

WORKING PAPER No. 03

**AGRICULTURAL DEVELOPMENT
AND FOOD SECURITY IN
SUB-SAHARAN AFRICA (SSA)**

Building a Case for more Public Support

The Case of Kenya

A Paper Prepared for the

**Policy Assistance Unit of the
FAO Subregional Office for
East and Southern Africa**

BY

Kang'ethe W. Gitu

Rome 2006

TABLE OF CONTENTS

ACRONYMS	VII
ACKNOWLEDGEMENT	IX
FOREWORD	X
EXECUTIVE SUMMARY	XI
CHAPTER 1: INTRODUCTION AND BACKGROUND	1
1.1 DATA AND METHODOLOGY	2
1.2 STUDY STRUCTURE	2
CHAPTER 2: DESCRIPTIONS AND ANALYSIS OF FOOD SECURITY IN KENYA	4
2.1 FOOD SUPPLY AND DEMAND	4
2.1.1 <i>Food supply</i>	4
2.1.2 <i>Sources of available food</i>	5
2.1.3 <i>Food crops</i>	6
2.2 FOOD IMPORTS AND FOOD AID	7
2.2.1 <i>Food insecurity</i>	9
2.2.2 <i>The state of nutrition</i>	11
2.2.3 <i>Poverty and vulnerability</i>	11
2.2.4 <i>Domestic food requirements</i>	14
2.3 INTERNAL FOOD TRANSFERS	15
2.4 FOOD SECURITY STRATEGIES AND SAFETY NETS	16
CHAPTER 3: SUPPORT FOR AGRICULTURE: MAGNITUDE, EVOLUTION AND TRENDS	17
3.1 IMPORTANCE OF THE AGRICULTURE SECTOR	17
3.2 THE NATURE OF KENYAN AGRICULTURE	17
3.3 AGRICULTURAL GROWTH TRENDS AND SECTOR ANALYSIS	18
3.4 CHALLENGES, CONSTRAINTS AND OPPORTUNITIES	23
3.4.1 <i>Challenges</i>	23
3.4.2 <i>Constraints</i>	23
3.4.3 <i>Opportunities for growth and development in agriculture</i>	26
3.5 AGRICULTURAL POLICIES, EXPENDITURE AND SUPPORT SERVICES	29
3.5.1 <i>Market liberalizations</i>	30
3.5.1 <i>Market liberalizations</i>	31
3.5.2 <i>Comparison of agriculture support with support to education and health</i>	32
3.5.3 <i>Agriculture recurrent and development expenditure</i>	34
3.5.4 <i>Disaggregated public expenditure in agriculture</i>	36
3.5.5 <i>Agricultural production services</i>	37
3.6 DEVELOPMENT STRATEGIES AND PROGRAMMES IN AGRICULTURE	38
3.6.1 <i>The Poverty Reduction Strategy Paper (PRSP), 2001–2004</i>	39
3.6.2 <i>The Economic Recovery Strategy for Wealth and Employment Creation (2003–2007) (ERSWEC)</i>	39
3.6.3 <i>The National Development Plan (NDP), 2002–2008</i>	40
3.6.4 <i>The Kenya Rural Development Strategy (KRDS), 2002–2017</i>	40
CHAPTER 4: IMPACT OF FOOD IMPORT/AID	41
4.1 IMPACT OF FOOD IMPORT/AID ON FOOD SECURITY AND NUTRITION SITUATION	41
4.2 IMPACT ON PRICES AND DOMESTIC PRODUCTION	41
4.3 IMPACTS ON BUDGETARY SUPPORT/COUNTERPART FUNDS	42
4.4 IMPACT ON FOREIGN EXCHANGE/BALANCE OF PAYMENTS	43
4.5 IMPACT ON TRANSACTION COSTS	46
4.6 SOME SOCIAL IMPACTS OF FOOD AID	47

CHAPTER 5: MAKING KENYA FOOD SECURE ON SUSTAINABLE BASIS	49
5.1 MACROECONOMIC AND REGULATORY ENVIRONMENT.....	49
5.2 DEVELOPMENT OF INFRASTRUCTURE	50
5.3 RURAL FINANCIAL AND CREDIT FACILITIES	50
5.4 AGRICULTURE RESEARCH AND EXTENSION SERVICES.....	51
5.5 HUMAN RESOURCE DEVELOPMENT	51
5.6 THE NEED FOR ACTIVITY-SPECIFIC STRATEGIES.....	51
5.7 INVESTMENT PROGRAM TO REVITALIZE FOOD AND AGRICULTURE SECTOR	53
5.8 IMPLICATIONS FOR THE WTO AGREEMENT ON AGRICULTURE	56
5.8.1 Sanitary and Phytosanitary Services.....	56
5.8.2 Support Measures for enhancing External Competitiveness.....	57
CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS.....	59
6.1 CONCLUSIONS.....	59
6.2 RECOMMENDATIONS.....	60
6.2.1 Physical Infrastructure:	60
6.2.2 Rural Financial Services:.....	60
6.2.3 Human Resource Development:	60
6.2.4 Research Programmes:	61
6.2.5 Agricultural Extension Policy:.....	61
6.2.6 Information Data Bank:	61
6.2.7 Capacity Building for Farmer Organizations:	61
6.2.8 Legal and Regulatory Framework:	61
6.2.9 Food Security Policy:.....	61
6.2.10 Enabling Environment for Private Sector:.....	61
6.2.11 Commodity Diversification Programme:.....	61
6.2.12 Livestock Production Policy:.....	61
6.2.13 National Land Policy:	62
6.2.14 Transfer of Technology:	62
6.2.15 Implementation Costs:	62
REFERENCES.....	63
ANNEX I: PERFORMANCE AND CONSTRAINTS OF MAJOR AGRICULTURAL PRODUCTS IN KENYA	67
1.1 MAIZE PRODUCTION.....	67
1.2 WHEAT PRODUCTION	67
1.3 RICE	68
1.4 HORTICULTURE	68
1.5 TRADITIONAL FOOD CROPS.....	68
1.6 OIL CROPS.....	69
1.7 TEA	69
1.8 COFFEE.....	69
1.9 COTTON.....	70
1.10 PYRETHRUM.....	70
1.11 LIVESTOCK.....	71
1.12 POULTRY	72
1.13 FISH INDUSTRY.....	72
1.14 FORESTRY AND LOGGING.....	72

