/012, a fall of 17.4 percent. This fall in prices should be evaluated against the background of the financial crisis now exerting negative pressures on almost all commodity prices, as well as in the context of the fundamentals of the coffee market itself.

Table 11: Coffee Production by Exporting Countries, 2007-2012

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Total Production by exporting countries (Million tons)	7.1	7.6	7.4	8.03	7.93	8.06
Production in Kenya(Million tons)	0.04	0.034	0.047	0.0629	0.072	0.051
Average composite prices (Kshs./ton)	189,516	218,680	196,914	224,660	321,015	288694

Source: International Coffee Organization

4.8 World Fertilizer Situation

4.8.1 Global nutrient sales in 2012

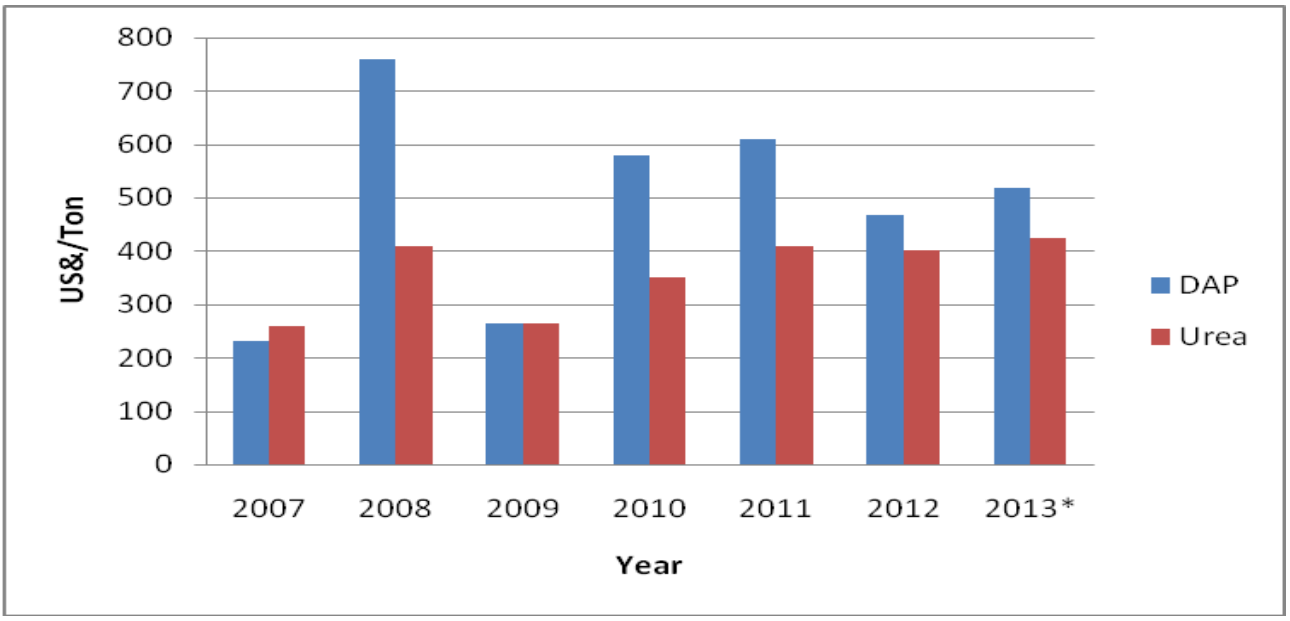
According to International Fertilizer Association (IFA), total nutrient sales in 2012 decreased to 226 Mt nutrients on account of depressed fertilizer demand and significant carry-over stocks in distribution systems at the consumer level. Fertilizer sales, were estimated at 178 Mt nutrients, growing by 0.3 percent over 2011. World nutrient sales were wholly supported by growing domestic deliveries, as exports dropped by an overall 7.7 percent, to 48 Mt nutrients. Key developments in the international trade of the main nutrients and raw materials in 2012 comprised lower trade volumes for nearly all fertilizer products, intermediate products and raw materials. Another key occurrence during the year was a recovery of fertilizer demand and imports in North America and East Asia. China re-emerged as a prominent importer of potash and sulphur and was the world's largest exporter of DAP and urea. This was despite the country facing seasonal export tariffs in 2012.

4.8.2 Short-term capacity developments

Global nutrient demand was adequately supplied in 2012, with supply covered from production tonnage and important stock carry-overs. Global production of ammonia, phosphate rock and potash totaled 227.8 Mt nutrients.

On other hand, fertilizer demand, expressed as consumption of key nutrients; nitrogen, phosphorous and potassium, is estimated to Have increased by 2.4 percent to 176.8 million tons of nutrients, reflecting attractive prices for most agricultural commodities since 2011.

Figure 5: Trend of some World Fertilizer Prices (2007-203)



*Source: International Fertilizer Association * Projection*

4.8.3 DAP Price Analysis

In 2013, prices are projected to appreciate compared to 2012 levels, due to a modest recovery in Indian DAP imports against higher supply. This price is expected to end 2013 at ~$517/t, up ~$50/t from current levels.

4.8.4 Global DAP Supply/Demand Balanced

Global supply/demand projections for DAP shows relatively balanced market conditions out to 2016. Supply is expected to grow 4.3 percent per annum from 2011 to 2016 while demand is expected to grow 2.9 percent per annum. The growth rate of supply is conditioned by the timeline for ramp-up of new capacity and the timing of commissioning of new units in 2014 and 2015 (particularly in Africa).

4.8.5 Urea

The global trade balance shows an enlarged deficit in the first quarter of 2013 that hinges on demand from North America and Europe. The market is expected to move into balance in the second quarter as it generates a larger surplus as new urea projects come into production later in the year. This is expected to have an impact on price, reducing it on average of US $50/t from levels at the closure of 2012.

5.0 CROPS PERFOMANCE

This chapter contains time-series data and corresponding analysis on food, horticultural and industrial crops by county. For some crops, a summary for national performance for the past five years have been given. Most crops recorded an improved performance both in terms of hectarage and production in 2012 compared to 2011 records.

5. 1 Food Crops

5.1.1 Maize Production Nationally

Table 12: Maize Production, 2008-2012

Year	2008	2009	2010	2011	2012
Area (Ha)	1,793,757	1,885,071	2,008,346	2,131,887	**2,159,322**
Production,					
90 Kgs Bags (Dry Maize)	26,302,219	27,142,475	38,494,899	37,520,694	**41,846,213**
Tons (Dry Maize)	2,367,200	2,442,823	3,464,541	3,376,862	**3766159.197**
Esti. 90 Kgs Bags (Green Maize)	...	...	...	4,662,960	**9,399,220**
Tons (Green Maize)	...	...	...	419,666	**845929.791**
Unit Price Bag (Kshs.)	2,500	2,614	1,619	2,341	**3020**
Yield (Bags/Ha)	14.7	14.4	19.2	17.6	**21.0**
Import (million bags)	2.71	16.76	2.55	3.99	**3.3**
Export (million bags)	0.21	0.05	0.03	0.13	**0.02**
Total Value (billion Kshs.)	**65.8**	**71**	**75**	**87.8**	**126.4**

Source: Directorate of Crops ***… = Data not yet available***

Maize is the most important cereal grain and staple food in the country and contributes significantly to food security.

In 2012, maize grain production increased by 12 percent from 37.5 million bags achieved in 2011 to 41.8 million bags (90 Kgs bag). However, the area under production increased marginally by 1.3 percent from 2,131,887 Ha recorded in 2011 to 2,159,322 Ha

in 2012. The production of green maize doubled in 2012 compared to 2011. Productivity also increased by 19.3 percent from 17.6 bags/Ha in 2011 to 21 bags/Ha in 2012.

Nyanza region reported the highest increase in production of 26 percent compared to that of Central 11 percent, Rift valley 8 percent and Eastern region 11 percent. The increase in production can be attributed to the enhanced and well distributed rainfall experienced during the year for both long and short rains in the major maize growing zones. Increased food campaigns conducted by the extension staff, provision of subsidized fertilizers, improved maize prices as well as inputs support through the NAAIAP project contributed significantly to improved yields. However some of the South Rift districts such as Bomet were affected by The Maize Lethal Necrosis Disease but this only affected about 35,000 Ha.

Production reduced during the long rains in other parts of the country including the North Eastern Counties as well as parts of South Eastern and Coastal lowlands.

Western region experienced a slight reduction in maize production of about 1.8 percent due the competition resulting from the opening of a new sugar factory in Matete which reduced the maize production area in Bungoma and Kakamega counties, the grain baskets for the Western region. If the trend continues, a large area of land under maize is likely to be converted into sugarcane producing farms.

5.1.2 Maize Production by Province and County

Table 13: Maize Production by Provinces and counties, 2012

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		**1,018**	**9,462**	**6,308**	**15,771**	**15**	0.4
	Nairobi City	**1,018**	**9,462**	**6,308**	**15,771**	15	0.4
Central		**186,591**	**1,981,820**	**980,557**	**2,962,377**	**17**	**0.34**
	Kiambu	44,821	309,236	321,858	631,094	14	0.51
	Kirinyaga	31,935	517,355	91,298	608,653	19	0.15
	Murang'a	56,654	560,692	218,047	778,739	14	0.28
	Nyandarua	19,588	304,909	164,182	469,091	24	0.35
	Nyeri	33,593	289,628	185,172	474,800	14	0.39
Coast		**151,547**	**716,764**	**116,007**	**832,771**	**5.5**	**0.14**
	Kilifi	70,672	232,810	25,868	258,678	4	0.1
	Kwale	39,490	146,941	48,980	195,921	5	0.25
	Lamu	20,127	215,668	23,963	239,631	12	0.1
	Mombasa	1,003	5,010	557	5,567	6	0.1
	Taita/Taveta	13,986	56,808	10,025	66,833	5	0.15
	Tana River	6,269	59,527	6,614	66,141	11	0.1
Eastern		**498,872**	**5,027,168**	**104,932**	**5,132,100**	**10.3**	**0.02**
	Embu	45,215	519,171	9,254	528,425	11.7	1.75
	Isiolo	987	10,889	293	11,182	11.3	2.62
	Kitui	77,210	616,596	12,897	629,493	8.2	2.05
	Machakos	149,338	1,072,799	19,411	1,092,210	7.3	1.78
	Makueni	102,825	797,561	19,384	816,945	7.9	2.37
	Marsabit	274	2,378	47	2,425	8.9	1.92
	Meru	96,244	1,583,319	35,617	1,618,936	16.8	2.2
	Tharaka-Nthi	26,779	424,454	8,030	432,484	16.2	1.86
North Eastern		**916**	**6,026**	**834**	**6,860**	**7.5**	**0.12**
	Garissa	433	3,901	714	4,615	10.7	15.48
	Mandera	215	0	0	0	0	0

	Wajir	268	2,125	120	2,245	8.4	5.33
Nyanza		**370,235**	**7,251,745**	**507,623**	**7,759,368**	**21**	**0.07**
	Homabay	67420	1088810	76,217	1,165,027	17.3	0.07
	Kisii	59635	1572125	110,049	1,682,174	28.2	0.07
	Kisumu	33395	515900	36,113	552,013	16.5	0.07
	Migori	78580	1671465	117,003	1,788,468	22.8	0.07
	Nyamira	54820	1148900	80,423	1,229,323	22.4	0.07
	Siaya	76385	1254545	87,818	1,342,363	17.6	0.07
Rift Valley		**717,648**	**21,224,176**	**1,409,281**	**22,633,457**	**32**	**6.99**
	Baringo	39753	798223	24144	822367	20.7	2.9
	Bomet	32697	814198	0	814198	24.9	0
	Elgeyo/Marakwet	31533	1021731	33875.92	1055606.9	33.5	3.2
	Kajiado	30145	23375	1665	25040	0.8	6.6
	Kericho	41971	1389632	32434.26	1422066.3	33.9	2.3
	Laikipia	36163	1152810	198747	1351557	37.4	14.7
	Nakuru	89649	2990558	368320.58	3358878.6	37.5	11
	Nandi	73552	2414790	224672.4	2639462.4	35.9	8.5
	Narok	109940	1814601	259045.5	2073646.5	18.9	12.5
	Samburu	1227	11380	0	11380	9.3	0
	Trans Nzoia	104421	4892150	9689.5	4901839.5	46.9	0.2
	Turkana	2252	33501	6346.35	39847.35	17.7	15.9
	Uasin Gishu	91310	2862762	0	2862762	31.4	0
	West Pokot	33035	1004465	250340.2	1254805.2	38	20
Western		**232,494**	**5,629,052**	**395,015**	**6,091,110**	**26.2**	**0.06**
	Bungoma	96,209	2,915,345	219,435	3,134,780	32.6	0.07
	Busia	41,990	556,693	55,058	611,750	14.6	0.09
	Kakamega	76,285	1,854,076	100,765	2,015,300	26.4	0.05
	Vihiga	18,010	302,938	19,757	329,280	18.3	0.06
Total Production		**2,159,322**	**41,846,213**	**3,520,555**	**45,433,813**	**21.0**	**0.08**

Source: Directorate of Crops

5.1.3 Wheat Production Nationally

Wheat is the second most important cereal after maize. In the year under review, wheat production increased by 64 percent from 2,983,130 bags in 2011 to 4,908,381 bags in 2012.The yield also increased by 45 percent from 22.7 bags/Ha to 33 bags /Ha. The improved productivity was attributed to the enhanced and well distributed rainfall experienced during the year in wheat growing zones as well as attractive wheat prices following low domestic production in 2011 and high demand .The East African Agriculture Productivity Programme was key in promoting use of the new wheat varieties tolerant to stem rust through improved seed bulking, farmer groups capacity building as well as supporting research to develop new wheat technologies.

The area under production increased by 13 percent from 131,509 hectares in 2011 to 148,703 hectares in 2012. Despite the efforts, the crop still continues to experience challenges such as high cost of key inputs, poor marketing channels especially for the small scale farmers.

Table 14: Wheat Production, 2008 – 2012

Year	2008	2009	2010	2011	2012
Area (Ha)	130,273	131,594	160,043	131,509	148,703
Production....					
90 Kgs Bags	3,737,241	2,436,678	5,688,817	2,983,130	4,908,381
Tons	336,352	219,301	511,994	268,482	441754.3
Price (Kshs/ Bag)	2,600	3,571	2,700	4055	3893
Yield (Bags/Ha)	28.7	18.5	35.5	22.7	33.0
Import (tons)	5,385,000	7,817,000	848,100	…	994,600
Total Value (billion Kshs.)	**11.2**	**8.7**	**15.3**	**121**	**191.1**

Source: Directorate of Crops

Table 15: Wheat Production by Province and County, 2012

Province	County	HA	Production	Yield (Bags/Ha)
Central		**7,578**	**166,792**	22.0
	Nyandarua	2,326	112,070	48.2
	Nyeri	5,252	54,722	10.4
Eastern		**15,265**	**459,850**	30.1
	Meru	15,265	459,850	30.1
Rift Valley		**125,765**	**4,307,541**	34.3
	Elgeyo Marakwet	944	32096	34.0
	Kericho	58	1710	29.5
	Laikipia	5991	190645	31.8
	Nakuru	31657	1124219	35.5
	Nandi	53.5	882	16.5
	Narok	55896	2153159	38.5
	Samburu	800	36000	45.0
	Trans Nzoia	2320	57525	24.8
	Uasin Gishu	28045	711305	25.4
Western		**95**	**3,301**	34.7
	Bungoma	83	2,896	34.9
	Kakamega	12	405	33.8
Total Production		**148,703**	**4,937,484**	33.2

Source: Directorate of Crops

5.1.4 Barley Production

Barley is generally grown for malting in beer industry. Most of it is grown under contract with major beer industries such as the East African Malting Company, a subsidiary of the East African Breweries Ltd and therefore the area has not been increasing significantly over the years.

In the year under review, barley production increased by 11.8 percent from 724,835 bags in 2011 to 810,340 bags in 2012 while the area increased by 15.9 percent from 18,832 Ha in 2011 to 21,827 Ha in 2012.

The production Has been affected by low demand from the local industry due to substitution of barley in malting with Gadam Sorghum in some products which is cheaper and available both domestically and through imports.

Table 16: Barley Production Nationally

	2009	2010	2011	2012
Area (Ha)	**13,694**	**25,123**	**18,832**	**21,827**
Production....				
90 Kgs Bags	**378,500**	**713,540**	**724,835**	**810,340**
Tons	**34,065**	**64,219**	**65,235**	**72,931**
Yield (Bags/Ha)	**27.6**	**28.4**	**38.5**	**30.5**
Import (tons)	**7,817,000**	**848,100**	**…**	**…**
Total Value (billion Kshs.)	**8.7**	**15.3**	**…**	**…**

Source: Directorate of Crops …= Data not yet Available

Table 17: Barley Production by Province and County, 2012

Province	County	Area (HA)	Production (90 Kg Bag)	Yield (Bags/Ha)
Central		**171**	**5,300**	**31.0**
	Nyandarua	171	5,300	31.0
Eastern		**2,200**	**40,000**	**18.2**
	Meru	2200	40,000	**18.2**
Rift Valley		**19,456**	**765,040**	**42.4**
	Nakuru	4,868	185,220	38.0
	Narok	13,548	541,020	39.9
	Samburu	800	24,000	30.0
	Uasin Gishu	240	14,800	61.7
Total Production		**21,827**	**810,340**	**30.5**

Source: Directorate of Crops

5.1.5 Beans Production

Among the pulses, beans is the most important in providing plant proteins, particularly for the rural poor. Production of beans in the last three years has been on the increase.