LIST OF TABLES

Table	Page
Table 2.1 Per capita, per day food and nutrient availability	5
Table 2.2 Maize situation trends	6
Table 2.3 Imports of major food commodities 1980–2000 ('000 tonnes)	9
Table 2.4 Food aid 2001 to 2003 (tonnes)	9
Table 2.5 Poverty incidence estimates in Kenya 1981 to 2000	12
Table 2.6 The poor in Kenya	13
Table 2.7 Production, demand and import projections for major food crops ('000 tonnes)	14
Table 2.8 Production and demand projections for various livestock products	15
Table 3.1 Value of agricultural primary production, 1995	18
Table 3.2 Tea Production	27
Table 3.3 Horticulture crops production trends	28
Table 3.4 Dairy cattle and milk production	29
Table 3.5 Agriculture, education and health shares of total public expenditure (percent)	34
Table 3.6 Government expenditure in agriculture, 1980 to 1999 (Kshs million)	35
Table 3.7 Total public spending on MoA, 1999 to 2002 (actual in Kshs billion)	36
Table 3.8 Total public spending on MoLFD, 2000 to 2003 (actual in Kshs billion)	36
Table 3.9 Total public spending MoCDM, 2000 to 2003 (actual in Kshs billion)	37
Table 3.10 Expenditure in agricultural production services 1980 to 2000 (Kshs million)	37
Table 4.1: Value of Agricultural Imports and Exports (Primary and processed crops and livestock)	44
Table 4.2: Market prices in Kenya versus Producer Prices in USA.	46
Table 5.1: A summary of constraints and proposed strategies/measures to promote production and productivity.	52
Table 5.2: Investment Program to Revitalize Agriculture and Food Sector	55/56

LIST OF FIGURES

Figure	Page
Figure 1.1: Food supply of cereals, roots and tuber (Cal/ per/ day)	5
Figure 2.2: Share of cereal import in total cereal supply	7
Figure 2.3: Quantity of total cereal import and food aid	8
Figure 3.1: Growth rates of GDP Agriculture and GDP	19
Figure 3.2: Quantum Indices of Agricultural Sales to Marketing Boards (1982 = 100)	20
Figure 3.3: An Index of Domestic Food Crops Production (1980 = 100)	20
Figure 3.4: An Index of Domestic Production of Export and Industrial Crops (1980 = 100)	21
Figure 3.5: Cereal Yields (Tonnes/ha) 1980 -2000	22
Figure 3.6: Industrial crop yields (tones/has) 1980-2000	22
Figure 3.7: Agriculture, Education & Health Share of Total Public Expenditure; 1980-2000	33
Figure 3.8: Recurrent and Development as share of total Agricultural Expenditure; 1980-2000	35
Figure 4.1: Fertilizer imports versus production of maize, wheat and rice (1990-2002)	42
Figure 4.2: Agricultural Import as a percentage of Export	45
Figure 4.3: Price per ton of maize, wheat and rice in the US and Kenya	46

ACRONYMS

ACP-EU:	African Caribbean and Pacific-European Union Partnership
AFC:	Agriculture Finance Corporation
AGOA:	African Growth and Opportunities Act
AI:	Artificial Insemination
AIA:	Appropriation In Aid
AIE:	Authority to Incur Expenditure
AoA:	Agreement on Agriculture
ARD:	Agriculture and Rural Development
ASAL:	Arid and Semi Arid Land
BMD:	Budget Management Department
CBO:	Community Based Organization
COMESA:	Common Market for Eastern and Southern African Countries
EAC:	East African Community
EEC:	European Economic Community
EPC:	Export Promotion Council
EPZ:	Export Processing Zone
EU:	European Union
FAO:	Food Agriculture Organization
FAOSTAT:	Food Agriculture Organization Statistics
GDP:	Gross Domestic Product
GFCF:	Gross Fixed Capital Formation
Gm:	Grams
GMR:	Guaranteed Minimum Return
GoK:	Government of Kenya
Ha:	Hectares
HCDA:	Horticulture Crop Development Authority
HIV/AIDS:	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
IDEAA:	Initiative for Development of African Agriculture
IGAD:	Inter-Governmental Authority on Development
IMF:	International Monetary Fund
K£:	Kenya Pound
KEAS:	Kenya Exporter Assistance Scheme
KEPHIS:	Kenya Plant Health Inspectorate Services
KETRI:	Kenya Trypanomiasis Research Institute
KEVEVAPI:	Kenya Veterinary Vaccine Production Institute
KFMP:	Kenya Forestry Master Plan
Kg:	Kilogram
KRDS:	Kenya Rural Development Strategy
KSA:	Kenya Sugar Authority
Kshs:	Kenya Shillings
KTDA:	Kenya Tea Development Agency
MoA:	Ministry of Agriculture
MoCDM:	Ministry of Cooperative Development and Marketing
MoLFD:	Ministry of Livestock and Fisheries Development

MRL:	Maximum Residue Level
MT:	Metric Tonnes
MUB:	Manufacturing Under Bond
NCPD:	National Cereals and Produce Board
NGO:	Non-Governmental Organization
NIB:	National Irrigation Board
OPEC:	Organization of Petroleum Exporting Countries
PBK:	Pyrethrum Board of Kenya
PRSP:	Poverty Reduction Strategy Paper
SDT:	Special and Differential Treatment
SPS:	Sanitary and Phytosanitary services
SRA:	Strategy for Revitalizing Agriculture
TBK:	Tea Board of Kenya
US \$:	United States Dollar
USA:	United States of America
USAID:	United States of America International Development
VAT:	Value Added Tax
WTO:	World Trade Organization
YR:	Year

ACKNOWLEDGEMENT

Many people have contributed towards improving the content and structure of this report. Although the fundamental contribution is that of the author and is dully acknowledged, the Policy Assistance Unit (SAFP) would also like to acknowledge the considerable effort its officers have made in bring this case study to the level it is now. In this regard, the contributions of Messrs Weldeghaber Kidane, Senior Policy Officer and Study Team Leader, and Philippe Dardel, Policy Officer, as well as Mulat Demeke, FAO consultant are especially recognized.

The Policy Assistance Unit also would like to acknowledge the efficient support provided by its Office Assistants as well as to those who have provided written comments on the case study.

FOREWORD

It has been the case that most African Governments have been taxing farmers and subsidizing urban consumers, while at the same time doing very little in terms of policy and investment to favour the rural sector. The ratio of investment to GDP in most Sub-Saharan Africa (SSA) has been well below the ratios attained in Latin America and Asia. Similarly, Africa's private sector investment in agriculture has been curtailed by a combination of financial capacity, and lack of security, financial services and regulatory framework.

However, Africa needs to investment more and encourage increased private sector investment - both domestic and external - to ensure agriculture based economic growth and sustain it. This notion seems to have been understood by African Governments when the Heads of State and Governments have, in approving the New Economic Partnership for Africa's Development (NEPAD) Comprehensive Africa Agriculture Development Programme (CAADP) at their Summit in Maputo in 2003, committed themselves to increase resource allocation to agriculture to 10 percent of the national budget by 2008. In this context, the Policy Assistance Unit (SAFP) of the FAO Subregional Office for East and Southern Africa, in collaboration with the Agriculture Policy Support Service (TCAS) of the FAO Policy Assistance Division (TCA) embarked in 2004 on a study to analyze the status of food security and agricultural development.

Implementing the Maputo commitment of budgetary increase is however likely to be difficult in view of resource constraints of counties against daunting challenges, especially in the public service sectors. One of the main objectives of the study was therefore to provide objective rationale why agriculture should be supported in the African context.

The study had four components: (a) preparation of 10 country studies representing Central, East, West and Southern Africa, (b) preparation of a background document that looks into the conceptual issues and development paradigms and the prioritization of agriculture, review of relevant lessons from developed and developing countries who have successfully eliminated food insecurity, (c) organization of high-level workshop to discuss the findings of the study and (d) preparation of a report based on the above as well as extensive desk based research by Senior FAO Officers. The paper represents one of 10 case studies.

EXECUTIVE SUMMARY

This paper has been prepared with the main objective of building a case for more support to agricultural production and food security in Kenya. It is presented in five chapters and highlights the pattern of meeting domestic food requirements from domestic production, as well as food aid and commercial food imports. The issues discussed include a description and analysis of food security in Kenya, support for agriculture, the impact of food imports and aid and making Kenya food secure on a sustainable basis.

Kenya, like other developing countries, is faced with hunger and poverty and these problems are rapidly worsening. A number of factors contribute to this situation but poor agricultural performance lies at the heart of the problem. Despite the importance of the agriculture sector in its contribution to employment, government revenue, GDP and raw materials for the industrial sector, its performance has been poor. This is attributable to misallocation and underinvestment in the sector, disengagement of government support to agriculture, poor infrastructure, limited access to credit, the high cost of farm inputs, and the lack of a land policy and framework, among other things. The current and the previous governments have been accused of underinvesting in agriculture and food production, especially after the advent of economic liberalization. The accusations include failure to promote and enhance important ingredients for agricultural development, such as rural infrastructure and services, and agriculture research and extension. Kenya's decreasing support to agriculture has resulted in an increasing dependence on food imports and food aid. The per capita supply of main staples has been declining since the early 1980s. While it is accepted that Kenya is food-insecure, there is a general consensus that it has the potential to produce more than its food needs. The goal of the Government has been to attain self-sufficiency in meeting food needs in addition to the expansion of exports.

The policy on agriculture has been to pursue the goal of attaining self-sufficiency in key food commodities that include maize, wheat, rice, milk and meat. While this has been the objective, it was only ever attained in the 1970s, when maize production was so high that some was exported. In 1986, there was a shift from a food sufficiency goal to an outward strategy, which identified seven commodities that form the core of the current food and agricultural policy – maize, wheat, meat, milk and horticulture crops for both home consumption and export, and coffee and tea for raising farm income and earning foreign exchange.

In 2000, the food available for Kenyans was 1 965 calories per capita, per day, which was below the recommended 2 250 calories per day. The source of calories comes mainly from maize, which accounts for 36 percent, while sugar, wheat, palm oil, and milk together account for the remaining 64 percent. Food availability has been declining, largely because maize production was down by 44 percent on a per capita basis in 2000, compared with 30 years before. The per capita food decline has occurred because local staple food production has been outstripped by a relatively high rate of population growth and increased life expectancy. Chronic undernutrition is the most common form of malnutrition and is mainly associated with insufficient dietary intake, because households lack enough income to secure their basic food requirements.

The major cereals produced are maize, wheat and, to a limited extent, rice. Other food crops produced include the traditional ones like sorghum, millet, cassava, vegetables, and fruits. However, the production cost of these crops is high because of low levels of mechanization, escalated input costs, inefficient production methods, and the high transport costs occasioned by poor infrastructure. Kenya has not been able to produce enough for her food needs and, as a way of meeting the food deficiency, has increasingly depended on food imports or aid, which contradicts the policy of self-sufficiency. Among the imported food items are wheat, rice, maize, powdered milk and sugar.

Kenya has been food-insecure for a long time in both urban and rural areas, as well as in both high potential and arid and semi-arid lands (ASAL). Food insecurity has been viewed as a prevailing situation, in which not all can have a fair share of the food available or produced. The food insecurity can be attributed to many factors, including decline in agriculture productivity, climatic changes, inefficient food distribution systems,

HIV and AIDS, and land fragmentation. The food available per capita has declined, despite the success in expansion of export crops. Chronic malnutrition, associated with insufficient dietary intake, occurs because of households' lack of income to secure basic food requirements and is, paradoxically, most serious in high and medium agricultural potential areas because of the high population density and small size of farms.

The intensity and prevalence of poverty in Kenya varies across regions, with 56 percent of the total population living below the poverty line. The poverty levels are in both urban and rural areas and are closely connected to agriculture and the dependence on land as a means of generating income. The ASAL areas in Coast, North Eastern and Eastern Provinces and the densely populated areas of Western, Nyanza, Rift Valley and Central Provinces have the highest levels of poverty. The contributing factors to poverty include unemployment and low wages, low agricultural productivity and poor marketing, lack of access to productive assets, particularly land, poor infrastructure, high cost of social services, bad governance, and HIV and AIDS.