For example, it increased by 11.6 percent from 6,418,596 bags in 2011 to 7,162,132 bags in 2012. Area under beans production, increased marginally by 2.1 percent from 1,036,738 Ha in 2011 to 1,058,920 Ha in 2012 while productivity increased by 8 percent. However a lot of the crop was affected by the wet conditions during harvesting as result of prolonged rainfall in most of the beans growing areas. This was witnessed in Rift Valley region where production was reduced by 19 percent from 2,152,913 bags in 2011 to 1,741,725 bags in 2012. Other regions recorded a general increase in production. The increase in productivity was as result of continuous promotion of the crop through the use of improved seed varieties from the Traditional High Value Crops (THVC) Programme.

Table 18: Beans Production, 2008 – 2012

Year	**2008**	**2009**	**2010**	**2011**	**2012**
Area (Ha)	610,428	960,705	689,377	1,036,738	1,058,920
Production					
90 Kgs Bags	2,901,237	5,170,696	4,339,980	6,418,596	7,162,132
Tons	261,111	465,363	390,598	577,674	613,902
Unit Price Bag (Kshs.)	4,500	5,134	4,343	4,693	5,543
Yield (Bags/Ha)	4.8	5.4	6.3	6.2	6.7
Estimated Consumption (90 bags)	…	…	…	7,200,000	8,320,000,
Import (tons)		..	..	..	48,747
Total Value (billion Kshs.)	**11.2**	**8.7**	**15.3**	**30.1**	**37.8**

Source: Directorate of Crops ***... = data not yet available***

Table 19: Bean Production by Province and County, 2012

Province	County	Area (Ha)	Production (90 Kg Bag)	Yield (Bags/Ha)
Nairobi		**750**	**5,945**	**7.9**
	Nairobi City	750	5,945	7.9
Central		**118,481**	**1,044,538**	**8.8**
	Kiambu	28,004	237,809	8.5
	Kirinyaga	21,103	211,402	10
	Murang'a	37,908	354,449	9.4
	Nyandarua	6,883	45,463	6.6
	Nyeri	24,583	195,415	7.9
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		**259,977**	**1,647,684**	**5.8**
	Embu	23,758	169,670	7.1
	Isiolo	193	820	4.2
	Kitui	27,498	156,996	5.7
	Machakos	75,025	397,572	5.3
	Makueni	38,545	213,740	5.5
	Marsabit	50	188	3.8
	Meru	79,093	595,179	7.5
	Tharaka-Nthi	15,815	113,519	7.2
Nyanza		**216,040**	**1,716,980**	**7.9**
	Homabay	30,675	236,030	7.7
	Kisii	45,515	397,415	8.7
	Kisumu	13,575	103,185	7.6
	Migori	24,460	187,250	7.7
	Nyamira	52,455	467,935	8.9
	Siaya	49,360	325,165	6.6
Rift Valley		**304,350**	**1,741,725**	**5.7**
	Baringo	17,196	78,938	4.6
	Bomet	19,138	124,580	6.5

	Elgeyo/Marakwet	20,241	198,241	9.8
	Kajiado	30,125	42,875	1.4
	Kericho	18,116	120,778	6.7
	Laikipia	18,285	138,090	7.6
	Nakuru	47,266	311,766	6.6
	Nandi	31,596	198,666	6.3
	Narok	30,499	283,116	9.3
	Samburu	618	3,584	5.8
	Trans Nzoia	39,485	165,780	4.2
	Uasin Gishu	22,935	45,017	2
	West Pokot	8,850	30,294	3.4
Western		**155,156**	**973,865**	**6.3**
	Bungoma	61,715	423,670	6.9
	Busia	19,245	106,050	5.5
	Kakamega	56,141	348,365	6.2
	Vihiga	18,055	95,780	5.3
Total Production		**1,055,632**	**6,821,133**	**6.5**

Source: Directorate of Crops

5.1.6 Rice Production

Rice production increased in the year 2012 to 126,399 tons from 111,229 tons in the year 2011. This increase is due to interventions being implemented by the Government and stakeholders that are guided by the National Rice Development Strategy (NRDS

Table 20: Rice Production Nationally

Year	2008	2009	2010	2011	2012
Area (Ha)	18,329	20,050	29,099	28,034	30,095
Production....					
Tons	51,822	54,955	110,494	111,229	126,399
Unit Price Bag (Kshs.)	2,745	…	3,750	3,153	
Yield (Tons/Ha)	2.8	2.7	3.8	4	4.9
Estimated Consumption (Tons-(e))	…150,000	343,045	410,000	520,000	540,000
Import (tons)	202,000	398,000	398,000	408,771	417,535
Total Value (billion Kshs.)					

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

Table 21: Rice Production by Province and County, 2012

Province	County	HA	Production (Tons)	Yield (Ton/Ha)
Central		**13,668**	**80,649**	**5.9**
	Murang'a	295.7	574	**6.0**
	Kirinyaga	13,572	80,075	**5.9**
			65,837	
Coast		**5,500**	**13, 552**	**4.0**
	Kilifi	494	367	0.7
	Kwale	1,486	5349	3.6
	Lamu	653	223	4.2
	Mombasa	20	60	3.0
	Taita/Taveta	1200	920	4.6
	Tana River	1,647	8,070	4.9
Eastern		**227**	**772**	**3.4**
	Embu	62	223.2	3.6
	Tigania	74	216	3.6
	Meru	61	195.2	3.2
	Tharaka Nthi	15	49.5	3.3
North Eastern		**70**	**252**	**3.6**

Garissa	70	252	3.6
Nyanza	**6235**	**19,988**	**4.1**
Homabay	310	1302	4.2
Kisumu	3,395	14,598	4.3
Migori	230	828	3.6
Siaya	2,300	9890	4.3
Rift Valley	**1606**	**5460**	**3.4**
Elgeyo/Marakwet	786	2,672	3.3
Baringo	820	2,952	3.6
		5,965	
Western	**2,789**		**2.3**
Bungoma	24	64.8	**2.7**
Busia	2,547	5,858	**2.3**
Kakamega	218	42.12	**3.3**
Total Production	**30,095**	**126,399**	**4.2**

Source: Directorate of Crops

More than half (62.4 percent) of the total rice produced in 2012 was from central province. This was particularly from Kirinyaga County which produced 69.96 percent of the total rice in 2012. This was followed by Nyanza region that produced 18 percent of the rice.

In coast Province rains were not sufficient for the NERICA-Upland rice hence the low production in Kilifi County which almost recorded a crop failure.

5.1.7 Sorghum

Production of sorghum increased by 4 percent from 1,776,412 bags in 2011 to 1,851,410 bags 2012. Sorghum production has 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. Farmers are also using the improved varieties from the THVC programme, relief seeds and GIZ. 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 20: Sorghum Production Nationally

Year	2008	2009	2010	2011	2012
Area (Ha)	104,041	173,172	225,782	254,125	223,799
Production					
90 Kg Bags	602,910	1,055,051	1,822,950	1,776,412	1,851,410
Tons	54,262	94,955	164,066	159,877	166,627
Unit Price Bag (Kshs./bag)	1,230	3,285	2,576	2,298	3,686
Yield (Bags/Ha)	5.8	6.1	8.1	7	8.3
Total Value (billion Kshs.)	**0.7**	**3.5**	**4.6**	**4.1**	**6.8**

Source: Directorate of Crops

Production of sorghum was highest in Eastern and Nyanza counties with 825,657 and 727,235 (90 Kg Bags) respectively. Indeed the two regions produced about 84 percent of the total production. Homabay and Kitui counties recorded the highest production with 266,170 and 227,005 (90 Kg Bags) respectively.

Table 21: Sorghum Production by Province and County, 2012

Province	County	Area(Ha)	Production (90 Kg Bags)	Yield (Bags/Ha)
Nairobi		**18**	**44**	**2.4**
	Nairobi City	18	44	2.4
Central		2177.1	16,622.2	7.6
	Kiambu	395.8	3,384	8.55
	Kirinyaga	1299.6	10,494	8.07
	Murang'a	436.5	2,409	5.52
	Nyandarua	24	233.5	9.73
	Nyeri	21.2	102	4.81
Coast		**2,553**	**8,059**	**3.2**
	Kilifi	542	1,455	2.7
	Kwale	958	2,181	2.3
	Lamu	466	2,815	6.0
	Mombasa	8	40	5.0
	Taita/Taveta	290	1,160	4.0
	Tana River	289	408	1.4
Eastern		**140,805**	**825,657**	**5.9**
	Embu	5,824	46,155	7.9
	Isiolo	46	236	5.1
	Kitui	58,532	227,005	3.9
	Machakos	11,539	54,758	4.7
	Makueni	22,739	128,468	5.6
	Marsabit	49	148	3.0
	Meru	14,745	171,347	11.6
	Tharaka-Nthi	27,331	197,540	7.2
North Eastern		**530**	**919**	**1.7**
	Garissa	120	100	0.8
	Mandera	285	120	0.4
	Wajir	125	699	5.6
Nyanza		**55,604**	**727,235**	**13.08**
	Homabay	17,155	266,170	15.52
	Kisii	125	1,520	12.16
	Kisumu	11,645	131,370	11.28
	Migori	7,215	105,430	14.61
	Nyamira	279	3,780	13.55
	Siaya	19,185	218,965	11.41
Rift Valley		12,704	157,196	12.4

Province	County	Area(Ha)	Production (90 Kg Bags)	Yield (Bags/Ha)
	Baringo	1,110	10,072	9.1
	Bomet	426	6,487	15.2
	Elgeyo/Marakwet	1,187	27,204	22.9
	Kajiando	69	182	2.6
	Kericho	490	7,627	15.6
	Laikipia	1,050	15,741	15.0
	Nakuru	730	10,271	14.1
	Nandi	160	2,317	14.5
	Narok	1,115	9,170	8.2
	Samburu	225	10,278	45.7
	Trans Nzoia	327	4,198	12.8
	Turkana	3,974	35,651	9.0
	Uasin Gishu	109	1,101	10.1
	West Pokot	1,732	16,897	9.8
Western		**9,408**	**115,678**	**12.3**
	Bungoma	1,034	12,823	12.4
	Busia	7,683	95,850	12.5
	Kakamega	347	3,673	10.6
	Vihiga	344	3,332	9.7
Total Production		**223,799**	**1,851,410**	**8.3**

Source: Directorate of Crops

5.1.8 Millet

The area under the crop increased by 6.4 percent from 111,271 Ha in 2011 to 118,378 Ha in 2012. Similarly production went up by about 2.1 percent, from 815,509 to 832,410 bags over the same period, as depicted in table 24.

Table 22: Millet Production Nationally

Year	2008	2009	2010	2011	2012
Area (Ha)	53,155	104,576	99,124	111,271	118,378
Production....					0
90 Kg Bags	426,928	626,856	598,678	815,509	832,410
Tons	38,424	56,417	53,881	73,396	74,917
Unit Price Bag (Kshs./bag)	2,700	4,680	4,689	…	5,720

Yield (Bags/Ha)	8	6	6	7.3	7
Total Value (billion Kshs.)	**1.2**	**2.9**	**2.8**	**…**	4.76

Source: Directorate of Crops *… = data not yet available*

In the year 2012 Eastern region followed by Nyanza at 54.6 and 23 percent respectively had the highest millet production in the country. Meru county was the highest producer of finger millet at 174,252 bags followed by Machakos county which produced 149,010 bags.

Table 23: Millet Production by Province and County, 2012

Province	County	HA	Production (90 Kg Bags)	Yield (Bags/Ha)
Central		85.1	1274.5	14.98
	Kiambu	24	335	13.96
	Kirinyaga	30	546	18.20
	Murang'a	28.1	386.5	13.75
	Nyandarua	3	7	2.33
Coast		**247**	**705**	**2.9**
	Kilifi	32	93	2.9
	Kwale	9	16	1.8
	Lamu	183	548	3.0
	Taita/Taveta	11	30	2.7
	Tana River	12	18	1.5
Eastern		**77860**	**454733**	**5.8**
	Embu	6496	49,975	7.7
	Kitui	3430	23,144	6.7
	Machakos	20191	149,010	7.4
	Makueni	4698	29,480	6.3
	Meru	38362	174,252	4.5
	Tharaka-Nthi	4683	28,872	6.2
North Eastern		**89**	**12**	**0.1**
	Garissa	36	6	0.2
	Wajir	53	6	0.1
Nyanza		**22,791**	**191,057**	**8.4**
	Homabay	156	905	5.8
	Kisii	6,970	72,990	10.5
	Kisumu	125	600	4.8
	Migori	1,040	9,365	9
	Nyamira	14,345	106,350	7.4
	Siaya	155	847	5.5

Province	County	HA	Production (90 Kg Bags)	Yield (Bags/Ha)
Rift Valley		**12,704**	**157,196**	**12.4**
	Baringo	1,110	10,072	9.1
	Bomet	426	6,487	15.2
	Elgeyo/Marakwet	1,187	27,204	22.9
	Kajiando	69	182	2.6
	Kericho	490	7,627	15.6
	Laikipia	1,050	15,741	15.0
	Nakuru	730	10,271	14.1
	Nandi	160	2,317	14.5
	Narok	1,115	9,170	8.2
	Samburu	225	10,278	45.7
	Trans Nzoia	327	4,198	12.8
	Turkana	3,974	35,651	9.0
	Uasin Gishu	109	1,101	10.1
	West Pokot	1,732	16,897	9.8
Western		**4,513**	**27,420**	**6.1**
	Bungoma	557	2,510	4.5
	Busia	3,748	23,430	6.3
	Kakamega	167	1,155	6.9
	Vihiga	41	325	7.9
Total Production		**118,289**	**832,398**	**7.0**

Source: Directorate of Crops

5.1.10 Cowpeas

Cowpea is a dual purpose crop used for both green leaves and grain consumption. Generally production of cowpeas has consistently increased between 2009 and 2012 from 532,810 to 1,266,238 (90 Kgs Bags). In 2012, area under production increased by 8.7 percent while production increased by 39.8 percent in comparison to the crop performance in 2011. The increase in production was attributed to increased area as well as timely availability of seed by the Ministry.

Table 24: Cowpeas Production Nationally

Year	2008	2009	2010	2011	2012
Area (Ha)	148,157	124,302	168,273	197,980	215,269
Production					
90 Kg Bags	532,810	668,361	803,046	905,938	1,266,238
Tons	47,953	60,152	72,274	81,534	113,961
Unit Price Bag (Kshs.)	3,100	5,503	…	3,934	6,220
Yield (Bags/Ha)	3.6	5.4	4.8	4.6	5.9
Estimated Consumption (90 kg bag (e))	..	..	..	650,000	1,066,667
Total Value (billion Kshs.)	**1.2**	**3.7**	**...**	**3.6**	**7.9**

Source: Directorate of Crop e=estimated value ..=data not available … = data not yet available

Table 25: Cowpeas Production by Province and County, 2012

Province	County	Area (Ha)	Production (90 Kg Bags)	Yield (Bags/Ha)
Central		**1105.45**	**17948.5**	**16.2**
	Kiambu	317.55	2,759	8.7
	Kirinyaga	587.5	12911	22
	Murang'a	166.9	2,053	12.3
	Nyandarua	30	212	7.1
	Nyeri	3.5	14	4
Coast		**16,138**	**49,493**	**3.1**
	Kilifi	8,110	23,287	2.9
	Kwale	2,840	3,639	1.3
	Lamu	2,554	10,460	4.1
	Mombasa	271	743	2.7
	Taita/Taveta	1,178	2,844	2.4

	Tana River	1,185	8,520	7.2
Eastern		**187,910**	**1,135,765**	**6**
	Embu	9,575	81,689	8.5
	Isiolo	46	260	5.7
	Kitui	71,462	339,744	4.8
	Machakos	34,710	168,812	4.9
	Makueni	48,645	336,925	6.9
	Marsabit	172	682	4
	Meru	6,822	64,588	9.5
	Tharaka-Nthi	16,478	143,065	8.7
North Eastern		**607**	**3339**	**5.5**
	Garissa	246	2545	10.3
	Mandera	132	710	5.4
	Wajir	229	84	0.4
Nyanza		7,125	37,440	5.3
	Homabay	575	3810	6.6
	Kisii	340	1825	5.4
	Kisumu	3880	19400	5
	Migori	430	2200	5.1
	Nyamira	120	600	5
	Siaya	1780	9605	5.4
Rift Valley		**1,607**	**20,489**	**12.7**
	Baringo	518	2036	3.9
	E/Marakwet	443	5002	11.3

Kajiado	9	3	3
Laikipia	20	94	4.7
Nakuru	278	2079	7.5
Narok	27	78	2.9
Samburu	286	11105	38.8
Trans Nzoia	26	92	3.5
Total Production	**214,492**	**1,264,475**	**5.9**

Source: Directorate of Crops

Cowpeas is mostly grown in Eastern region as shown in table 27. In 2012, Eastern province alone produced 90 percent of the total national output with Kitui, Makueni and Machakos being the leading counties in term of production. Total area under cowpeas was 214,492 out of which 187,910 hectares were in the Eastern province. Other counties which had high production are Tharaka-Nithi (143,065 bags) and Embu (81,689 bags).

Improved production in 2012 was attributed to increase in the area under production, availability of good quality seeds as well as high and sustained demand, leading to better prices for the produce.