The food insecurity also occurs in high potential areas, caused by the combination of lack of information and failed infrastructure. The Ministry of Agriculture has developed a special programme for food security to facilitate a national early warning system and food distribution system, and maintain a national strategic reserve, while encouraging the private sector to get involved in the international grain trade through a more predictable policy and tariff regime. The programme aims to reduce the number of food-insecure people by half. The programme is participatory, i.e. the districts prioritize their own food production activities. Under this programme, the Ministry has conducted sensitization workshops for key stakeholders at national, provincial and district levels.

The importance of the agriculture sector in Kenya remains unchallenged. The sector employs about 75 percent of the country's labour force, provides raw materials for the agro-based manufacturing industries and accounts for 45 percent of government revenue. The fisheries subsector contributes about 3 percent of GDP and 3 percent of total export earnings. The agriculture sector is dominated by primary production of a few commodities, namely cereals (maize, wheat and rice), traditional food crops, industrial crops, export crops and livestock (beef, dairy, poultry and eggs, pigs and small stock). Smallholder farms account for over 65 percent of the total agricultural output, while pastoralism is the main form of production in the ASAL areas.

There exists a close correlation between the growth of agriculture and that of other sectors of the economy, with the result that the performance of agriculture affects the entire economy. A number of factors have been associated with the mixed trend in production, which includes area expansion or contraction, and climatic, technological and price changes. The major factor, however, has been policy. The trend has been a general increase in the area under food and cash crops while there has been a decline in the area under industrial crops. In addition to these trends in the area under the crops, there have been changes in yields, notably stagnation or decline in yields per hectare under the respective crops. The production of livestock and livestock products has been affected by inefficient disease control, which has hampered exports of livestock products, especially beef.

The greatest challenges facing the agricultural sector are the worsening poverty levels, the declining financial and natural resource base, the HIV and AIDS pandemic, insecurity and competition in the world market. Kenya has to increase agricultural exports by diversifying to a greater range of agricultural export crops. There are both economic and non-economic constraints affecting Kenya's agriculture and food sector. These include institutional weaknesses, collapsed infrastructure, lack of effective land policy, poor research and extension linkages, increased prevalence of HIV and AIDS and other diseases, and poor agrarian leadership. Kenyan agriculture is predominantly rainfed and the production is, therefore, heavily influenced by the variability of rainfall. High taxation, especially on inputs including machinery, fuel, fertilizers and spare parts, makes Kenyan agriculture less competitive than it could be. Other constraints include lack of storage and post-harvest technologies, poor marketing information and lack of capacity in the private sector institutions that should promote policy formulation, implementation and monitoring. Strong credit and marketing institutions that supported agriculture existed in the first decade of independence. These included

Building a Case for More Public Support

the Agriculture Finance Institution for credit, and the National Cereals and Produce Board (NCPB), the Kenya Meat Commission, Kenya Cooperative Creameries and Kenya Sugar Authority, for marketing of maize, wheat and other cereals, meat, milk and sugar respectively. While these institutions functioned well in the first two decades, they fail to provide adequate services to farmers today for diverse reasons. The Government needs to increase productivity through the removal of constraints in agriculture for the economy to grow speedily. Among the constraints to be removed are poor agrarian leadership, lack of capital, dependence on rainfed agriculture, globalization, a narrow range of primary agricultural products for exports, lack of an effective land policy, low political support, high taxation, poor research and extension linkages, HIV and AIDS infections, poor integration and coordination of activities by major agricultural stakeholders, and high input costs.

Government policy, as stated in a number of policy papers, emphasizes self-sufficiency in domestic production of food crops as well as the generation of foreign exchange as a means of achieving food security. It has been established that, given adequate support and non-interference in the production and marketing of the various crops, Kenya is capable of increasing both production and productivity in agriculture, as has been demonstrated by the remarkable success in the tea, horticulture and dairy subsectors. The success in these subsectors is attributable to a combination of factors, including favourable weather conditions, emerging market opportunities, government sponsored credit schemes, research, extension services, training and monitoring. Kenya is the third largest tea producer in the world, after India and Sri-Lanka, while expansion of the horticulture and dairy subsectors has created both employment and income in the rural areas.

The combination of government assistance and restraint from interference in the industry helped in the rapid expansion of these subsectors. The measures adopted by the Government in the first two decades after independence, which covered monetary, fiscal, exchange rate and trade policies, and appropriate budgetary allocations, had a profound impact on the profitability of the agriculture sector and the welfare of farmers. The involvement of the Government was viewed as the prime mover in the growth of the rural economy and agriculture in particular. A reversal of this thinking saw the beginning of liberalization in the third decade of independence, at which time government involvement came to be seen as having a negative impact on agriculture. The new thinking saw the Government reduce its investment support to the sector and the start of the structural adjustment programme (SAP).

The liberalization measures were expected to bring about faster growth and ensure food availability to all people, at all times. These expectations, however, were not realized because the liberalization was fast, broad and far-reaching, poorly sequenced and not synchronized with other policies. It was characterized by policy instability, which reduced investor confidence, and poor harmonization and coordination in the implementation of the policies. There is, therefore, a need to rethink and make a shift in development paradigm and policy-making in agriculture development and food security strategies if Kenya is to reverse the declining trends in agricultural output and productivity.

The Government should increase the budgetary allocation to agriculture in view of its contribution to the economy and its multiplier effect as compared to other sectors. The current allocation is in comparison to the allocations to education and health. For example, between 1980 and 2000, budget allocation to agriculture averaged only 6.6 percent, compared to education and health at 15 percent and 12.6 percent respectively. In the first decade after independence, agriculture was allocated over 10 percent of the total budget, which is the reason for the high productivity in those years. The allocation to agriculture has gone to recurrent expenditure, which is dominated by salaries. There has, however, been an increased allocation of development expenditure on support services, such as market research and seed inspection, as opposed to direct domestic production support measures, such as artificial insemination (AI), tractor hire, aerial spraying, veterinary services and farm planning, which are allowed under the Special and Differential Treatment (SDT) clause of the WTO Agreement on Agriculture (AoA).

Recognizing the poor performance of the sector, Government has put in place a number of development strategies and programmes that will influence the level and stability of input and output prices, private investment, costs and revenues, and allocation of research and development funds to improve farming and agriculture-related processing technologies. Some of these policies are specially designed to influence the productivity and the marketing of specific crops. The policies have the potential to further influence investment decisions in the provision of research and development, education, health, transport, marketing infrastructure and institutions that have a broad impact on agriculture sector productivity. A number of policy documents have been prepared in this regard. These include the Poverty Reduction Strategy Paper (PRSP) 2004, The Economic Recovery Strategy for Wealth and Employment Creation, The Ministry of Livestock and Fisheries Development Strategy 2003–2007, The National Development Plan and The Kenya Rural Development Strategy 2002–2017.

Section 4 analyses the various impacts of food imports and food aid. As a result of the poor performance in agricultural production and productivity, Kenya has relied on food imports and food aid. Food imports have both positive and negative impacts on various economic and social aspects of development, including food security and nutrition, prices and domestic production, budgetary support, counterpart funds, the budget, foreign exchange and balance of payments (BOP), and transaction costs. It has been an important means of transitory food security for vulnerable groups, especially in the ASAL areas where droughts and crop failure have been frequent. It is also a source of human capital formation, which in turn could improve agricultural production. Food imports have been shown to reduce food prices, but also to stifle domestic food production as the imported foodstuffs enter the country at low prices. The imports are mainly from producer countries that subsidize their farmers, making their exports cheaper than the production cost of the recipient country. As a result, local farmers and workers are left without a source of income.

The imports also distort the labour markets, especially in countries like Kenya, which are dependent on agriculture for employment creation. The importing countries have used the counterpart funds for budgetary support through the sale of the imported/aid food. One of the results of this is that the countries have opted not to develop their agriculture sector because they know they will get some budgetary support. Food aid substitutes for commercial food imports, thereby providing a net foreign exchange transfer which could be used for capital development through the utilization of counterpart fund generated from the local sale of the food aid. The capital development could include infrastructure, agricultural research and extension of rural health and education facilities. The food imports could result in releasing the land under food production for cash crops, which is a worthy venture for developing countries like Kenya.

The food aid commodities are often viewed by consumers in recipient countries as being inferior to those domestically produced. Nevertheless, food imports have been shown to reduce domestic food prices, creating a disincentive to farmers and hence reduction in food production. The cheap imports shift demand towards themselves and, over time, tastes and preferences change as people get used to imported foods. The volume of imported food items has been growing rapidly. This trend is dangerous especially in drought years, considering that Kenya is dependant on agricultural exports to finance its imports. It would be better if the foreign exchange being used to import food were used in building the institutional and technological capacity of food producers. Food aid makes people lazy about producing for their own consumption needs, since they keep postponing the production decision-making process in order to benefit from the free food.

Section 5 looks at ways of making Kenya food secure on a sustainable basis through macroeconomic and regulatory measures, development of infrastructure, rural financial credit facilities, agricultural research and extension services, human resource development and activity-specific strategies. It also looks at the investment programme required to revitalize the food and agriculture sector and proposes an implementation budget. At the microeconomic and regulatory level, there was an impressive performance by the agriculture sector immediately after independence, which was attributable to a combination of factors including stable fiscal and monetary policies, the maintenance of good macroeconomic management and the possibility of expansion of land under cultivation. This good performance has, however, declined and it is necessary to put

Building a Case for More Public Support

in place strategies that will revitalize the sector. Some of the strategies could include diversifying the agriculture sector, restoring support for extension services and maintaining a realistic exchange rate.

The development of infrastructure is vital for agricultural development. There is, therefore, a need to rehabilitate and expand rural infrastructure, especially roads, provide electricity to the market centres, construct new and maintain existing water supplies and dams, and rehabilitate or construct cooling facilities and irrigation schemes. Rural financial and credit facilities should be enhanced to improve production and productivity. Management of agricultural cooperative societies should be streamlined, while incentives should be given to those offering credit in the agriculture sector, particularly for small-scale producers. This support should include reduction of taxes or an insurance scheme to cover the borrowers. A National Research Extension Advisory Board should be established to coordinate the linkages between research and extension. The need for human resource development cannot be overemphasized, as the agriculture sector is labour intensive. To improve the human resource base, it is necessary to: upgrade the capacities of agriculture training institutes; evaluate the needs of the agriculture sector and tailor training to meet those needs; streamline the legal and regulatory framework to meet the human resource needs; and strengthen the linkages between the College of Veterinary Medicine, Faculty of Agriculture and the Government ministries concerned with issues of agriculture.

The study has identified a number of constraints that need to be addressed if Kenya is to cease to be dependent on food imports and food aid dependent. A summary of the constraints and proposed specific strategies and measures to promote production and productivity is shown in Table 48. An investment programme to implement the strategies is shown in Table 49 and emphasizes the constraints of physical infrastructure development, financial services, human resource development, research and extension, information, legal and regulatory framework, food security strategy, production and export strategy, agriculture subsidy and land policy. The programme would be for a duration of five years and would cost approximately US\$ 1 650 million. The expected impact of the support measures would include increased product competitiveness, expansion of markets, creation of jobs, high investment and savings, increased foreign exchange earnings, reduced food insecurity, reduction in poverty levels, increased GDP contribution, and less reliance on food imports and aid. The recommended strategies and measures have been proposed after taking the WTO's AOA into account and are, therefore, compatible with the Agreement and have no distorting effects, as defined under its 'Green Box' or *de minimis* provisions or the SDT allowance. The Government ought to support the implementation of the Sanitary and Phytosanitary requirements under the AoA, put up support measures for enhancing external competitiveness, invoke the Green Box provision of the Agreement to support the competitiveness of the export sector through freight and local transport subsidies, in addition to putting in place export subsidies for strategic commodities and raising tariffs to protect the local industry.

CHAPTER 1: INTRODUCTION AND BACKGROUND

Kenya like other African countries is faced with hunger and poverty and these problems are becoming worse. It is estimated that more than 14.3 million people, or 52.3 percent of the population, live below the poverty line.¹ About 52.9 percent of the population in the rural areas and about 34.8 percent of those in the urban areas are poor. It is also estimated that about 34.8 percent of the rural population and 7.6 percent of the urban population live in extreme poverty, i.e. they cannot meet their food needs, even with their entire resources devoted to food.