5.1.11 Green Gram Production

There was an increase of about 17.8 percent in area under production of green grams from 159,910 Ha in 2011 to 188,416 in 2012 as shown in table 28. This increase in hectarage resulted into an increase of 30.8 percent in production of the crop from 780,283 bags in 2011 to 1,020,270 in 2012. Average yield increased marginally from 4.9 in 2011 to 5.4 bags/Ha in 2012.

Table 26: Green Grams Production Nationally

Year	2008	2009	2010	2011	2012
Area (Ha)	91,452	112,997	147,352	159,910	188,416
Production....					
90 Kg Bags	296,808	470,372	680,528	780,283	1,020,270
Tons	26,713	42,333	6,125	70,225	91,824

Unit Price Bag (Kshs.)	5,000	6,149	7,050	8,619	7,644
Yield (Bags/Ha)	3.2	4.2	0.5	4.9	5.4
Total Value (billion Kshs.)	**1.5**	**2.9**	**4.8**	**6.7**	**7.8**

Source: Directorate of Crops and Agribusiness

Table 27: Green Grams Production by Province and County, 2012

Province	County	Area (Ha)	Production (90 Kg Bags)	Yield (Bags/Ha)
Nairobi		**2.5**	**11.5**	**4.6**
	Nairobi City	2.5	11.5	4.6
Central		**605.1**	**4,800.5**	**7.9**
	Kiambu	229.6	2735	11.9
	Kirinyaga	364.5	1930	5.3
	Murang'a	11	135.5	12.3
Coast		**10,859**	**34,453**	**3.2**
	Kilifi	3,622	10,077	2.8
	Kwale	2,253	1,562	0.7
	Lamu	2,169	8,871	4.1
	Mombasa	29	46	1.6
	Taita/Taveta	1,590	7,093	4.5
	Tana River	1,196	6,804	5.7
Eastern		**170,298**	**940,164**	**5.5**
	Embu	7,899	49,783	6.3
	Isiolo	78	450	5.8
	Kitui	64,420	296,267	4.6
	Machakos	13,873	62,895	4.5
	Makueni	52,310	239,569	4.6
	Marsabit	50	300	6.0
	Meru	6086	52,507	8.6
	Tharaka-Nthi	25,582	238,393	9.3
North Eastern		**444**	**2385**	**5.4**

Province	County	Area (Ha)	Production (90 Kg Bags)	Yield (Bags/Ha)
	Garissa	210	2158	10.3
	Mandera	58	192	3.3
	Wajir	176	35	0.2
Nyanza		**3,682**	**25,439**	**6.9**
	Homabay	550	3285	6
	Kisii	35	240	6.9
	Kisumu	1875	14390	7.7
	Migori	256	1862	7.3
	Nyamira	11	77	7
	Siaya	955	5585	5.9
Rift Valley		**1918**	**11692**	**6.1**
	Baringo	610	2016	3.3
	Elgeyo/Marakwet	814	6553	8.1
	Laikipia	5	27	5.4
	Narok	0.5	8	16.0
	Samburu	37	414	11.2
	Turkana	29	19	0.7
	West Pokot	422.5	2655	6.3
Western		**607**	**1,325**	**2.2**
	Bungoma	60	141	2.4
	Busia	344	755	2.2
	Kakamega	166	335	2.0
	Vihiga	37	94	2.5
Total Production		**188,416**	**1,020,270**	**5.4**

Source: Directorate of Crops - = *nil*

There was substantial increase in the hectarage under green grams in Eastern, Central and Rift Valley regions and marginal increase in Nyanza region. All the other regions recorded a decrease in the hectarage with the Coast exhibiting the highest reduction from 84,042Ha in 2011 to 34,453Ha in 2012.

5.1.12 Pigeon Peas Production

The area under production increased marginally by 3.2 per cent from 138,708 Ha in 2011 to 143,212 Ha in 2012 as shown in table 30. The production also increased by 6.0 per cent from 936,812 bags in 2011 to 993,223 bags in 2012. Average yield increased by a small margin of 0.1 from 6.8 in 2011 to 6.9 bags/Ha in 2012.

Table 28: Pigeon Peas Production Nationally

Year	2008	2009	2010	2011	2012
Area (Ha)	610,428	118,167	158,746	138,708	143,212
Production....					
90 Kg Bags	2,901,237	516,377	1,147,040	936,812	993,223
Tons	261,111	46,474	103,234	84,313	89,390
Unit Price Bag (Kshs.)	4,500	6,149	…	…	
Yield (Bags/Ha)	4.8	4.4	7.2	6.8	6.9
Total Value (billion Kshs.)	**13.1**	**7.3**	**…**	**…**	

Source: Directorate of Crops *… = data not yet available*

Table 29: Pigeon Peas Production by Province and County, 2012

Province	County	Area (Ha)	Production (90 Kg Bags)	Yield (Bags/Ha)
Nairobi		**13**	**49**	**3.8**
	Nairobi City	13	49	3.8
Central		**972**	**10,703**	**11.0**
	Kiambu	598.2	6,776	11.3
	Kirinyaga	240	1340.8	5.6
	Murang'a	113.7	2338.5	20.6
	Nyandarua	10	140	14.0
	Nyeri	10.5	108	10.3
Coast		**603**	**2148**	**3.6**
	Kilifi	80	220	2.8
	Kwale	79	216	2.7
	Lamu	174	834	4.8
	Mombasa	6	26	4.3
	Taita/Taveta	257	810	3.2
	Tana River	7	42	6.0
Eastern		**141,335**	**978,094**	**6.9**
	Embu	745	6,133	8.2
	Kitui	27,172	205,660	7.6
	Machakos	50,302	274,824	5.5
	Makueni	40,500	263,496	6.5
	Marsabit	94	376	4.0
	Meru	15,826	173,267	10.9
	Tharaka-Nthi	6,696	54,338	8.1

Province	County	Area (Ha)	Production (90 Kg Bags)	Yield (Bags/Ha)
Rift Valley		**288.5**	**2229**	**7.7**
	Baringo	34	170	5.0
	Kajiando	5	15	3.0
	Laikipia	46	273.5	5.9
	Nakuru	167.5	1374.5	8.2
	Narok	1	6	6.0
	Samburu	16	223	13.9
	West Pokot	19	167	8.8
Total Production		**143,212**	**993,223**	**6.9**

Source: Directorate of Crops

More than 98.5 percent of the pigeon peas was produced in Eastern region mainly in Kitui, Machakos and Makueni Counties (Table 31). In this region there was an increase of 3.6 and 5.9 percent in area and production respectively in 2012 compared to 2011. In the Central region, there was a decrease of 79 Ha from 1,051 Ha in 2011 to 972 Ha in 2012 but an increase of 3,554 bags from 7,149 bags in 2011 to 10,703 bags in 2012. In Coast and Rift Valley regions there were reductions in both the area and production of the crop.

5.1.13 Sweet Potatoes Production

Sweet potato production continued on an upward trend since 2008. The area under production increased by 8.2 per cent from 61,902 Ha in 2011 to 66,971 in 2012 as shown in table 32. The output also increased by 13.2 percent from 759,471 tons in 2011 to 859,549 in 2012. Average yield improved marginally from 12.3 in 2011 to 12.8 tons/Ha in 2012 but still below the record achieved in 2008 of 14.3 tons/Ha. The increase was attributed to increased distribution of improved planting materials through the Traditional High Value Crops programme (THVC).

Table 30: Sweet Potatoes Production Nationally

Year	2008	2009	2010	2011	2012
Area (Ha)	62,786	77,821	42,312	61,902	66,971
Production					
Bags (98kg)	9130418	10553102	3914183	7749704	8770908
Tons	894,781	1,034,204	383,590	759,471	859,549
Unit Price 98kg	3,100	5,503	1904	2668	3,049

Bag (Kshs.)					
Yield (Bags/Ha)	14.3	13.3	7.6	12.3	12.8
Total Value (billion Kshs.)	28.30	58.07	7.45	20.68	26.74

Source: Directorate of Crops

Table 31: Sweet Potatoes Production by Province and County, 2012

Province	County	Area (Ha)	Production (tons)	Yield (tons/Ha)
Nairobi		**37**	**249**	**6.8**
	Nairobi City	37	249	6.8
Central		**4,482**	**39,674**	**8.9**
	Kiambu	2,809	15,201	5.4
	Kirinyaga	568	10,877	19.1
	Murang'a	666	8,873	13.3
	Nyandarua	80	918	11.5
	Nyeri	359	3,805	10.6
Coast		**960**	**4,567**	**4.8**
	Kilifi	82	624	7.6
	Kwale	595	902	1.5
	Lamu	91	1,626	17.9
	Mombasa	12	93	7.8
	Taita/Taveta	149	1,052	7.1
	Tana River	31	270	8.7
Eastern		**8,961**	**113,429**	**12.7**
	Embu	357	4,735	13.3
	Isiolo	6	70	11.7
	Kitui	581	5,099	8.8
	Machakos	3,185	47,190	14.8
	Makueni	1198	12,285	10.3
	Marsabit	0	0	0.0
	Meru	3,020	36,055	11.9
	Tharaka-Nthi	614	7,995	13.0
Nyanza		**27,735**	**433,360**	**15.6**

Province	County	Area (Ha)	Production (tons)	Yield (tons/Ha)
	Homabay	7,440	131,300	17.7
	Kisii	710	12,150	17.1
	Kisumu	2,785	41,625	15
	Migori	11,835	183,525	15.5
	Nyamira	470	5,510	11.7
	Siaya	4,495	59,250	13.2
Rift Valley		**5,120**	**53,934**	**10.5**
	Baringo	283	556	2.0
	Bomet	429	4650	10.8
	Elgeyo/Marakwet	61	612	10.0
	Kajiando	24	90	3.8
	Kericho	544	4972	9.1
	Laikipia	88.1	517.3	5.9
	Nakuru	599	5669	9.5
	Nandi	123	1443	11.7
	Narok	2360	25140	10.7
	Samburu	10	53	5.3
	Trans Nzoia	453	7328	16.2
	Uasin Gishu	3	2	0.7
	West Pokot	112	2625	23.4
Western		**19,676**	**214,336**	**10.9**
	Bungoma	3,857	53,274	13.8
	Busia	9,593	88,010	9.2
	Kakamega	4,667	52,250	11.2
	Vihiga	1,559	20,802	13.3
Total Production		**66,971**	**859,549**	**12.8**

Source: Directorate of Crops

Nyanza province accounted for 50.4 percent of Sweet Potatoes production nationally as indicated in table 33. Migori and Homabay were the main producing counties in the region. **A**rea under production in Nyanza region increased from 20,361 Ha in 2011 to 27,735 Ha in 2012, while production rose from 344,313 tons in 2011 to 433,360 tons in 2012. 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 climatic conditions in the region in 2012.

Conversely, while the area under production in Western region decreased from 20,929 Ha in 2011 to 19,676 in 2012, the production increased from 182,983 tons in 2011 to 214,336 tons in 2012. This increased productivity was attributed to improved crop husbandry and adequate rains.

5.1.14 Cassava Production

Unlike the trend observed since 2010, the area under production increased, this time by 17.6 percent from 60,473 in 2011 to 69,169 Ha in 2012. Production assumed the same trend, increasing from 679,167 in 2011 to 935,572 tons in 2012, an equivalent of 27 percent. This was as result of increases recorded in both area and productivity over the same period as shown in table 34.

Table 32: Cassava Production Nationally

Year	2008	2009	2010	2011	2012
Area (Ha)	54,673	70,426	61,573	60,473	69,169
Production....					
Tons	750,964	911,074	323,389	679,167	893,122
99kg bags	7,585,495	9,202,768	3,266,556	6,860,273	9,021,432
Yield (tons/Ha)	13.7	12.9	5.3	11.2	12.9
Price	1145	1716	1471	1609	2046.0
Total Value (billion Kshs.)	**8.7**	**15.8**	**4.8**	**11.0**	**18.5**

Source: Directorate of Crops

The increase in production is attributed to the ministries efforts to promote the crop as a food security crop as well as improved rains reported in 2012. Some the efforts by the ministry include the THVC, EAAPP and the GIZ projects. Western and Nyanza region produced the highest considering that the crop forms an important part of their diet replacing maize at times of scarcity.

Table 33: Cassava Production by Province and County, 2012

Province	County	HA	Production (tons)	Yield (tons/Ha)
Nairobi		**16**	**124**	**8**
	Nairobi City	16	124	8

Central		**1070.3**	**3593.8**	**3.4**
	Kiambu	342.5	1609.9	4.7
	Kirinyaga	174.8	175	1.0
	Murang'a	517.3	1784.9	3.5
	Nyeri	35.7	24	0.7
Coast		**12,196**	**181,010**	**14.8**
	Kilifi	8,436	137,938	16.4
	Kwale	2,429	8,721	3.6
	Lamu	869	30,582	35.2
	Mombasa	212	2,483	11.7
	Taita/Taveta	170	943	5.5
	Tana River	80	343	4.3
Eastern		**13,481**	**200,416**	**14.9**
	Embu	450	6,234	13.9
	Isiolo	3.5	70	20
	Kitui	1,914	19,890	10.4
	Machakos	6,552	116,024	17.7
	Makueni	2,103	25,028	11.9
	Marsabit	5	100	20
	Meru	1,811	24,810	13.7
	Tharaka-Nthi	642	8,260	12.9
Nyanza		**20,842**	**308,695**	**14.8**
	Homabay	2300	34200	14.9
	Kisii	110	1450	13.2
	Kisumu	2865	28650	10.0
	Migori	15540	244125	15.7
	Nyamira	27	270	10.0
	Siaya	4245	42450	10
Rift Valley		**1000**	**15869**	**15.9**
	Baringo	119	571	4.8
	Bomet	20	324	16.2
	Elgeyo/Marakwet	151	3814	25.3
	Kajiando	11	37	3.4
	Kericho	21.5	632	29.4
	Laikipia	46.5	275	5.9
	Nakuru	109	1381	12.7
	Nandi	339	6139	18.1
	Narok	24	90	3.8

	Samburu	6	14	2.3
	Trans Nzoia	101	1886	18.7
	Turkana	7	1	0.1
	Uasin Gishu	13	345	26.5
	West Pokot	32	360	11.25
Western		**20,564**	**183,414**	**8.9**
	Bungoma	491	3,883	7.9
	Busia	19,641	176,090	9.0
	Kakamega	308	2,419	7.9
	Vihiga	124	1,022	8.2
Total Production		**69,169**	**893,122**	**12.9**

Source: Directorate of Crops

5.1.15 Cocoyam Production

Area under production and output has consistently increased since 2010, but a major increase of almost four times was observed on hectarage between 2011 and 2012 as shown in table 36. Average yield per Ha almost doubled from 6.7 in 2011 to 12.1 Tons/Ha in 2012.

Table 34: Cocoyam Production Nationally

Year	2008	2009	2010	2011	2012
Area (Ha)	2,254	2,588	2,774	4,549	9,644
Production....					
Tons	16,872	24,901	19,054	30,635	117,113
Yield (Tons/Ha)	7.5	9.6	6.9	6.7	12.1
Total Value (billion Kshs.)	**…**	**…**	**…**	**…**	

Source: Directorate of Crops … = data not yet available

Table 5. 1: Cocoyam Production by Province and County, 2012

Province	County	Area (Ha)	Production (tons)	Yield (tons/Ha)
Nairobi		**38**	**253**	**6.7**
	Nairobi City	38	253	6.7
Coast		**1,544**	**1,523**	**1.0**
	Kwale	11	22	2.0
	Lamu	1,320	580	0.4
	Mombasa	7	28	4.0

Province	County	Area (Ha)	Production (tons)	Yield (tons/Ha)
	Taita/Taveta	56	745	13.3
	Tana River	150	148	1.0
Eastern		**8,961**	**113,429**	**12.7**
	Embu	357	4,735	13.3
	Isiolo	6	70	11.7
	Kitui	581	5,099	8.8
	Machakos	3,185	47,190	14.8
	Makueni	1198	12,285	10.3
	Meru	3,020	36,055	11.9
	Tharaka-Nthi	614	7,995	13.0
Rift Valley		**120.5**	**586**	**4.9**
	Elgeyo/Marakwet	15	114	7.6
	Laikipia	16	48	3.0
	Nakuru	17.5	211	12.1
	Nandi	63	139	2.2
	Narok	4	24	6.0
	Uasin Gishu	5	50	10.0
Western		**524**	**2,845**	**5.4**
	Bungoma	106	517	4.9
	Busia	169	873	5.2
	Kakamega	211	1,285	6.1
	Vihiga	38	170	4.5
Total Production		**9,644**	**117,113**	**12.1**

Source: Directorate of Crops

Counties in Eastern province were the leading producer of the crop with Machakos county registering the highest productivity of 14.8 tons per Ha, amongst all counties. In Coast province, Lamu and Taita/Taveta counties were leading producers in terms of hectarage in 2012. In Western province, Busia and Kakamega counties were the leading producers. During 2012, Machakos county was the leading producer with 40 percent of cocoyam production nationally attributed to the county. The high production in Eastern province was credited to incentives offered to farmers in form of ready market which led to high price for the produce in the region.

5.1.16 Yams Production

The hectarage under production reduced from 1,057 in 2011 to 10,10 Ha in 2012. Likewise production reduced from 9,635 in 2011 to 9,144 tons in 2012 as shown in table 37. However average yield increased from 9.1 to 9.9 bags/Ha over the two years.