Although a number of development problems have been identified as causing poverty, including lack of education, prevalence of sickness, declining level of school attendance, inadequate access to land and capital, and vulnerability (women), the poor performance of the agriculture sector lies at the heart of the problem. Agriculture accounts for 70 percent of the labour force, 25 percent of the total GDP, 60 percent of export earnings, 75 percent of raw materials for the industrial sector and 45 percent of government revenue. Even with a relatively liberalized agriculture sector, recent statistics indicate that Kenya's agricultural production and productivity remain inadequate and have not made any progress on the food security front. Yields have not improved and, consequently, Kenya remains food-insecure and is increasingly reliant on emergency food supplies and commercial food imports for a significant portion of the country's domestic food requirements.

Despite the importance of the agriculture sector, its full potential has not been realized. The sector offers opportunities for economic growth, both in the medium and high-potential, as well as the ASAL areas. In particular, the livestock industry offers vast opportunities for economic growth especially in ASAL areas, which have over 50 percent of the livestock. A number of root causes have been suggested for the poor agricultural performance, including misallocation and underinvestment in agriculture, disengagement of Government from support to agriculture, poor infrastructure, limited access to credit, and the high cost of farm inputs. The sector is also subject to lags in the policy and legal framework, which are not in line with a liberalized economy.

The current and previous governments have been accused of neglecting agriculture and food production, especially after the advent of the SAP. Kenya has invested very little in promotion and enhancement of the important ingredients for agricultural development, including rural infrastructure and services, agricultural research and extension, and in the institutions that shape the governance of agriculture. Kenya has overtaxed farmers and subsidized urban consumers, while, at the same time, underinvesting in the rural areas. The growth of the nation's capital stock fell to 2.7 percent in the 1980s, compared with an average of 7.1 percent in the 1970s. By the early 1990s, the growth of gross investment was just sufficient to maintain capital stock at a constant level. Gross fixed capital formation (GFCF) remained low, at an annual average of 17 percent of GDP in the 1990s, compared to 31 percent and 21 percent in the 1970s and 1980s, respectively. If Kenya is to achieve sustainable levels of development, an increase in both investment and savings will be required and the level of investment should be in the region of 25 to 30 percent of GDP (GoK, 1997).

Kenya's decreasing level of support to agriculture is correlated to increasing dependence on food imports and food aid. This is despite the fact that Kenya has the capacity to produce enough to meet its food needs. Kenya is becoming increasingly dependant on commercial food imports. Per capita supply of the main staples has been declining since the early 1980s, and per capita supply of cereals, which provide most of the calories, declined from 140.9 kg per year between 1979 and 1981, to 115.7 kg per year in the 1992 to 1994 period. The food production and demand projections indicate that Kenya will continue to experience serious food deficits unless greater efforts are made to address the food security situation. The debate increases, of course, as to

¹ 'Poverty line' is an arbitrary, international real income measure usually expressed in constant dollars (e.g. \$ 270), used as a basis for estimating the proportion of the world's population that exists at a bare subsistence level.

whether these food requirements are better met through increased financial aid, rather than food aid. Thus it is worth asking whether food import and aid flows can make a positive contribution to agricultural development in Kenya.

One of the main defences of food aid has been that it is more likely to succeed in reaching the very poor and food-insecure segment of the population. This argument, however, concentrates on the immediate effects and does not consider the long-term disincentive effects on local production, prices, market, employment and allocation of scarce foreign exchange. As one can see from the arguments, food imports and aid are a complex topic and the effects on agriculture are not yet clear. Evidence for or against the impacts of food imports or aid on agriculture sector development is uneven and inconclusive. Unless these effects are assessed and quantified, it is difficult to give conclusive policy advice regarding this issue.

Despite the fact that Kenya is food-insecure, there is a general consensus that it can feed itself. However, even if it has the potential to produce more than its food needs, it has implicitly adopted strategies of increasingly relying on commercial imports and food aid, to the extent that it has become perpetually dependant on these means of acquisition. Parallel to this is the observed trend of low and declining levels of support to the agriculture and food sector.

1.1 Data and methodology

The study utilizes time series trend analysis. The time period varies according to the available data. The focus has been primarily national but, where data allow, household, district and regional (provincial) data have been used.

1.2 Study structure

The paper is presented in five further sections. Section 2 describes Kenya's food supply and demand as well as the nutritional needs. Other features of this section include an analysis of the structure and trend of food imports in terms of food aid vs. commercial imports and type of food imports, and domestic food requirements from commercial imports in terms of provision of foreign exchange and logistics, and transaction costs of food imports and aid. Section 3 provides:

- An overview of the importance of agriculture to the economy;
- Discussion of the challenges, constraints and opportunities for improved agricultural development;
- An analysis of the evolution and trends in public support provided to the development of the food and agriculture sector; and
- A comparative analysis of expenditure allocated to agriculture relative to that allocated to the education and health sectors.

Section 4 presents an assessment of the impacts of food import and aid dependence, focusing on the impacts on, food security and nutrition, domestic food production, prices and domestic production, outcomes of budgetary support, effects of delayed arrival, budget, foreign exchange and BOP, and human and psychological impact. Section 5 identifies promising agricultural development opportunities, including food and cash crops, livestock, fisheries and forestry, as well as the policy orientation and investment requirements to realize the identified opportunities. Other issues discussed in this section include:

- An analysis of the external environment affecting domestic agricultural development and suggested strategies to improve the country's competitiveness in the external market;
- An evaluation of the implications of the terms of the WTO AoA and, in particular, whether the suggested measures are compatible with the requirements stipulated for SDT, Green Box and *de minimis* exemptions;
- Estimation of the cost and the expected budgetary allocation for proposed strategies and assessment of the country's capacity to meet the budgetary outlay from its own resources and/or external development assistance;

Building a Case for More Public Support

- An indication of the returns to investment in terms of increased domestic production, decreased commercial imports, foreign exchange generation or savings, increased household food security and income; and
- Supporting measures.

Section 6 provides conclusions and recommendations.

CHAPTER 2: DESCRIPTIONS AND ANALYSIS OF FOOD SECURITY IN KENYA

2.1 Food Supply and Demand

Food security is defined as, “Access by all people at all times to enough food for an active healthy life” (Ellis, 1992). The World Food Summit in 1996 reaffirmed that food security can only exist when all people, at all times have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. At the macro level, it implies that adequate supplies of food are available through domestic production or through imports to meet the consumption needs of all people in a country. At the micro level (household or individual), food security depends on a number of factors which are related, for the most part, to various forms of entitlements to income and food producing assets, as well as the links between domestic and external markets and the transmission effects, from the latter, on small, low-income and resource-poor producers and consumers. Food security is not just a supply issue but also a function of income and purchasing power, hence its strong relationship to poverty.

Kenya, for a long period, pursued the goal of attaining self-sufficiency in key food commodities that included maize, wheat, rice, milk and meat. Self-sufficiency in maize was achieved in a very few years during the 1970s when production was so high that some was exported. Unfortunately, attainment of self-sufficiency did not automatically imply that household food security was achieved. Evidence shows that solving the food security issue from the production (supply-side) point of view, while overlooking the demand side, does not solve the food security problem, particularly the access of vulnerable groups to sufficient food.

In 1986, Kenya shifted from a food self sufficiency goal to an outward strategy by identifying seven commodities that form the core of its current food and agricultural policy. These are maize, wheat, meat, milk and horticultural crops for both home consumption and export markets, and coffee and tea for raising farm income and earning foreign exchange. The strategy aimed to achieve multiple objectives, including family and national food security, foreign exchange earnings, government revenue, employment, regional balance and generation of new income streams for rural people (GoK, 1986; Eicher, 1988). This strategy continues to be valid. It can thus be concluded that self-sufficiency and expansion of exports are the main objectives of the Government in the agriculture sector.

On average, 30 percent of the food consumed by rural households is purchased, while 70 percent is derived from own-production. On the other hand, 98 percent of the food consumed in urban areas is purchased while about 2 percent is own-production. The main sources of farm incomes are the crops and livestock products that are sold by households. About 50 percent of the rural farming households are involved in off-farm income-generating activities and about 36 percent have at least one salary earner living away from the farm (GoK, 2002). Furthermore, a third of the households receive remittances. Most rural people depend on non-farm activities for a significant portion of their incomes. An average of 30 percent of rural household incomes is derived from farm activities, while 70 percent is derived from off-farm sources, which includes remittances. However, these ratios vary from region to region, with farm incomes forming a low proportion (18 percent) in Eastern Province and a high proportion (60 percent) for Rift Valley Province.

2.1.1 Food supply

Food available to Kenyans was 1 965 calories per capita, per day in 2000,² 13 percent below the recommended 2 250 calories per day. The calories come from a wide variety of sources but are dominated by

² FAOSTAT Food Balance Sheet <http://atps.fao.org>.

maize, which accounts for 36 percent, and sugar, wheat, palm oil and milk that together constitute 64 percent of total calories (Table 28).

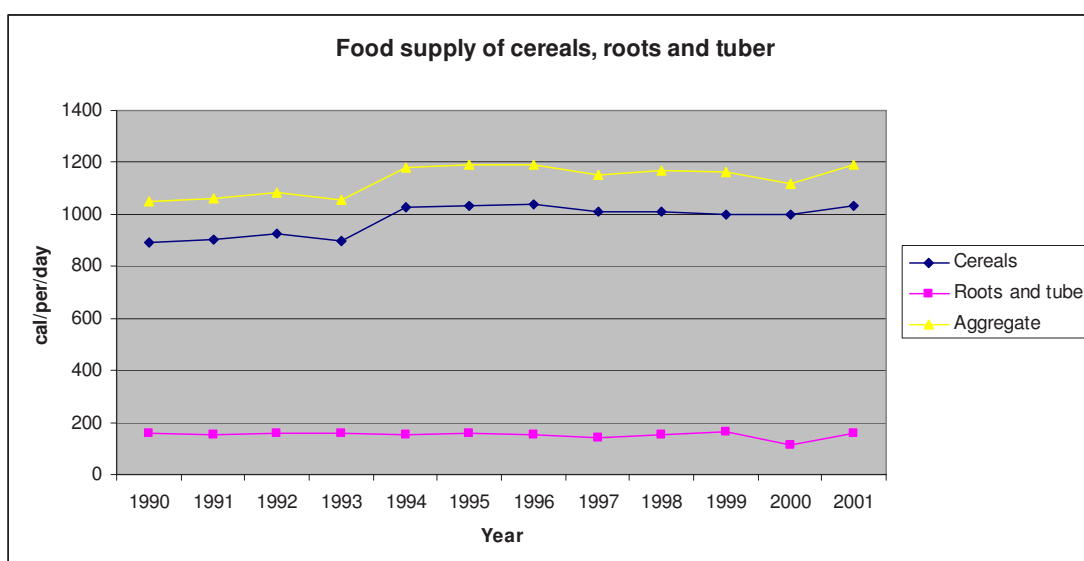
Table 2.1 Per capita, per day food and nutrient availability

	Total calories	Protein (gm)	Veg. protein	Fat (gm)	Vegetable fat	Source of Vegetable Fat	
						Palm oil	Maize
1970	2 211	64.9	50.1	34.0	20.3	1.2	10.9
1980	2 185	57.4	42.3	41.7	27.5	10.0	10.6
1990	1 889	51.5	32.8	45.1	27.9	14.5	7.8
2000	1 965	50.5	35.3	46.9	32.3	16.9	7.6

Source: FAOSTAT Food Balance Sheet, <http://www.fao.org>

Per capita supply of cereals increased in the early 1990s but tended to decline after 1994. The supply of cheaper traditional crops, i.e. roots and tubers, not only remained low (below 200 calories per day) but also tended to decline throughout the 1990s (Figure 12).

Figure 1.1: Food supply of cereals, roots and tuber (Cal/ per/ day)



2.1.2 Sources of available food

Per capita food availability has been declining in Kenya, largely because maize production was down by 44 percent on a per capita basis in 2000, compared with 30 years before. As shown in Table 29, maize production fell from 129 kg per capita in 1970 to an average of 77 kg in the last five years of the 1990s. In 2000, per capita production was down to only 72 kg.³

³ FAO, Kenya Agriculture Sector Brief, April 2004.