Table 35: Yams Production Nationally

Year	2008	2009	2010	2011	2012
Area (Ha)	808	882	1,224	1,057	1010
Production....					
Tons...	6,123	4,427	8,035	9,635	9144
Yield (Bags/Ha)	7.6	5.0	6.6	9.1	9.9
Total Value (billion Kshs.)	**…**	**…**	**…**	**…**	**…**

Source: Directorate of Crops ***… =data not yet available***

Table 36: Yams Production by Province and County, 2012

Province	County	Area (Ha)	Production (tons)	Yield (tons/Ha)
Central		**169.2**	**855**	**21.8**
	Kiambu	108.4	483.6	4.5
	Kirinyaga	9	24	2.7
	Murang'a	31. 5	136.7	4.3
	Nyeri	20.4	210.6	10.3
Eastern		**841**	**8,289**	**9.9**
	Embu	111	1,126	10.1
	Kitui	3	26	8.7
	Meru	624	6,097	9.8
	Tharaka-Nthi	103	1,040	10.1
Total Production		**1010**	**9144.0**	**9.1**

Source: Directorate of Crops

The crop was exclusively produced by Eastern and Central provinces; in Embu, Meru Tharaka-Nithi, Kiambu, Nyeri, Kirinyaga and Murang'a Counties as shown in table 38. The area under production increased by 10 percent from 8,289 tons in 2011 to 9144 tons

in 2012. This was a result of increase in hectarage from 841 Ha to 1010 Ha over the same period. However, productivity reduced slightly from 9.9 to 9.1 tons/Ha.

5. 2 Öil Crops

5. 2 Oil Crops

Table 39 shows that production of various oil crops has been improving over years both in terms of area and production. Between 2011 and 2012, soya beans recorded a substantial increase of 31 percent in production while area under production increased by 10 percent. Oil palm a newly established crop promoted in western region for improved nutritional security and farmer income, recorded marked increase both in area and production due to large number of mature palms that have come into production. However, there is dire need to invest in a crushing factory to absorb the current volumes. There are efforts to improve the current production systems and medium /cottage industries in sunflower and simsim growing areas, where, despite the high potential, the cropped area is still small, subsequently leading to low local production. A combined Nuts and Oil crops policy is also being developed for the industry to steer the development of the oilseeds subsector and reduce the huge import bill on edible oils.

Table 37: Oil Crops Production, 2008 – 2012

Year		2008	2009	2010	2011	2012
Crop	Indicator					
Soya Beans	Area (Ha)	2,456	2,950	1,621	1,734	1911
	Production (Tons)	1,923	2,110	1,540	2181	2866
Sun Flower	Area (Ha)	6,073	6,310	3,752	5,157	3480
	Production (Tons)	5,540	6,000	3,128	5,613	4432
Ground Nuts	Area (Ha)	26,089	25,745	10,894	12,803	16387
	Production (Tons)	14,710	15,040	11,801	12,526	24639
Oil Palm	Area (Ha)	171	212	1,079	1,079	1085
	Production (Tons)	1,815	2,112	3,000	3,350	3417
Simsim	Area (Ha)	483	1,516	150	192	906
	Production (Tons)	21	167	5	65	405
Coconut	Area (Ha)	49,669	50,956	50,143	50,663	42,117
	Production (Tons)	59,897	65,160	74,613	87,479	120,068
Castor Oil	Area (Ha)	6	6	6	6	…

Production (Tons)	2	2	3	3	…

Source: Directorate of Crops *…=Data not yet available*

5.3 Horticulture Production

5.3.1 Overview of Horticulture Performance:

The domestic value of horticulture production in 2012 amounted to Ksh.218 Billion as compared to 205.1 billion in 2011; this is equivalent to an increase of 5.5 percent as shown in table 39. Over the same period, cultivated area increased by 14.6 percent from 565,228 Ha to 622,835 Ha with a total production of 12.6 Million Tons in 2012 compared to 7.8 million tons in 2011. This was an increase of 38 percent. Favourable weather conditions were recorded in the production areas that saw the increased production and subsequently the value. The major contributors of the increased value were bananas and Irish potatoes.

Table 38: Trends of Horticulture Crops Performance, 2010-2012

Indicator	**2010**	**2011**	**2012**
Area (Ha)	539,337	566,228	622,835
Production (millions MT)	8.2	7.8	12.6
Value (millions Kshs)	186,331	205,139	217,969
Export volume ('000' KG)	403,026	380,849	380,421
Export value (millions Kshs)	77,710	91,230	87,714
Estimated domestic consumption ('000')	7,779,762	7,569,460	12,220,000

Source: Directorate of Crops

5. 3.2 Review of Performance of Horticultural Crops by Category

In 2012, vegetables contributed 38 percent to the domestic value of horticulture. The area, production and value were 287,000Ha, 5.3 million tons and Ksh 91.3 Billion respectively. The area and production increased by 9 percent and 13 percent while there was a slight reduction in value by 4 percent. The leading vegetables in production and value were Irish potatoes, tomatoes and cabbages.

In 2012, fruits contributed Kshs. 61.5 billion accounting for 22 percent of the domestic value of horticultural produce. The area under fruit was 167,000 Ha with a production of 5.2 million tons. Although the area under fruits declined by 6 percent as compared to the previous year, the production and value increased by 46 percent and 1 percent respectively due to favourable weather. The major fruits grown in order of importance were; banana (37.6 percent), mangoes (19.6 percent), pineapples (12.1 percent), avocado (9.8 percent), paw paw (5.4 percent), oranges (4.6 percent), water melon (4.2 percent) and passion fruit (3.7 percent). There is potential for growth of fruits due to increasing demand both in domestic and export market for fresh fruits and fruit products such as juices, salads, dried fruits and concentrates.

In 2012, nuts contributed Kshs. 6.9 billion accounting for 2.9 percent of the domestic value of horticulture. The value and production increased by 15 percent and 35 percent respectively while the area reduced by 2 percent compared to the previous year. The increase in the production and value of nuts is attributed to favourable weather and better prices offered to farmers while the drop in area was due to reduced area under Coconut. Nuts have a potential to be processed into diversified high market end value products and hence an important sub-sector in attaining objectives of the Kenya Vision 2030. The leading nuts grown in Kenya by value are coconut (37.4 percent), macadamia (27.8 percent), cashew nuts (19.3), peanuts (14.0 percent) and Bambara nuts (1.4 percent).

Floriculture is one of the fastest growing subsectors in the Agriculture sector and is key in achieving the Kenya vision 2030. In 2012, the subsector contributed Ksh. 39.7 billion accounting for 18 percent of the domestic value of horticulture. This was a 5 percent decrease in value as compared to Ksh. 41.608 billion realized in the year 2011. The area

under floriculture was 4,039 Ha with a production of 878,067 tons in 2012, a 25.26 percent increase compared to the previous year.

The sub-sector directly employs over 500,000 people directly and indirectly hence a major employer in the country. The main categories of flowers cultivated in Kenya in order of importance in terms of area planted are roses, Easter lilies, Arabicum, Carnation, Hypericum, Alstroemeria, Agapanthus, Moby dick, ornamental Amaranthus, Eryngium, Statice, Gypsophilla, Phlox, Gladiolus, Anthurium, Scabiosa, Solidago, leather leaf fern, lilies and Tuberose. There are over 80 commercially cultivated flowers in Kenya. Roses constitute up to 75 percent of flower exports. The flower industry is expected to grow even further with the expansion of the export markets such as Japan, Dubai, UAE and Russia. Domestically, there is also increasing demand for the flowers for use in value added products such as bouquets and other flower arrangements.

Table 39: Horticulture Industry Performance by Category (2010-2012)

	2010			2011			2012			Share by value (2012)
	Area (Ha)	Quantity (Ton)	Value Ksh (Million)	Area (Ha)	Quantity (Ton)	Value Kshs (Million)	Area (Ha)	Quantity (Ton)	Value (Kshs Million)	
VEG	277,284	4,600,000	85,736	277,578	4,642,522	95,564	336,517	6,084,341	104,920	48 percent
FLOWERS	3,419	133,736	44,964	3,213	123,270	41,608	4,039	878,067	39,685	18 percent
FRUITS	158,291	2,768,435	50,578	177,715	2,848,028	60,645	166,915.00	5,236,365	61,524	28 percent
NUTS	94,838	123,221	3,796	99,576	147,583	5,876	98,063	226,785	6,900	3 percent
MAPS	4,173	2,673	44	7,004	15,034	429	17,301	152,430	4,940	2 percent
TOTAL	538,005	7,628,065	185,118	565,086	7,776,437	204,122	622,835	12,577,988	217,969	100 percent

Source: Directorate of Crops

5.3.3 Overview of Horticulture Exports Performance (2010-2012)

The total value of Horticultural exports in 2012 was Kshs 87.7 Billion ($1,037.6 million), down from Kshs 91.2 billion ($1027.6 million) achieved in 2011. The total volume of exported produce was 380,421,776 kg comprising of flowers, fruits, vegetables and nuts as compared to 380,848,828 kg exported the previous year. This was a marginal decline in volume exported as compared to 2011 while the value also declined by 3.9 percent during the same period. The decline in quantity and value is attributed to frost and dry spells experienced in the beginning of 2012 and the deteriorating economic conditions in Europe, a major destination of Kenyan horticultural export.

Table 40: Horticulture Exports 2010-2012

	2010		2011		2012		percent change (2011 vs. 2012)	
Product	value	Quantity (Kgs)	value	Quantity (Kgs)	value	Quantity (Kgs)	Quantity	Value
Flowers	35,557,457,205	120,220,846	44,506,056,083	121,891,436	42,872,537,453	123,510,784	1.3	(3.7)
Vegetables	21,416,561,863	123,813,087	21,513,237,985	92,201,537	21,490,276,838	103,356,938	12.1	(0.1)
Nuts	1,997,516,145	11,827,980	2,660,083,562	12,999,655	2,945,364,388	12,479,881	(4.0)	10.7
Processed Vegetables	2,789,134,974	32,501,074	11,636,009,448	38,305,653	9,415,032,764	30,553,573	(20.2)	(19.1)
Fruits	9,187,224,162	35,649,188	3,626,732,716	37,068,526	4,043,059,592	45,110,395	21.7	11.5
Processed Fruits	6,762,034,204	79,013,546	7,287,583,444	78,382,021	6,947,505,790	65,410,205	(16.5)	(4.7)
Totals	77,709,928,553	403,025,721	91,229,703,238	380,848,828	87,713,776,825	380,421,776	(0.1)	(3.9)

Source: Directorate of Crops

5. 3.4: Horticulture Performance by County.

The leading producing Counties of horticultural produce are Nakuru, Kiambu, Meru, Nyandarua, Murang'a, Bungoma and Makueni, which jointly contributed up to 57 percent of the total value of horticulture in 2012 as shown in Table 42. The value of horticulture produce in twenty one (21) least producing Counties account for 7.3 percent; with each contributing less than 1 percent of the total value. The disparity in horticulture county performance depends on the enterprises, the scale of operation and farm gate prices. The score for each county, in terms of percentage share in value, is shown in table 43.

Table 41: Horticulture Performance by Counties, 2010-2012

		2010			2011			2012			
No.	County	Area(Ha)	Qty (MT)	Value (Kshs. Million)	Area(Ha)	Qty (MT)	Value (Kshs. Million)	Area(Ha)	Qty (MT)	Value (Kshs. Million)	County percent Share Value -2012)
1	Nakuru	25,257.00	300,519.00	30,480.50	24,569.00	395,653.00	30,104.68	33,734.02	1,031,057.58	22,548.81	10.4
2	Kiambu	28,480.00	566,947.00	18,128.95	27,802.00	551,230.00	18,905.90	40,812.06	879,105.03	26,119.73	12.0
3	Meru	43,452.00	657,699.00	29,123.57	47,468.00	631,474.00	30,326.91	37,333.73	890,099.60	25,831.68	11.9
4	Nyandarua	54,306.00	1,382,208.00	18,961.51	54,110.00	1,352,866.00	18,796.45	52,073.39	1,414,126.65	17,966.10	8.3
5	Murang'a	13,990.00	209,826.00	7,019.07	16,421.00	184,588.00	6,364.73	25,806.58	572,738.17	10,691.18	4.9
6	Bungoma	15,102.00	226,920.00	4,301.20	18,786.00	191,174.00	3,528.44	13,345.06	581,658.09	10,478.61	4.8
7	Makueni	12,603.00	115,957.00	2,870.97	10,043.00	92,266.00	3,045.66	23,900.87	744,623.82	10,234.07	4.7
8	Machakos	6,328.00	51,931.00	3,500.63	7,441.00	71,600.00	3,782.74	24,703.34	261,333.11	5,706.29	2.6
9	Kirinyaga	10,137.00	252,395.00	4,212.14	10,621.00	299,970.00	4,511.70	11,779.00	375,416.05	9,384.14	4.3
10	Kilifi	54,567.00	303,006.00	4,536.11	56,035.00	324,779.00	5,201.49	50,860.00	359,532.00	7,483.96	3.4
11	Elgeyo Marakwet	11,507.00	279,382.00	3,811.60	18,720.00	416,017.00	6,427.20	26,591.46	423,735.47	5,960.86	2.7
12	Kwale	49,954.00	334,543.00	5,090.66	52,727.00	368,380.00	6,182.16	48,932.01	322,595.42	5,122.33	2.3
13	Kisii	14,429.00	272,751.00	5,288.67	15,454.00	299,228.00	7,201.80	11,823.20	153,031.84	4,855.45	2.2
14	Migori	10,187.00	148,791.00	2,952.60	11,504.00	168,682.00	4,657.82	13,761.80	176,291.60	4,753.38	2.1
15	Tharaka Nithi	32,496.00	258,438.00	3,151.26	36,821.00	285,461.00	5,523.08	9,560.28	255,361.34	4,383.95	2.0

16	Embu	11,851.00	308,585.00	3,079.63	12,205.00	251,386.00	5,556.44	14,227.17	221,980.51	3,980.59	1.8
17	Kajiado	1,901.00	41,822.00	2,824.29	1,953.00	58,243.00	3,332.24	3,494.57	69,511.32	3,745.54	1.7
18	Nyamira	11,128.00	166,478.00	4,979.49	10,488.00	168,726.00	3,985.95	7,973.85	124,974.95	3,583.54	1.7
19	Homa bay	13,696.00	97,697.00	1,586.51	17,223.00	114,247.00	2,598.22	24,942.30	113,534.55	3,480.88	1.6
20	Kericho	5,315.00	114,104.00	2,515.67	5,756.00	118,662.00	2,986.08	7,005.55	168,319.94	3,174.11	1.5
21	Narok	9,704.00	800,835.00	2,177.37	10,795.00	135,184.00	2,470.30	9,870.00	113,306.05	3,033.36	1.4
22	Nyeri	12,779.00	258,870.00	3,659.11	10,262.00	179,911.00	3,152.65	29,211.79	173,739.30	2,901.12	1.3
23	Bomet	6,797.00	100,230.00	1,671.13	8,570.00	214,842.00	4,857.91	10,332.85	148,342.69	2,283.49	1.1
24	Taita Taveta	7,444.00	180,774.00	3,680.44	5,789.00	127,166.00	4,042.69	4,343.70	92,310.34	2,282.59	1.1
25	Lamu	15,247.00	90,181.00	1,484.10	15,589.00	88,872.00	1,554.98	15,832.80	2,150,266.10	2,213.82	1.o
26	Kakamega	2,914.00	30,579.00	525.45	3,360.00	26,849.00	502.70	8,627.36	116,539.13	2,046.71	0.9
27	Siaya	10,964.00	101,106.00	1,308.87	9,907.00	71,941.00	951.08	5,738.02	54,869.52	1,580.49	0.7
28	Uasin-Gishu	2,917.00	70,019.00	2,538.78	2,652.00	61,522.00	2,384.25	2,978.11	70,080.77	1,383.74	0.6
29	Transnzoia	3,460.00	37,972.00	1,317.61	3,450.00	83,414.00	1,820.56	4,254.65	56,073.94	1,173.81	0.5
30	Nandi	2,432.00	35,770.00	760.02	2,186.00	41,600.00	792.88	6,669.48	81,056.02	1,106.75	0.5
31	Nairobi	305.00	11,752.00	359.09	288.00	10,708.00	316.73	686.53	15,277.60	1,054.23	0.5
32	Laikipia	8,536.00	67,239.00	2,426.22	7,636.00	58,504.00	2,676.34	5,032.90	35,395.10	1,036.54	0.4
33	Tana River	2,448.00	32,234.00	522.63	1,769.00	24,665.00	451.11	4,275.20	58,463.60	1,030.16	0.4
34	Kisumu	4,708.00	58,234.00	1,192.48	4,051.00	38,690.00	948.63	4,377.90	34,191.32	942.72	0.4
35	Baringo	4,334.00	47,643.00	992.02	4,537.00	66,653.00	1,062.32	4,792.21	41,495.30	884.37	o.4
36	Garissa	1,376.00	15,004.00	279.15	1,623.00	18,448.00	480.05	1,796.00	31,799.00	845.36	0.4
37	Kitui	2,248.00	26,597.00	624.74	2,659.00	32,673.00	808.64	7,923.10	33,115.10	680.39	0.3
38	Isiolo	236.00	2,519.00	63.49	198.00	2,782.00	76.63	699.40	20,692.00	645.68	0.3
39	Vihiga	1,878.00	24,012.00	456.31	1,891.00	18,725.00	490.83	2,819.58	38,129.31	611.85	0.3
40	Busia	6,890.00	65,653.00	933.91	7,622.00	91,009.00	1,103.13	2,649.70	20,059.20	548.53	0.3

41	**Mombasa**	**1,816.00**	**11,179.00**	**273.28**	**1,757.00**	**15,163.00**	**262.51**	**1,659.06**	**13,402.74**	**375.63**	**0.2**
42	**Mandera**	**835.00**	**7,274.00**	**194.07**	**878.00**	**8,348.00**	**212.68**	**679.00**	**6,367.00**	**189.76**	**0.1**
43	**Turkana**	**135.00**	**197.00**	**4.32**	**143.00**	**217.00**	**4.99**	**1,749.46**	**7,726.06**	**136.07**	**0.1**
44	**Marsabit**	**118.00**	**595.00**	**30.36**	**158.00**	**826.00**	**41.87**	**254.00**	**2,298.07**	**45.38**	**0**
45	**Samburu**	**161.00**	**756.00**	**16.35**	**182.00**	**780.00**	**17.85**	**201.86**	**1,023.60**	**28.11**	**0**
46	**West Pokot**	**1,878.00**	**14,911.00**	**403.82**	**2,003.00**	**20,714.00**	**603.75**	**125.00**	**823.00**	**25.05**	**0**
47	**Wajir**	**99.00**	**661.00**	**21.16**	**127.00**	**874.00**	**31.63**	**125.00**	**823.00**	**25.05**	**0**
Total		**539,345.00**	**8,182,795.00**	**186,331.31**	**566,229.00**	**7,785,712.00**	**205,139.38**	**620,364.90**	**12,556,691.88**	**217,481.95**	**100**

Source: Directorate of Crops

5. 3.5: Review of Performance by Selected Horticultural Crops

5. 3.5.1 Irish Potatoes Production

The area under Irish potatoes in 2012 was 143,325 Ha yielding a 2.9 million tons with a value of Kshs 50 billion. Compared to 2011, the area increased by 14 percent while the quantity increased by 19 percent due to favourable weather. The major procers were; Nyandarua, Nakuru, Meru and Bungoma counties representing 29 percent, 18 percent, 15 percent, 13 percent and 11 percent respectively. The price of Irish potatoes per kg declined from an average of Kshs 20 in 2011 to Kshs 13 in 2012 resulting to a reduction in value in major producing Counties. However, potatoes from Meru County had the highest value accounting for 29 percent of the total value. This is because of high farm gate prices as a result of organized marketing. The main challenge in Irish potato production has been limited use of certified seeds, resulting to poor performance especially in Narok and Bomet Counties.

Table 42: County Irish Potatoes production 2010 - 2012

2010					2011			2012		
S /no	County	Area (Ha)	Quantity (Ton)	Value Kshs (million)	Area (Ha)	Quantity (Ton)	Value Kshs (million)	Area (Ha)	Quantity (Ton)	Value Kshs (million)
1	Bungoma	5,113	86,988	1198.0	2350	47000	853.8	5321.1	427311	6945.5
2	Machakos	-	-	-	8	54	1.1	10	68	1.0
3	Makueni	75	328	19.1	0	0	0.0	20	200	2.0
4	Meru	17,463	245,849	5962.8	13622.5	195474.5	11092.9	18092	367969	14512.5
5	Embu	349	3,500	41.0	1	10	0.0	2	20	0.2
6	Tharaka Nithi	2,847	10,115	97.4	25.2	221.32	8.0	41	374.75	14.1
7	Kisii	96	2,060	45.7	22	580	11.8	30	850	21.6
8	Nyamira	63	1,041	23.1	32.8	533.1	11.4	31.2	574	15.1
9	Nakuru	16,053	162,503	4627.3	23583.5	326422	6966.0	22566.5	512165	5388.1
10	Baringo	1,878	30,264	392.1	1561	51135.5	433.0	1753	26299	528.8
11	Elgeo Marakwet	8,311	165,347	1639.7	17911	285224	2911.7	20992	324288	4319.0
12	Uasin Gishu	968	10,636	152.5	911	10922	175.7	913	14851.42	199.3
13	Nandi	512	8,238	165.4	411.2	8154	184.6	471.1	9219.75	188.4
14	Laikipia	3,362	25,620	805.9	1509	6754	135.1	1612	7176	151.3
15	Samburu	9	10	0.2	8	20	0.8	7	17.5	0.7
16	West Pokot	937	6,241	152.5	850	8530	114.6	730	7388	134.8
17	Trans Nzoia	892	4,574	92.7	107	1875	5.1	128	2214	45.0
18	Kericho	467	4,667	125.2	787.7	8025	182.4	721.8	7567	165.3
19	Bomet	2,900	37,350	697.6	3680	109840	2862.6	2987	42155	792.3

20	**Narok**	**6,836**	**771,959**	1666.3	**7740**	**150490**	1928.0	**6292**	**85332**	2331.0
21	**Nairobi**	**-**	**-**	-	**55.22**	**1148.4**	4.4	**10.32**	**94.54**	1.9
22	**Muranga**	**3,929**	**45,027**	1329.1	**5541.5**	**34392.63**	544.8	**5920.5**	**33438.9**	725.2
23	**Nyandarua**	**28,688**	**869,283**	11482.8	**27285**	**398943**	11806.5	**27520**	**835054.3**	10973.5
24	**Kirinyaga**	**418**	**9,336**	137.3	**572**	**4700**	59.3	**563.5**	**4678**	65.8
25	**Nyeri**	**8,067**	**133,446**	1462.5	**7849**	**71184**	1074.5	**7821**	**61143**	1140.4
26	**Kiambu**	**11,271**	**91,097**	1943.0	**19500.8**	**124943.4**	1308.8	**18769**	**144619**	1709.2
	TOTAL	**121,542**	**2,725,936**	34273.5	**135924.4**	**1846576**	42676.8	**143325**	**2915067**	50371.9

Source: Directorate of Crops

5.3.5.2: Tomato Production

During the year under review, the area under tomatoes was 18,612 Ha. The national production was 397,000 Mt with a value of Kshs 12.8 Billion. There was no difference in area grown from the previous while the quantity and value reduced by 3 percent and 27 percent respectively as compared to 2011 due to the price offered in Meru County. Tomato was mainly produced in Kirinyaga (14 percent), Kajiado (9 percent) and Taita Taveta (7 percent). In Kirinyaga and Loitoktok, tomato is produced under irrigation schemes namely Mwea and Namelock schemes respectively. Green house tomatoes production has picked up with farmers. However, the main challenge has been the bacterial wilt which has caused some green houses to be abandoned.

Table 43: County Tomato Production 2010 - 2012

	2010				**2011**			**2012**		
S/ no	**COUNTY**	**Area (Ha)**	**PRODN**	**Value Kshs (million)**	**Area (Ha)**	**Quantity (Ton)**	**Value Kshs (million)**	**Area (Ha)**	**Quantity (Ton)**	**Value Kshs (million)**
1	Garissa	242	3,408	102.5	284	8035	239.2	390	6465	194.8
2	Mandera	70	1,007	17.7	101	2066	40.4	141	1190	59.5
3	Wajir	10	180	3.3	26	460	13.9	20	262	9.8
4	Vihiga	28	561	25.6	17	391	15.6	48.5	864	34.6

5	Busia	329	5,291	201.0	178	4094	122.8	165	2320	69.6
6	Kakamega	109	1,191	46.1	54	1242	49.7	100	2305	92.2
7	Bungoma	837	11,793	340.3	571	13133	528.8	1022	21720	887.0
8	Machakos	262	6,284	125.6	350	8317.72	263.9	314	10240.4	357.2
9	Makueni	172	3,795	121.2	380.4291	16219	616.2	407.74	17551.58	681.5
10	Kitui	127	3,211	100.9	187.2794	2996.984	102.9	202	3172	109.5
11	Meru	761	19,304	578.8	895.75	6658	99.2	420	22214	468.4
12	Isiolo	53	874	18.5	139.6	5540	147.5	143.7	8622	223.4
13	Marsabit	12	108	7.0	6	38	2.7	2.1	80.476	3.9
14	Embu	632	16,470	340.7	239.9	3895	133.3	1681.5	4733	119.2
15	Tharaka Nithi	228	480	14.4	24.2	1020	8.1	26	1100	5.5
16	Mombasa	31	1,261	31.5	27.1	739	21.2	24.1	523	13.7
17	Kilifi	167	5,980	149.5	313	10280	235.5	280.4	8403.5	242.2
18	Taita Taveta	1,690	70,328	1507.9	477	22896	572.4	548	27400	959.0
19	Lamu	110	4,196	104.9	112	4400	110.0	198	7900	197.5
20	Tana River	139	5,442	136.1	132	5115	127.9	168	6735	171.2
21	Kwale	94	3,565	89.1	70	1025	25.6	49	984	24.6
22	Kisii	542	12,571	437.4	509	6456	264.1	641	6283	324.5
23	Nyamira	355	7,625	203.7	273	5800	186.6	282.5	5961	210.5
24	Migori	628	12,300	538.0	920	17779	789.6	1068	18429	910.1
25	Homa Bay	618	7,681	247.3	1713	14754	688.6	803	13120	637.9
26	Siaya	434	5,782	176.7	332	4150	201.2	271	4715	228.7
27	Kisumu	600	6,328	181.5	602	7504	198.4	594	6683	302.8

28	Nakuru	491	7,986	368.8	670.7	13484	311.9	580.58	10990.1	257.0
29	Baringo	766	2,054	72.1	116.5	907.5	18.5	120.5	1038	24.5
30	Keiyo Marakwet	134	5,218	256.9	292.9	6360	187.3	275	6525	152.6
31	Uasin Gishu	178	7,865	371.4	151.1	7154	292.4	117.75	4370	181.6
32	Nandi	129	2,110	65.1	98	1846	68.3	96.4	1881.35	83.2
33	Laikipia	563	8,740	198.3	429.5	7913	158.2	417	6402	211.3
34	Samburu	6	90	4.2	5.8	81	3.7	5.9	197.2	6.9
35	West Pokot	37	451	18.5	42.6	505.4	28.8	66	829	54.0
36	Turkana	11	11	0.3	31.2	74.1	4.5	32.1	63.95	4.2
37	Trans Nzoia	289	8,624	110.1	181	5410	158.8	149.8	3326	83.9
38	Kericho	490	8,031	196.5	547	9041	304.2	454.5	8941	442.6
39	Bomet	218	1,410	55.0	630	28234	505.1	748	7594.5	253.1
40	Narok	654	7,552	158.2	627.2	7258.8	175.8	682	8433	230.8
41	Kajiado	1,024	25,706	573.6	934.5947	42920	1021.5	1551	36460	989.7
42	Nairobi	85	2,070	82.8	66.9	1382.1	27.3	74.9	1326.68	49.1
43	Muranga	904	15,743	748.8	1410.99	8916	207.1	255.3	9698.8	205.5
44	Nyandarua	39	412	12.9	66.86	1131.2	36.1	34.11	526.6	14.7
45	Kirinyaga	1,890	43,612	927.2	1638.8	44290	623.7	1917.8	54524	1070.2
46	Nyeri	201	12,899	342.9	104	4550	154.5	93.8	2933	103.0
47	Kiambu	142	1,155	30.9	1136	28836	1170.8	930	20972	883.5
	TOTAL	**17,529**	**378,756**	10441.6	**18115.9**	**395297.8**	11263.7	**18612.98**	**397008.1**	12840.4

Source: Directorate of Crops

5. 3.5.3: Cabbage Production

Cabbage is grown in the wet areas of the country and is one of the highly consumed vegetables. In 2012, the country produced 684,000MT of cabbages with a total value of Kshs 8 Billion. The leading producer of cabbage in the country is Nyandarua County accounting for 45 percent of total cabbage production in the country. Other counties are Kericho, Nyeri and Kiambu accounting for 8 percent, 8 percent and 7 percent respectively. As compared to 2011, the area declined by 7 percent but the production went up by 12 percent due to the favourable weather conditions in the production areas. The value declined by 31 percent due to a glut in the market.

Table 44: County Cabbage Production for 2010 - 2012

S/ no	County	2010			2011			2012		
		Area (Ha)	Quantity (Ton)	Value Kshs (million)	Area (Ha)	Quantity (Ton)	Value Kshs (million)	Area (Ha)	Quantity (Ton)	Value Kshs (million)
1	Mandera	38	519	8.8	0	0	0.0	4	2	0.2
2	Vihiga	5	25	1.5	5	200	3.0	9.95	48	0.7
3	Busia	43	1,322	11.9	27	1080	21.6	28.5	211	4.2
4	Kakamega	42	7,106	87.3	24	960	14.4	73	2920	43.8
5	Bungoma	509	23,514	784.6	419	16760	204.0	526.5	31162	324.8
6	Machakos	13	132	2.4	39.5	745.8	9.8	45	1311	85.9
7	Makueni	141	3,211	53.7	243.21	5306	91.1	250.72	5360	70.1
8	Kitui	5	78	0.9	4	90	1.7	4.5	80	1.8
9	Meru	3,653	80,081	3664.7	322.5	4211	113.3	481.2	19165	476.3
10	Embu	59	1,270	12.7	93	1547	17.8	91	2955	54.2
11	Tharaka Nithi	418	308	4.1	20.5	802	13.6	32	1154	52.8
12	Taita Taveta	124	2,041	61.2	72.5	4350	130.5	54.8	1644	49.3
13	Kwale	.	.	0.0	0.8	0.8	0.0	0	0	0.0
14	Kisii	459	9,268	138.1	307	5276	84.8	304	4803	92.7
15	Nyamira	829	16,128	257.4	426	8910	156.9	425	9212	162.6
16	Migori	66	830	32.0	59	708	24.1	49	790	9.6

17	**Homa Bay**	**38**	**519**	8.8	**59**	**891**	27.5	**51**	**988**	30.5
18	**Siaya**	**23**	**225**	3.8	**37**	**455**	6.3	**36.01**	**658.9**	14.4
19	**Kisumu**	**4**	**76**	6.0	**4.5**	**74.5**	0.9	**28**	**400**	13.4
20	**Nakuru**	**1,447**	**25,598**	445.4	**1416.2**	**34890**	856.5	**1615.8**	**33489**	326.8
21	**Baringo**	**90**	**1,340**	34.6	**90.5**	**614**	34.7	**62**	**656.6**	5.8
22	**Keiyo Marakwet**	**1,174**	**29,312**	250.6	**1489.5**	**31970**	177.9	**1034.5**	**16538**	157.5
23	**Uasin Gishu**	**405**	**21,103**	308.1	**319**	**15220**	239.7	**366**	**17012**	161.6
24	**Nandi**	**283**	**4,389**	69.3	**229.8**	**3637**	55.1	**278**	**4456**	70.9
25	**Laikipia**	**814**	**5,655**	130.1	**234**	**5310.5**	96.4	**256.5**	**6348**	143.1
26	**Samburu**	**2**	**12**	0.4	**5**	**36**	0.7	**4**	**85**	0.9
27	**West Pokot**	**62**	**654**	5.6	**131.5**	**1526.25**	15.3	**170.75**	**1930**	27.8
28	**Trans Nzoia**	**270**	**5,400**	70.0	**327**	**6500**	34.9	**317**	**6195**	79.2
29	**Kericho**	**671**	**17,554**	252.8	**1104**	**61850**	661.2	**998.5**	**56505**	579.4
30	**Bomet**	**821**	**33,780**	344.6	**870**	**34000**	349.0	**1006**	**37919**	382.9
31	**Narok**	**333**	**5,722**	52.5	**427.5**	**5444**	50.7	**373**	**4570**	59.3
32	**Kajiado**	**30**	**1,560**	14.3	**89.938**	**934**	10.8	**176**	**1776**	30.4
33	**Nairobi**	**-**	**-**	0.0	**24.75**	**350.45**	7.1	**28.8**	**619.4**	15.5
34	**Muranga**	**294**	**5,376**	230.8	**312.37**	**5148.24**	18.9	**301.2**	**5931**	48.0
35	**Nyandarua**	**5,807**	**366,170**	3712.1	**6895.7**	**293683**	3117.8	**7111**	**3E+05**	3160.9
36	**Kirinyaga**	**111**	**5,227**	100.1	**102**	**3670**	73.6	**109.5**	**2723**	69.6
37	**Nyeri**	**1,205**	**56,458**	544.6	**1472**	**57566**	591.8	**1361**	**51503**	539.4
38	**Kiambu**	**1,658**	**53,191**	901.2	**1776.6**	**276812**	1191.0	**1768**	**45906**	759.8
	TOTAL	**21,923**	**784,876**	**12601.0**	**19491**	**891771**	**8509.2**	**19838**	**7E+05**	**8105.8**

Source: Directorate of Crops

5. 3.5.4: Kales Production

Kale is the most popular leafy vegetables consumed in the country, because of its short production cycle and high productivity. In 2012, the area under production of Kales was 24,894Ha which produced 37,000Mt with a value of Ksh 4.4 Billion. Though the area and production increased by 9 percent and 4 percent respectively as compared to 2011, the value declined by 6 percent due to a drop in the farm gate prices. The leading counties in kale production were Kiambu accounting for 33 percent followed by Nakuru with 6 percent. Meru County recorded the highest farm gate price with an average price of Kshs 50 per Kilo and accounting for 15 percent of the total value of Kales.

Table 45: County Kales Production 2010-2012

		2010			2011			2012		
S/no	County	Area (Ha)	Quantity (Ton)	Value (Kshs million)	Area (Ha)	Quantity (Ton)	Value (Kshs million)	Area (Ha)	Quantity (Ton)	Value (Kshs million)
1	Garissa	20	77	4.6	44	182	9.1	50	92	4.6
2	Mandera	27	84	4.0	30	122	6.0	91	176	8.7
3	Wajir	11	46	2.6	24	100	5.5	19	34	1.7
4	Vihiga	280	2,073	62.6	160	2400	36.0	314	4710	70.7
5	Busia	514	3,338	70.0	245	3675	73.5	475	3630	72.6
6	Kakamega	326	1,702	28.9	565	8550	128.3	1129	16635	249.5
7	Bungoma	767	23,253	280.3	875	12975	152.6	960	10180	128.8
8	Machakos	40	440	4.8	340	5023	67.8	376	5725	70.4
9	Makueni	169	5,658	52.2	323.8	6689	76.6	366.7	7579.1	40.2
10	Kitui	238	4,741	64.1	200.9	2358.6	29.8	316.7	3998	55.8
11	Meru	484	4,562	125.6	1247	12750	346.9	452	11791	636.5
12	Isiolo	48	70	0.6	83	786	13.2	70	1400	36.0
13	Marsabit	12	92	3.7	3.002	10	2.8	17.1	238.03	5.9
14	Embu	185	1,756	20.3	150	1724	22.2	154	3560	39.2
15	Tharaka Nithi	689	1,208	26.9	23.2	896.4	16.2	28	1080	13.0
16	Mombasa	12	177	1.8	16.2	237	3.2	11.2	126	1.4
17	Kilifi	291	4,945	49.5	154	1440.3	24.9	204.8	2249.8	50.0

18	Taita Taveta	323	6,211	62.1	120	1800	18.0	207	4140	62.1
19	Lamu	53	1,050	10.5	59	689	7.6	125	1420	20.4
20	Tana River	106	1,632	16.3	36	545	7.1	67	1028	17.9
21	Kwale	106	2,042	20.4	78	866	11.7	66	1120	14.4
22	Kisii	1,777	35,566	506.7	898	11096	182.3	1087	13413	191.2
23	Nyamira	712	14,170	205.6	337	6676	88.4	455	8281	112.2
24	Migori	935	7,010	70.1	370	3700	185.0	400	3400	204.0
25	Homa Bay	1,057	15,102	167.2	1116	7134.5	129.6	928	4306	103.3
26	Siaya	827	5,471	46.6	715	3942	78.1	523	4302	100.5
27	Kisumu	792	9,599	131.3	632	7461	89.8	580	7470	94.1
28	Nakuru	1,205	16,333	324.5	1115	16284	352.4	1254	20805.3	133.2
29	Baringo	184	2,098	8.5	120	690	12.6	167	829	10.8
30	Keiyo Marakwet	340	12,264	215.1	732	12438	240.3	570	8135	202.8
31	Uasin Gishu	456	18,851	202.7	387	17522	234.6	461.5	18295	222.3
32	Nandi	550	5,505	60.7	555.6	5884.5	65.5	591.6	8181	108.6
33	Laikipia	1,143	3,026	56.5	203	2771	46.5	186	2606	46.3
34	Samburu	56	180	2.2	57	311.75	8.6	68	286	4.9
35	West Pokot	109	1,280	36.3	101	1023	11.9	157.5	1372	14.6
36	Turkana	41	48	1.4	85.3	165.6	6.6	83.2	165.3	7.5
37	Trans Nzoia	526	7,028	89.4	332	4330	47.8	340	4940	66.8
38	Kericho	701	11,045	138.5	850	13885	184.8	774	11215	211.8
39	Bomet	770	8,324	74.1	1240	14838	115.3	1204	15458	154.5
40	Narok	319	3,627	39.7	328.6	3810.3	41.9	648	3247	50.6
41	Kajiado	132	783	12.8	458.2	4290	50.4	422	4598	62.8
42	Nairobi	150	1,424	28.5	159.8	1779.4	27.9	131.2	1613	24.6
43	Muranga	355	4,565	47.8	661.7	1647.4	26.7	517.8	2456.5	27.6
44	Nyandarua	1,082	22,519	147.8	1397	20697	136.7	1030	18670	119.5
45	Kirinyaga	184	1,633	16.0	128	727.2	9.3	115	776	11.8

46	Nyeri	210	6,819	67.4	162.1	2049	15.5	172.8	2165	18.3
47	Kiambu	3,179	75,853	491.7	6168	135224	480.8	6528	119359	477.5
	TOTAL	**22,494**	**355,280**	4101.0	**24086**	**364194**	3928.0	**24894**	**367256**	4381.9

Source: Directorate of Crops

5. 3.5.5: Carrots Production

Carrot is produced for the domestic market however; small quantities of baby carrots are exported. In 2012, the area under carrots was 4241Ha, producing 95,000MT with a value of Kshs 1 Billion. The leading producer of the crop was Meru County accounting 29 percent and it recorded the highest value of 31 percent. The area and production increased by 2 percent and 35 percent respectively in 2012 compared to 2011 performance. By contrast, the value dropped by 24 percent due to low farm gate prices offered to the framers.

Table 46: County Carrots Production for 2010- 2012

S/no	County	2010			2011			2012		
		Area (Ha)	Quantity (Ton)	Value (Kshs Millions)	Area (Ha)	Quantity (Ton)	Value (Kshs Millions)	Area (Ha)	Quantity (Ton)	Value (Kshs Millions)
1	**Bungoma**	58	291	9.3	134	2640	34.4	54.5	1402.5	19.6
2	**Machakos**	-	-	0.0	23	263.65	16.4	26	306	5.8
3	**Makueni**	-	-	0.0	2	2.6	0.2	2.4	2.6	0.2
4	**Kitui**	1	10	0.2	1	12	0.4	0	0	0.0
5	**Meru**	1,051	21,316	191.5	854.7	8602.3	149.2	1048	31030	139.6
6	**Embu**	172	2,480	49.4	91	1603	16.0	192	2325	5.4
7	**Tharaka Nithi**	126	29	0.7	7.5	214	8.6	11	248	11.9
8	**Nyamira**	21	203	3.7	12.45	146.05	2.0	16.85	218.986	3.2
9	**Migori**	11	100	4.0	5.2	49.2	1.2	7	80	2.0
10	**Siaya**	1	10	0.2	1	5	0.1	1	5	0.1
11	**Kisumu**	.	.	0.0	1.5	6	0.4	8.5	20	1.1
12	**Nakuru**	638	3,141	59.0	247.5	3562.5	35.8	238.5	6320.1	101.9
13	**Baringo**	39	432	17.3	43	168	21.6	29	237	5.2
14	**Keiyo Marakwet**	38	798	11.8	78	1169.1	14.6	76.5	799	9.8
15	**Uasin Gishu**	54	535	7.0	56.8	566.6	9.0	62.5	558.5	34.9
16	**Nandi**	15	119	2.6	15.66	124.16	2.9	20.9	187.5	5.0
17	**Laikipia**	43	463	8.0	33	438.75	12.1	37	453	12.2
18	**West Pokot**	1	6	0.1	6	56	0.9	6	56	1.0

19	**Trans Nzoia**	42	653	9.3	45	242	10.8	44	346	10.7
20	**Kericho**	31	245	4.2	57.6	515.8	15.4	26	247	5.1
21	**Bomet**	36	2,191	39.6	38.5	2242.5	364.1	25	280	5.8
22	**Narok**	88	541	14.4	67.4	335.6	12.5	78	355	5.5
23	**Kajiado**	2	6	0.1	4	26	0.3	4	14	0.3
24	**Nairobi**	-	-	0.0	7.25	92.1	2.0	4.83	64	1.1
25	**Muranga**	20	59	27.0	27	112.88	4.5	26.9	179.7	5.2
26	**Nyandarua**	1,506	23,437	326.2	1119	18510	196.2	1452	28015	310.4
27	**Kirinyaga**	7	233	5.3	11	360	6.1	8.66	298.8	15.1
28	**Nyeri**	240	8,158	98.0	135	1708.8	28.7	108.5	1509.8	25.1
29	**Kiambu**	354	9,910	145.7	722.2	24243	354.8	626.2	19413.2	266.8
30	**Busia**	1	7	0.3	-	-	0.0	-	-	0.0
31	**Kakamega**	8	21	0.8		-	0.0	-	-	0.0
32	**Kisii**	70	1,147	32.7	-	-	0.0	-	-	0.0
33	**Taita taveta**	16	302	4.5	-	-	0.0	-	-	0.0
34	**Samburu**	0	3	0.1	-	-	0.0	-	-	0.0
35	**Vihiga**	3	95	1.4	4	54	0.9	-	-	0.0
	TOTAL	**4,693**	**76,940**	**1074.4**	**3847**	**68018**	**1321.0**	**4241**	**94971.7**	**1009.8**

Source: Directorate of Crops

5. 3.5.6: Banana production

Banana is an important source of income and food security among smallholders and large scale farmers. In 2012, the area under banana was 58,175 Ha with a total production of 1.4 million tons valued at Kshs. 23.4 billion. There was a decrease in banana hectarage from 95,678 Ha after moderating the figure reported in Taita Taveta County in 2011 but an increase in yield and value by 16 percent and 3 percent respectively. The high output could be attributed to adoption of superior varieties, availability of clean planting materials from Tissue Culture technology, expanded irrigated area, exposure of farmers to modern agronomic practices, packaging and standardization marketing units, introduction of innovative post harvest handling and organized banana collection centres coupled with farmers linkage to buyers.

In 2012, banana production constituted 38 percent of the total value of fruits produced in the country. The main varieties grown include: dessert banana cultivars - Grandnain, Gross Mitchel, Williams's hybrid, lactan, Valery, Chinese Cavendish, Giant Cavendish, Dwarf Cavendish and Apple banana; cooking cultivars which include: Gradi Shisikame,

MutaHato, Uganda green and Ng'ombe and multipurpose cultivars such as Muraru and Goldfinger. The leading counties in banana production were: Meru (40 percent), Kirinyaga (21 percent), Tharaka-Nithi (19 percent), Murang'a (15 percent) and Embu (14 percent) among others.

Table 47: County Bananas Production 2010- 2012

S/no	County	2010			2011			2012		
		Area (Ha)	Quantity (Ton)	Value (Kshs Millions)	Area (Ha)	Quantity (Ton)	Value (Kshs Millions)	Area (Ha)	Quantity (Ton)	Value (Kshs Millions)
1	Garissa	397	4,846	62.4	333	6578	131.6	365	3705	74.1
2	Mandera	275	2,500	50.0	115	1473	29.5	108	1260	25.2
3	Wajir	-	-	0.0	9	52	1.0	11	53	1.1
4	Vihiga	903	16,085	165.8	1926	28890	433.4	1911	28815	432.2
5	Busia	265	4,875	88.5	2045	30675	920.3	407	5330	159.9
6	Kakamega	944	13,203	0.0	4987	74940	1124.1	5133	76695	1150.4
7	Bungoma	1,679	26,731	0.0	6141	91485	1341.8	2165	51245	818.4
8	Machakos	843	10,634	106.3	892.2	7251	64.2	654	9799.4	146.3
9	Makueni	312	3,790	61.9	382.02429	3970	88.9	410	4081.8	90.7
10	Kitui	83	641	9.1	76.3	449.65	10.0	120.1	500.7	11.2
11	Meru	5,027	124,793	0.0	5925	169913	9665.9	6241	315720	3256.0
12	Isiolo	6	47	0.5	8	100	1.5	14.7	294	2.0
13	Marsabit	8	28	1.4	6	9	1.3	8	18.3	0.4
14	Embu	4,287		0.0		65	0.0	384	295	0.0
15	Tharaka Nithi	388	11,595	0.0	1980	142248	1293.6	2077.5	149811	1327.6
16	Mombasa	121	997	30.1	110	1274	15.2	127.5	1287	29.5
17	Kilifi	1,123	10,555	158.3	2708	27972	570.1	2687	25727	635.8
18	Taita Taveta	6,191	33,510	0.0	2010	3654	548.5	2013	38175	572.6
19	Lamu	1,484	18,404	276.1	1165	18474	260.9	1219	29156	387.3
20	Tana River	12	206	20.4	962	13057	195.9	1448	15226	263.6
21	Kwale	1,060	14,613	219.2	933.6	12371	186.8	959.4	12939.2	198.9
22	Kisii	4,573	101,540	0.0	3749	88652	1527.9	4167	66889	1484.9

23	Nyamira	2,112	42,245	0.0	1719.4	33010.5	760.0	1795	33792	668.1
24	Migori	487	5,925	93.2	675	8875	519.1	844	10507	656.1
25	Homa Bay	238	2,980	41.0	639	4605.5	90.6	505	4485	77.3
26	Siaya	669	9,817	105.5	752	9731.5	120.8	811	10628	155.9
27	Kisumu	198	6,374	88.7	247.5	12085	409.7	248	2634	78.9
28	Nakuru	91	645	24.3	58.6	1006.5	10.7	119.95	1279	13.5
29	Baringo	447	1,539	17.3	180	1359	15.2	219	2814	42.6
30	Keiyo Marakwet	-	-	0.0	516.65	14721.5	198.6	608.95	17001	272.4
31	Uasin Gishu	49	630	28.4	48.5	746.8	4.5	74	2300.5	10.1
32	Nandi	414	8,128	170.1	226.52	3867	85.0	256	3814.75	94.8
33	Laikipia	77	89	1.7	50	100	3.0	56	112	2.2
34	Samburu	7	20	0.2	5.6	11.3	0.4	5.8	16.8	0.5
35	West Pokot	123	1,268	37.2	100.3	1390.3	34.1	82.5	415.5	9.7
36	Turkana	10	55	0.7	30.1	185	3.1	44.1	226	4.2
37	Trans Nzoia	326	4,443	65.4	239	5360	97.1	239	5594	103.8
38	Kericho	518	8,547	117.3	638	10170	155.5	434	6360	57.1
39	Bomet	342	3,380	37.6	402	2931	40.0	425	3633	41.5
40	Narok	113	1,209	22.2	115.7	1209.7	20.5	176	1304.1	36.7
41	Kajiado	67	311	5.8	65.22	234	7.4	112	664	11.4
42	Nairobi	-	- -	0.0	39.15	403	46.8	56.6	235.9	7.9
43	Murang a	5,188	91,973	0.0	8441.7	103340.7	1113.2	5754	113415	1434.6
44	Nyandarua	3	0	0.0	9	153	3.1	12.7	139.7	2.8
45	Kirinyaga	4,089	140,195	0.0	3915.4	153742	1743.7	4148	160606	6586.5
46	Nyeri	1,083	22,242	275.5	1179	19191	238.4	1232.7	11404	253.6
47	Kiambu	2,073	25,450	0.0	3175.4	50412.5	349.7	3285.8	51007.9	353.7
	TOTAL	61,345	1,253,494	1845.0	64130	1290795	25271.3	58175.3	1394412	23443.2

Source: Directorate of Crops

5. 3.5.7: Mangoes Production

Mangoes production has been on the increase due to increased demand for fresh market fruits, processing, and health concerns. In 2012, the area under mangoes was 57,021 Ha

with a production of 2.8 million Mt, valued at kshs. 13 billion as compared to 11.9 billion achieved in 2011. This steady increase can be attributed to expansion of area especially in North Rift and Eastern region; introduction of marketing systems with various government and private sector initiatives across the value chain and increased consumption of mango juice and salads. The leading counties in mangoes production by value were; Makueni (21 percent), Machakos (21 percent), Kilifi (15 percent) and Kwale (13 percent) as shown in table 50.

Table 48: County Mangoes Production 2010-2012

s/ no	county	2010			2011			2012		
		Area (Ha)	Quantity (Ton)	Value (Kshs Millions)	Area (Ha)	Quantity (Ton)	Value (Kshs Millions)	Area (Ha)	Quantity (Ton)	Value (Kshs Millions)
1	Garissa	420	4,020	26.7	408	5565	111.3	430	5289	105.8
2	Wajir	3	15	0.3	14	153	3.1	10	82	1.6
3	Busia	234	3,204	35.5	763	5625	112.5	275	1738	34.8
4	Bungoma	61	472	10.7	0	0	0.0	76.5	625.05	12.6
5	Machakos	3,108	15,639	0.0	4497.5	44663.7	509.7	11568.94	138827	2776.5
6	Makueni	11,613	87,851	0.0	7231.8	56409	1463.8	11573.94	138887	2777.7
7	Kitui	1,108	8,938	0.0	3087.5	31235.74	757.8	1837	18370	367.4
8	Meru	3,349	51,751	0.0	3967	44922	299.4	2192.5	26309.7	657.7
9	Isiolo	7	56	0.7	9	80	1.6	10	150	3.0
10	Marsabit	24	37	3.2	5	7.2	0.6	128	1408	21.1
11	Embu	3,553	23,488	0.0	3164	31916	513.8	3744.33	42995	1074.9
12	Tharaka Nithi	4,797	12,749	0.0	1950.52	6031.5	86.5	1228.98	14747.7	368.7
13	Mombasa	238	1,470	71.5	243	4249	42.5	254.7	3389	33.9
14	Kilifi	8,044	144,438	0.0	7687.2	136390	1751.7	7771.5	113841	1980.1
15	Taita Taveta	192	3,840	212.0	89	1780	17.8	89	1780	34.8
16	Lamu	2,196	32,974	0.0	1996	33898	339.5	1997	2032091	350.2
17	Tana River	681	13,321	138.9	1133	18540	185.4	1211	22054	242.4
18	Kwale	6,841	140,485	0.0	8884	170725	1707.3	8917	170393	1703.9
19	Kisii	7	42	0.7	367	21024	3.0	371	6678	167.0
20	Migori	365	3,035	128.1	494	4892	184.8	507	4872	217.8

21	Homa Bay	129	1,473	26.4	111.2	811	25.8	232	1603	41.5
22	Siaya	200	2,960	11.2	228	2272.7	43.0	249.8	2421.1	48.0
23	Kisumu	195	3,113	89.9	132	500	16.9	168	542.9	18.5
24	Nakuru	115	352	4.6	89.5	953.5	10.7	90.2	844.9	15.2
25	Baringo	64	727	11.3	132.5	1348	19.1	159.5	1641	25.6
26	Keiyo Marakwet	594	31,007	355.8	384.2	15469.1	148.3	413.2	15954	152.7
27	Uasin Gishu	5	51	0.7	5.63	30	0.4	7	73	0.5
28	Nandi	14	295	8.8	9.7	217	6.8	12.8	205.4	7.3
29	Laikipia	42	7,264	153.3	33	68	1.4	34	71	1.7
30	West Pokot	138	688	18.3	68.2	388.4	8.7	133.2	715	15.3
31	Turkana	8	16	0.5	14.5	28.75	1.1	17	26.75	1.5
32	Trans Nzoia	28	485	11.1	22.3	290.6	7.5	29.35	278.7	6.6
33	Kericho	19	193	4.7	28.1	148.5	3.8	28	168.4	4.9
34	Bomet	26	255	6.8	51.8	747.25	9.6	29.4	234	6.5
35	Narok	11	20	2.3	10.2	76	1.5	5.8	22	1.0
36	Kajiado	23	161	11.7	31.96476	375.75	15.3	40	277	2.9
37	Nairobi	-	-	0.0	11	45	2.3	14.55	65.2	5.9
38	Muranga	634	2,084	77.1	797	4922	52.4	804	6390	66.6
39	Kirinyaga	161	3,742	92.9	82.2	2211	42.7	73.7	1179.2	29.5
40	Nyeri	42	292	7.1	57.7	374	10.5	60	430.3	16.6
41	Kiambu	179	1,590	143.3	204.52	2555.94	59.0	225.72	4036	63.2
	TOTAL	47,051	593,499	10401.8	48495.72	651938.63	8578.6	**57020.59**	**2781706**	13463.5

Source: Directorate of Crops

5. 3.5.8: Macadamia Production

In 2012, the area under macadamia nuts was 7,945.03 Ha with a production of 35,581.91 tons valued at Kshs.1.92 billion. As compared to 2011, the area, production and value increased by 29 percent, 35 percent and 25 percent respectively. There have been improved prices of nuts, associated with increased competition among nut processing companies and regulation prohibiting export of raw nuts. Further the organization of farmers into producer business groups and establishment of produce bulking and

collection centres has improved both the marketing channels and farm gate prices. The minimum farm gate prices for in-shell macadamia nuts was set at Ksh 50 per kg though the price stabilized at Ksh70 for the same unit for a greater part of the 2012 season closing at Ksh 100 per kg. The macadamia nuts industry directly and indirectly employs over 5,000 and 75,000 people, respectively.

The leading macadamia producing counties are Kiambu (38.5 percent), Murang'a (21.1 percent), Embu (10.4 percent), Meru (7.2), Tharaka Nithi (6.3 percent), Kirinyaga (5.6 percent) and Taita Taveta (4.4 percent). The major challenges facing macadamia nuts production are poor agronomic practices and malpractices such as premature harvesting, theft and smuggling of raw nuts. Presently, macadamia processing factories are operating at 70 percent capacity. In view of this there is need for expansion of area under the crop, introduction of high yielding varieties and application of improved agronomic practices to boost production.

Table 49: Macadamia Nuts Production 2010 - 2012

s/ no	county	2010			**2011**			**2012**		
		Area (Ha)	Quantity (Ton)	**Value (Kshs Millions)**	**Area (Ha)**	**Quantity (Ton)**	**Value (Kshs Millions)**	**Area (Ha)**	**Quantity (Ton)**	**Value (Kshs Millions)**
1	Kakamega	1	1	0.04	1.5	6	0.30	4	8	0.40
2	Bungoma	6	23	1.00	1.5	5.8	0.26	4.64	13.389	0.67
3	Machakos	-	-	0.00	112.5	562.5	28.13	125.4	501.6	25.08
4	Makueni	19	760	30.40	8	32	1.60	10	40	2.00
5	Meru	619	4,989	225.20	443.5	2487	140.60	494.5	2758.5	137.93
6	Embu	697	2,885	340.63	735	3675	183.75	726	3993	199.65
7	Tharaka Nithi	337	2,489	199.12	362	1448	72.40	485.6	2428	121.40
8	Taita Taveta	292	1,219	84.99	340	1670	73.50	342	1700	83.50
9	Nyamira	2	6	0.47	1.7	3.7	0.27	2	3.8	0.30
10	Homa Bay	-	-	0.00	0.7	0.7	0.02	1	0.8	0.03
11	Nakuru	70	75	3.21	1.8	7.2	0.36	28.1	112.4	5.62
12	Baringo	9	42	1.00	91.8	206.9	12.73	151.8	222.4	12.53

13	Keiyo Marakwet	-	-	0.00	0.7	0.7	0.02	0.8	0.8	0.02
14	Uasin Gishu	-	-	0.00	2	8	0.40	2	10	0.50
15	Nandi	2	7	0.21	1.8	7.2	0.36	2.5	8	0.46
16	Laikipia	3	3	0.12	9.5	14.25	0.71	10	15	0.75
17	Trans Nzoia	6	31	0.52	34.9	104.7	5.24	33.6	168	8.40
18	Bomet	18	77	4.59	2.4	11	0.55	4	11	0.55
19	Kajiado	-	-	0.00	0.144	0	0.00	0.144	0.12	0.01
20	Muranga	258	640	46.68	342.3	1604	87.20	1343.3	6380.5	404.24
21	Kirinyaga	207	2,146	64.57	300	1486	74.20	309	1533	107.80
22	Nyeri	137	957	41.43	146	876	59.46	165	875	68.57
23	Kiambu	1,267	2,882	206.16	2740.15	13701	685.04	3699.65	14798.6	739.93
	TOTAL	3,950	19,229	1250.35	**5679.89**	**27917**	1427.10	7945.03	**35581.9**	1920.33

Source: Directorate of Crops

5. 3.5.9: Roses Production

Roses contributed Kshs 30 billion of the Kshs 43 billion, earned from floriculture in 2012, constituting 70.2 percent of the total value of floriculture. The total area under rose production was 2,164 Ha, producing 83,990 MT of flowers in 2012 as compared to 2,597 Ha producing 94,979 MT in 2011. Counties around Mount Kenya region have been identified as potential in production of high quality roses. The leading counties in rose production in terms of value are Nakuru (58.9 percent), Kiambu (12 percent), Meru (8 percent), Machakos (4 percent), Kericho (4 percent) and Kajiado (4 percent). Other Counties producing roses include Murang'a, Nyandarua, Nyeri, Trans Nzoia, Uasin Gishu and Baringo.

The major challenges in rose flower production are *Agrobacterium tumefaciens* (crown gall disease). Infected fields are reported to have uneconomically short life-spans of 0 – 8 months. Other challenges include erratic weather patterns and prevalence of pests and diseases attributed to climate change. The cost of investment is also considered prohibitive to many local investors.

Table 50: County Roses Production 2010-2012

S/no	County	2010			2011			2012		
		Area	Quantity	Value (Kshs Millions)	Area	Quantity	Value (Kshs Millions)	Area	Quantity	Value (Kshs Millions)
1	Nakuru	1,144	46,120	19136.0	1,140	45,842	18686.1	1,080	43,950	17534.0
2	Kiambu	193	6,499	3167.2	193	6,499	3167.2	241.7	7,716	3601.8
3	Meru	200	8,000	3200.0	200	8,000	3200.0	170	6,400	2357.0
4	Machakos	151	6,040	2416.0	151	6,040	2416.0	150	5,040	1292.0
5	Kericho	63	2,520	1008.0	63	2,520	1008.0	66.6	2,664	1279.7
6	Kajiado	118	4,720	1888.0	118	4,720	1888.0	150	6,000	1214.0
7	Muranga	101	4,040	1616.0	101	4,040	1616.0	122	4,900	1200.5
8	Nyandarua	78	3,120	1248.0	78	3,120	1248.0	84	2,898	804.4
9	Laikipia	479	748	407.9	465	609	405.9	388	450	500.0
10	Nairobi	14	840	224.0	14	840	588.0	19	950	434.8
11	Nyeri	28	1,108	443.2	28	1208	90.6	44.08	1,898	199.3
12	Uasin Gishu	71	940	136.0	70	840	63.3	71	880	88.2
13	Trans Nzoia	47	1,880	52.0	50	1,560	42.0	90	3,635	77.4
14	Baringo	-	-	0.0	57	640	48.0	57	680	67.2
15	KITUI	2	60	1.5	2	80	1.6	2	80	1.6
	TOTAL	2,674	95,416	**36641.9**	2,597	94,979	36498.0	**2,164**	**83,990**	30070.2

Source: Directorate of Crops

5.4 Industrial Crops

5.4.1 Coffee

Despite its economic importance, coffee production has been on the decline presenting a downward trend from 2009. However 2012 saw a 13.5 percent increase of 49,000 tons produced compared to 36,260 tons in 2011. Most significant to note is that area under coffee declined by 68 percent to 109,795 Ha in 2012 from 160,000 Ha recorded in 2011.

This trend is attributed to a number of factors; amongst them being erratic weather, declining coffee land holdings due to subdivision, conversion of coffee estates to real estates, high cost of inputs and inadequate affordable credit in the industry.

Table 51: Coffee Production

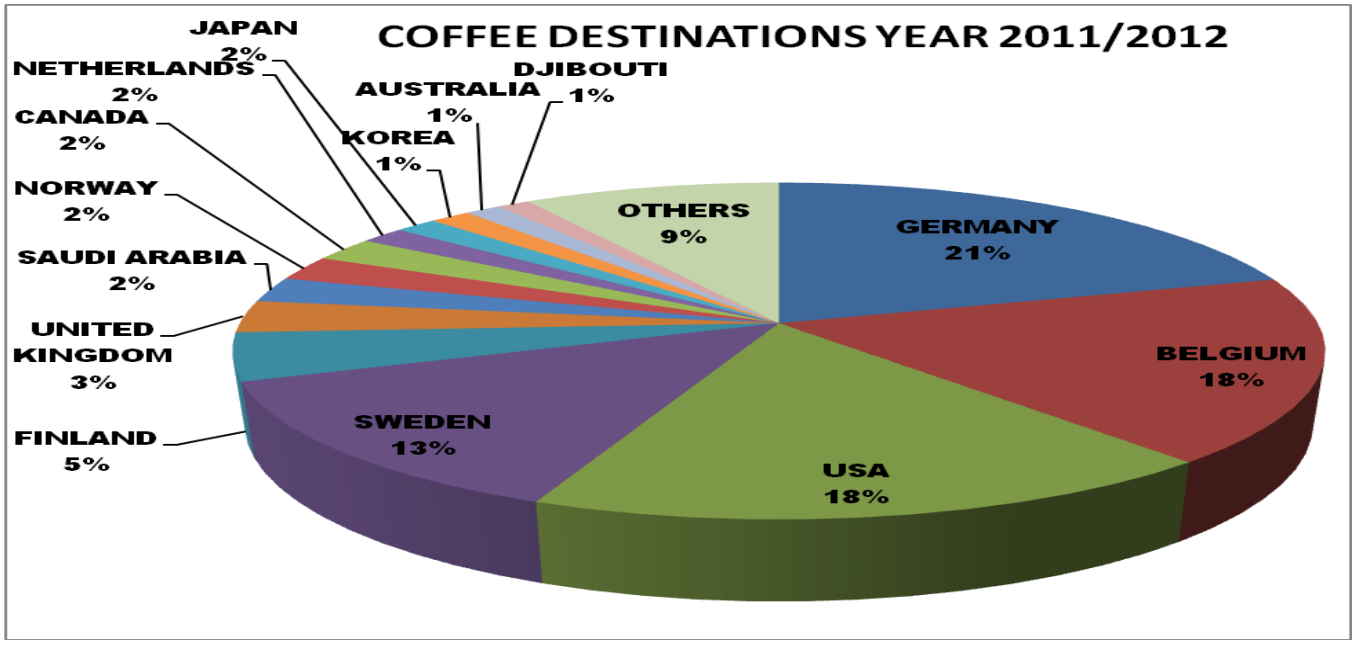
YEAR		**2008**	**2009**	**2010**	**2011**	**2012**
Production -Estates	Area (Ha)	40,680	53,344	40,000	40,000	24,606
	Tons	19,740	24,650	19,720	16,660	22,000
Production -Small Holders	Area (Ha)	122,040	106,656	120,000	120,000	85,189
	Tons	22,260	29,370	22,280	19,600	27,000
Yield (tons/Ha) Total crop area (Ha)	Estate	0.5	0.5	0.5	0.5	0.9
	Small Scale	0.2	0.3	0.2	0.2	0.3
Total Crop area (Ha)		162,720	160,000	160,000	160,000	109,795
Total Production (Tons)		42,000	54,020	42,000	36,260	49,000
Price of Processed Coffee(US$/ 50kg)		177.23	154.64	237.50	329	228.60
Local Consumption (tons)		1,680	1,341			
Exports (MT)		30,296	47,985	35,108	35,000	44,500
Total Value (Billion Kshs.)		**9.0**	**10.7**	**16.1**	**22**	**19**

Source: Coffee Board of Kenya

5.4.1.1 Coffee export destinations

The key markets for Kenyan coffee are in Germany, Belgium, USA and Sweden. Germany absorbing the largest Share of total coffee exports in 2012 amounting to 21 percent.

Figure 6: Coffee Exports



Source: Coffee Board of Kenya

Table 52: Coffee Export, 2011-2012

	2012		2011
Destination	**Quantity**	**Value**	**Quantity**
		US$	**Tons**
Germany	9,133	51,216,281	10,171
Belgium	7,962	44,803,561	7,930
USA	7,955	46,523,124	4,317
Sweden	5,918	35,126,365	5,434
Finland	2,049	11,623,671	1,762
United Kingdom	1,372	10,513,582	2,374
Saudi Arabia	1,066	2,773,578	586
Norway	1,054	7,178,411	988
Canada	1,013	6,114,153	1,077
Netherlands	701	3,452,487	282
Japan	659	4,577,134	915

Korea	634	4,603,483	452
Australia	551	3,603,577	294
Djibouti	505	1,563,039	_
India	_	_	587
Spain	_	_	261
France	_	_	253
Others	973	18,800,292	1,609
Total	**41,546**	**252,472,736**	**39,292**

Source: Coffee Board of Kenya

5.4.2 Tea

In 2012, area under tea increased by 1 percent while tea production decreased by 2 percent from 377.9 thousand tons in 2011 to 369.4 thousand tons. Over the same period, the Estate sub-sector registered a decrease in production of 5 per cent from 159.3 thousand tons to 150.9 thousand tons. However, the output within the smallholder sub-sector recorded a marginal drop from 218.6 thousand tons to 218.5 thousand tons. Consequently, the average yield decreased from 3,149 kg/Ha to 2,953 kg/Ha for the Estate sub-sector and from 2,040 kg/Ha to 2,039 kg/Ha for the smallholder sub-sector. Lower production and productivity was largely attributed to adverse weather conditions characterized by frost attack in some parts of the tea growing regions coupled with severe drought experienced in the first quarter of the year as well as highly depressed rainfall during March-April-May "Long-Rains" Season.

Table 53: Tea Production, 2008-2012

Year		**2008**	**2009**	**2010**	**2011**	**2012**
Production-Estates	Area (Ha)	50605	51126	56893	64470	65700
	Production (tons)	134963	141593	174025	159358	150900
	Yield (tons/Ha)	2.8	2.9	3.4	3.1	2.9
Production-Small Holders	Area (Ha)	107115	107268	115023	123385	124900
	Production(tons)	210854	172605	224981	218553	218500
	Yield (tons/Ha)	2.4	1.9	2.2	2	2
Total Area (Ha)		157720	158394	171916	187855	190600
Total Production (tons)		345817	314198	399006	377912	369400
Price of Black Tea (USD per 100 kg)		233	272	275	299	318
Consumption (tons)		17387	18102	18704	20017	22700
Exports (tons)		383444	342482	441024	421272	430200
Exports (million Kshs.)		62199	69603	97740	109408	112200

Source: Tea Board of Kenya

Kenya tea prices maintained an upward trend owing to lower supplies and continued rise in demand for black tea in emerging economies. The average auction prices for Kenya tea were higher at 3.18 USD per Kg in 2012 compared to 2.99 USD per Kg recorded in 2011.

5.4.2.1 Tea Exports Destinations

Tea exports and re-exports volumes were higher by 2 percent from 421.2 thousand tons recorded in 2011 to 430.2 thousand tons in 2012, with key markets being Pakistan, as shown in table 55. New markets recorded during the year included Cameroon, Togo and Angola.

Table 54: Tea Export, 2008- 2012

	2008	**2009**	**2010**	**2011**	**2012**
Destination	**Tons '000**	**Tons '000**	**Tons '000**	**Tons '000**	**Tons '000**
Pakistan	61.20	55	76.20	80.80	90.30
Egypt	99.20	75	93.20	79.90	88.80
UK	69.20	64	73.00	68.30	59.30
AfgHanistan	25.80	33	49.30	44.40	41.80
Sudan	22.90	25	31.20	26.10	24.80
Traditional Markets	278.30	252.80	322.90	299.50	305.00
Emerging Markets	105.10	89.50	118.10	121.70	125.20
Grand Total	**383.40**	**342.30**	**441.00**	**421.20**	**430.20**

Source: Tea Board of Kenya

5.4.3 Sugar

Sugar production increased by 0.8 percent from 490,210 tons in 2011 to 493,937 tons in 2012 mainly due to significant increase in area under cane in 2012 to 213,710 Ha from 179,451 Ha in 2011.This is attributed to increased cane prices and thus subsequent increase in cane development. Entry of new millers resulted to competition and increased cane demand, as well as timely cane harvesting and payment. Growing sugar demand has seen imports increase to 238, 589 tons in 2012 from 139,076 tons in 2011 and sugar exports declining to 434 tons from 16,716 tons recorded in 2011.

Table 55: Sugar Production, 2008-2012

YEAR		2008	2009	2010	2011	2012
Area(Ha)	Under cane	169,421	154,298	157,583	179,269	213,710
	Harvested	54,465	65,774	68,738	64,091	84,916
Crop Production (tons)		5,176,670	5,610,702	5,475,180	5,307,341	5,822,633
Average Yield(Ton/Ha)		95	85.3	79.7	82.8	68.6
Sugar production (tons)		517,667	548,208	523,652	487,022	493,937
National Consumption (tons)		751,523	605,358	772,731	783,700	794,844
Exports (tons)		27,900	1,952	47	16,716	434
Imports (tons)		218,607	184,530	258,578	139,076	238,589

Source: Kenya Sugar Board

5.4.4. Cotton

There was a decrease in production by 53 per cent from 22,104 tons in 2011 to 11,772 tons in 2012. This was attributed to uncertainty in the market as prices fell from Kshs 65 in 2011 to Kshs 40 in 2012 making farmers not to pay much attention to the crop, leading to low yields. Poor quality of seed planted in the Western zone also, contributed to low yields recorded in 2012.

Table 56: Cotton Production, 2008-2012

Year	2008	2009	2010	2011	2012
Area (Ha)	43,035	39,963	24,553	32,200	40,208
Production of seed cotton (tons)	15,093	14,886	11,822	22,104	11,772
Price of seed Cotton (Kshs/kg)	22	26	48	65	40
Yield (tons/Ha)	0.35	0.37	0.58	0.60	0.53
Total value of seed cotton (Million Ksh)	**332**	**387**	**567**	**1,400**	**416**

Source: Cotton Development Authority

5.4.5 Pyrethrum

Area under flower marginally increased from 8,168 Ha in 2011 to 8200 Ha in 2012. Despite expansion in acreage and increase in flower production, deliveries of dry flowers to the PBK factory were only 420 tons against an estimated production of 2,000 ton. Illegal trade and hoarding of pyrethrum flowers were the main causes for the low flower deliveries.

Table 57: Pyrethrum Production

Year	2008	2009	2010	2011	2012
Area (Ha)	3,916	4,084	6,100	8,168	8,200
Production of dry flowers (tons)	776	754	462	518	420
Price of dry flowers (Kshs/kg)	73.7	101.2	95	200	100
Yield (tons/Ha)	0.2	0.2	0.1	0.06	0.05
Exports(Tons of pyrethrum extract)	5.8	8.5	7	10	7.5
Total value of seed cotton (Million Ksh)	69.2	102	130	160	220

Source: Pyrethrum Board of Kenya

5.4.6 Sisal

Total sisal production increased by only 0.4 percent to 27,866 tons in 2012 from 27,560 tons recorded in 2011. Domestic consumption of sisal fiber increased by 19 percent to 4199 tons in 2012 from 3530 tons recorded in 2011, this was due to an increasing demand for sisal bags (for packaging of coffee and maize). In addition, 86 percent of total production was exported.

Table 58: Sisal Production, 2008-2012

YEAR		2008	2009	2010	2011	2012
Area (Ha)	TOTAL	44,462	29,353	29,353	29,255	40,031
	Estate	40,176	25,068	25,068	24,970	35,746
	Small-Holder	4,286	4,285	4,285	4,285	4,285
Production (Tons)	TOTAL	24,494	19,048	23,924	27,560	27,866
	Estate	22,064	18,646	23,492	26,326	26,654
	Small-Holder	2,430	402	432	1,234	1,212
Average Yield (tons/Ha)		1	1	1	1	0.7
Local Consumption (tons)		4,336	2,790	2,840	3,530	4,199
Exports		20,157	18,706	19,986	23,908	24,052
Value of Exports (Million Kshs)		1,370	1,118	1,379	2,273	2,550

Source: Kenya Sisal Board

6.0 FARM INPUTS

This chapter provides data summarized in tables on seed production, imports and exports for various agricultural inputs. It shows trends of quantities of fertilizer imported and consumed with the accompanying retail prices. The chapter also provides both wholesale and retail prices for selected agricultural commodities.

6. 1 Seed Production

Table 59: Seed Production, Imports and Exports, 2012

Common name	Quantity locally produced in Kgs	Quantity imported in Kgs	Quantity of seed exported in Kgs
Alfa alfa		4,900.00	4.00
Amaranth	1,010.00	0.05	
Arugula		370.00	
Barley	1,805,300.00	96,000.00	30,000.00
Basil		50.00	
Beet		12,942.70	50.00
BentGrass		227.00	
Bermuda Grass/panicum			100.00
Bitter Melon		45.00	4.75
Black NightsHade			2.00
Bottle Gourd		10.00	
Brocoli		38.00	11.00
Cabbage	11,875.00	53,514.60	4,500.30
Capsicum			276.20
Celery		250.00	19.40
Celtuce		652.00	54.00
Chinese Cabbage		314.00	14.00
Chives		250.00	
Common beans	448,267.00		
Coriander		25,833.00	198.00
Carrots		64,230.25	5,922.10
Cow Peas	98,949.00		
Cucumber		4,573.50	350.60
Dill		5.00	
Egg Plant		3,751.00	417.50
Finger Millet	2,704.00		
Florence Fennel		5.00	

Common name	**Quantity locally produced in Kgs**	**Quantity imported** in **Kgs**	**Quantity of seed exported in Kgs**
Kikuyu Grass		3,500.00	
Lawn Grass		350.00	100.00
Leeks		2,550.00	216.80
Maize	26,879,194.00	1,928,760.00	138,770.00
Mung Beans	63,748.00		
Musk Melon		265.00	
Mustard Greens		1,500.00	
Oats	105,482.00		
Okra	14,327.00	22,250.00	385.00
Onion		68,719.00	1,905.90
Parsley		120.00	
Pearl Millet	4,800.00		
Peas	4,300.00		
Pepper	2,368.00	13,887.30	
Pumpkin		9,493.50	177.40
Radish		600.00	
Rhodes Grass	36,397.00		
Rice	164,123.00		
Runner Beans		86,910.00	
Setaria Grass	83.00		
Snap Beans		342,674.21	2,177.00
Snow Peas		313,310.00	
Sorghum	337,588.00	30,000.00	30,000.00
Sorghum Grass	6,185.00		
Spinach		762.00	
Spring Onion		1,140.00	
Squash	2,400.00		
Sudan Grass	8,107.00	6,000.00	
Sunflower	81,624.00		
Tobacco		15.00	
Tomatoes		19,687.97	725.40
Water Melon		28,238.14	2,289.70
Wild Celery/Lovage		5.00	
Wheat	,246,862.00		337,600.00
Zinnia		1.00	

Source: KEPHIS

6.2 Fertilizer Off-Take

Table 60: Fertilizer off-takes, 1990 - 2012

Year	Imports (metric tons)	Consumption (metric tons)
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
2011/12	520315	532302

Table 61: Fertilizer Prices 2008-2012

	2008										
TYPE	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**N**
DAP	2,500	3,600	4,000	4,000	4,250	4,250	4,500	4,700	5,200	6,500	6,
MAP	2,500	3,600	3,800	4,000	4,250	4,250	4,500	4,700	5,200	6,500	6,
SSP	1,200	1,500	1,650	2,000	2,500	2,500	2,500	2,500	2,650	2,650	2,
20:20:00	2,200	2,500	3,400	3,600	3,800	3,800	3,800	4,000	4,200	4,500	4,
23:23:00	2,200	2,500	3,400	3,600	3,800	3,800	3,800	4,000	4,200	4,500	4,
17:17:17	2,000	2,500	3,000	3,400	3,400	3,400	3,400	3,800	4,000	4,300	4,
CAN	1,400	1,500	2,000	2,500	2,500	2,500	2,500	2,500	2,500	2,800	3,
UREA	1,800	2,000	3,100	2,500	2,500	2,500	2,500	2,500	2,600	3,000	3,

	2009										
TYPE	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**N**
DAP	3,500	3,500	3,500	3,100	3,100	3,000	3,000	3,000	3,000	2,900	2,
MAP	3,500	3,500	3,500	3,100	3,100	3,000	3,000	3,000	3,000	2,900	2,
SSP	2,600	2,600	2,600	2,100	2,000	1,900	1,900	1,900	1,900	1,800	1,
20:20:00	3,200	3,200	3,200	2,800	2,800	2,800	2,800	2,800	2,800	2,700	2,
23:23:00	3,200	3,200	3,200	2,800	2,800	2,800	2,800	2,800	2,800	2,700	2,
17:17:17	3,000	3,000	3,000	2,600	2,600	2,600	2,800	2,800	2,800	2,600	2,
CAN	2,000	2,000	2,000	2,000	2,100	2,200	2,200	2,200	2,100	2,000	2,
UREA	2,100	2,100	2,100	2,100	2,200	2,300	2,300	2,300	2,200	2,100	2,

	2009										
TYPE	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**N**
DAP	3,500	3,500	3,500	3,100	3,100	3,000	3,000	3,000	3,000	2,900	2,
MAP	3,500	3,500	3,500	3,100	3,100	3,000	3,000	3,000	3,000	2,900	2,
SSP	2,600	2,600	2,600	2,100	2,000	1,900	1,900	1,900	1,900	1,800	1,
20:20:00	3,200	3,200	3,200	2,800	2,800	2,800	2,800	2,800	2,800	2,700	2,
23:23:00	3,200	3,200	3,200	2,800	2,800	2,800	2,800	2,800	2,800	2,700	2,
17:17:17	3,000	3,000	3,000	2,600	2,600	2,600	2,800	2,800	2,800	2,600	2,
CAN	2,000	2,000	2,000	2,000	2,100	2,200	2,200	2,200	2,100	2,000	2,
UREA	2,100	2,100	2,100	2,100	2,200	2,300	2,300	2,300	2,200	2,100	2,

	2010										
TYPE	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**N**
DAP	2,800	2,800	2,800	2,600	2,700	2,650	2,900	2,900	2,900	3,000	3,
MAP	2,800	2,800	2,800	2,600	2,700	2,700	3,000	3,000	3,000	3,000	3,
SSP	1,800	1,800	1,900	1,900	1,800	1,800	1,900	1,900	1,900	2,000	2,

20:20:00	2,600	2,500	2,400	2,500	2,100	2,100	2,200	2,500	2,500	2,500	2,
23:23:00	2,600	2,500	2,400	2,500	2,100	2,200	2,500	2,500	2,500	2,500	2,
17:17:17	2,600	2,500	2,400	2,600	2,450	2,500	2,650	2,500	2,500	2,500	2,
CAN	1,900	1,900	1,900	1,850	1,850	1,950	2,000	1,900	1,900	1,900	2,
UREA	2,000	2,000	2,000	2,100	2,400	2,100	2,200	2,000	2,000	2,000	2,

	2011										
TYPE	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**N**
DAP	3,400	3,500	3,500	3,550	3,550	3,660	3,700	3,800	4,000	4,350	4,
MAP	3,400	3,500	3,500	3,550	3,550	3,660	3,700	3,800	4,000	4,350	4,
SSP	2,300	2,300	2,300	2,300	2,400	2,400	2,400	2,400	2,450	2,600	2,
20:20:00	3,000	3,050	3,050	3,100	3,150	3,350	3,400	3,450	3,500	3,650	3,
23:23:00	3,000	3,050	3,050	3,100	3,200	3,450	3,450	3,450	3,500	3,650	3,
17:17:17	3,100	3,150	3,150	3,200	3,300	3,500	3,500	3,550	3,600	3,650	3,
CAN	2,300	2,400	2,400	2,450	2,450	2,550	2,600	2,750	2,850	2,900	3,
UREA	2,300	2,475	2,475	2,500	2,550	2,650	2,750	2,800	2,850	2,900	3,

	2012										
TYPE	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**N**
DAP	4,500	4,500	4,200	4,000	3,800	3,800	3,800	3,800	3,900	4,000	3
MAP	4,500	4,500	4,200	4,000	3,800	3,800	3,800	3,800	3,900	4,150	3
SSP	2,600	2,600	2,600	2,600	2,500	2,500	2,500	2,500	2,700	2,850	2
20:20:00	3,700	3,700	3,600	3,500	3,200	3,200	3,200	3,200	3,200	3,500	3
23:23:00	3,700	3,700	3,700	3,600	3,500	3,500	3,500	3,500	3,600	3,700	3
17:17:17	3,800	3,800	3,800	3,700	3,300	3,300	3,300	3,300	3,300	3,450	3
CAN	3,000	3,000	2,900	2,800	2,450	2,450	2,450	2,450	2,500	2,800	2
UREA	3,100	3,150	3,200	3,200	3,150	3,150	3,150	3,150	3,200	3,400	3

Source: Agribusiness Directorate

6.3 Wholesale and Retail Prices

Table 62: Annual Wholesale Prices for Agricultural Commodities (2007-2012)

Commodity	Unit (kg)	2007	2008	2009	2010	2011	2012
Avocado	90	679	1,044	1,555	1,405	1,524	2,029
Banana Cooking	22	958	365	395	386	473	555
Banana Ripe	14	328	391	562	482	557	588
Beans Canadian	90	3,045	4,911	5,077	4,781	5,716	5,892
Beans Dolichos	90	3,131	5,251	6,857	8,358	6,561	7,418
Beans Mwezi moja	90	2,573	4,691	5,382	4,465	5,010	5,654
Beans Mwitemania	90	2,716	5,088	5,347	4,351	5,425	5,548
Beans Rose coco	90	3,109	5,052	5,217	4,629	5,661	5,743
Brinjals	44	1,017	1,220	1,347	1,454	1,305	1,510
Cabbages	99	1,178	1,269	1,971	1,528	1,618	2,090
Capsicums	50	1,478	1,606	2,120	2,169	2,391	2,609
Carrots	138	1,529	2,464	3,522	2,583	3,067	3,276
Cassava Fresh	99	2,859	1,145	1,716	1,471	1,609	2,046
Cauliflower	39	1,370	1,930	2,028	1,887	1,779	2,266
Chilies	38	1,301	1,257	2,010	1,505	1,952	2,767
Cowpeas	90	3,351	4,523	6,231	5,263	5,662	6,220
Cucumber	50	692	1,418	1,568	1,672	1,733	1,965
Eggs	Tray	279	223	232	323	400	300
Finger Millet	90	2,107	3,890	4,693	4,462	4,927	5,720

Commodity	Unit (kg)	2007	2008	2009	2010	2011	2012
Fresh Peas	51	1,333	2,259	2,970	2,457	2,755	2,897
Green Grams	90	3,433	5,093	6,976	7,050	8,619	7,644
Groundnut shell	110	4,979	7,190	7,921	8,674	9,928	11,146
Irish Potatoes	110	1,747	2,308	2,874	2,503	3,279	3,668
Kales	50	598	676	1,116	799	773	1,126
Lemons	95	829	1,009	967	1,110	1,953	1,588
Lettuces	51	1,500	1,611	2,240	1,613	1,994	3,637
Limes	13	1,228	1,094	869	891	581	657
Maize Dry	90	1,118	2,016	2,667	1,652	2,907	3,082
Maize Green	115	1,514	2,110	2,644	2,237	2,466	2,814
Local Mangoes	126	901	1,013	1,141	1,183	1,424	1,874
Ngowe Mangoes	126	1,538	710	899	848	807	966
Bulb Onion	13	780	583	738	736	621	957
spring Onion	142	1,669	1,770	1,931	1,773	2,131	2,006
Oranges	93	1,493	1,726	2,070	2,168	2,631	2,772
Passion fruits	57	1,414	1,825	2,313	2,962	3,140	3,685
Paw paw	54	1,017	923	1,031	983	1,201	1,528
Pineapples	13	925	587	667	738	769	799
Sorghum	90	1,544	2,257	3,275	2,590	3,064	3,686
Sweet potatoes	98	1,371	1,909	2,428	1,904	2,668	3,049
Tomatoes	64	1,797	1,796	2,133	2,486	2,752	3,224
Wheat	90	1,009	4,113	3,656	3,477	4,055	3,893

Source: Agribusiness Directorate