Table 2.2 Maize situation trends

Year	Production	Maize kg per Capita by	
		Availability	Utilization
1970	129	131	130
1980	99	119	125
1990	97	97	93
2000	72	85	98

Availability = production plus imports

Utilization is availability (+/-) changes in stocks

Despite the impressive rates of growth in the 1970s and early 1980s, there was a fall in agricultural output from 1993 to 1998, and particularly from 1998 to 2001. Among the major factors behind the poor performance were:

- Inappropriate macroeconomic policies, especially an overvalued exchange rate (until 1994);
- The ineffectiveness of agricultural support services, including parastatal marketing and credit agencies resulting in much-delayed payments to farmers;
- Limited availability of good agricultural land; and
- A slowdown in the flow of new technologies.

These problems were exacerbated by the effects of several extreme droughts and the short-term negative side-effects of fundamental policy adjustments.⁴

2.1.3 Food crops

The major cereal staples produced are maize, wheat and, to a limited extent, rice. Other important food crops include Irish potatoes, bananas, sorghum, millet, cassava, sweet potatoes, vegetables and fruits.⁵ In normal rainfall years, the country produces about 2.7 million tonnes of maize, 270 000 tonnes of wheat, and 50,000 tonnes of rice. Cash crops that contribute to food security are coffee, tea, sugar and cotton. Annual production for these commodities is 100 000 tonnes of clean coffee, 294 000 tonnes of processed tea, 420,000 tonnes of sugar and 40 000 tonnes of cotton lint.

The production cost of most of these crops is high, because of escalated input costs, the low level of mechanization and the high transport costs brought about by poor infrastructure. This implicit taxation of the agriculture sector, coupled with other inefficiencies, makes the cost of production of food crops in Kenya higher than in other parts of the world. Food production has, therefore, lagged behind consumption, thus creating deficits.

Maize is Kenya's most important staple food crop but its production has fallen short of demand. The area under maize has stabilized at around 1.5 million hectares and the potential for further expansion is limited, given the competition from other crops. Maize production during the long rains ranges from 26 to 30 million 90 kg bags, of which smallholders produce 75 percent. The average maize yield is 2 tonnes per hectare, but the potential exists to increase the yield to over 6 tonnes per hectare. Wheat production has stagnated at 270 000 tonnes, against a rising demand, currently estimated at 720 000 tonnes. Rice production is mainly in irrigation schemes (Mwea, Ahero, West Kano and Bunyala) that are managed by the National Irrigation Board. A small amount (13 percent) is from rainfed paddies. The average annual production, estimated at 52 000 tonnes, is only about 34 percent of national consumption.

In spite of the different efforts in developing sorghum and millet, mainly because of their significance in drought-prone areas, there has been a notable decrease in hectareage over the past few years from

⁴ FAO, *ibid*

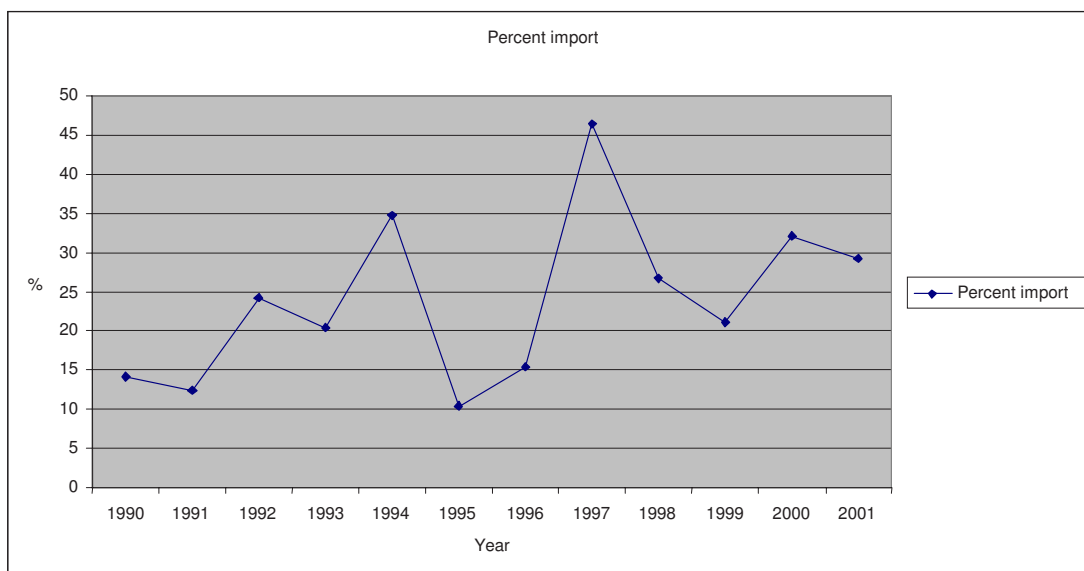
⁵ See Annex for further details about the major agricultural products in Kenya.

300,000 hectares in 1996 to 260 000 hectares in 2000. Pulses, a cheap source of protein, are planted in most parts of the country. Their performance has been mixed, but has generally shown a declining trend because of bad weather, low-quality seeds, high cost of inputs and lack of suitable varieties for marginal areas. Roots and tubers,⁶ which are high in calorific value, are important food security crops but their production has been constrained by lack of clean planting materials.⁷

2.2 Food imports and food aid

Food imports and food aid have been used in Kenya for a long time with trends showing a tendency towards increased dependence in the recent past. This contradicts the Government's objective of food self-sufficiency. The share of cereal imports (both commercial imports and food aid) in total cereal supply rose to over 45 percent in 1997 after declining to 10 percent in 1995 and 16 percent in 1996. Cereal imports fluctuated between 20 and 33 percent during the period 1998 to 2001 (Figure 13).

Figure 2.2: Share of cereal import in total cereal supply



This requires a ready foreign exchange reserve, so that food imports can be made when they are needed. However, Kenya, like other developing countries, is constrained by the level of foreign exchange reserves, mainly because of reliance on primary products that are subject to fluctuating world prices as the basis of export commodities. Thus, food importation is dependent on foreign exchange reserve availability. The ability to import is also constrained by the nature of imported food, which may not be acceptable to Kenyan consumers. For example, many Kenyans do not like yellow maize and, for whatever reason, have continued to regard it as 'animal food' (Gitu and Kanyua, 1993).⁸ To most Kenyans, 'food security' means having *ugali* made of white maize meal on their table.⁹ 'Food insecurity' is synonymous with eating *ugali* made of yellow maize.

⁶ Roots and tubers include cassava, sweet potatoes, Irish potatoes, arrowroot and yams.

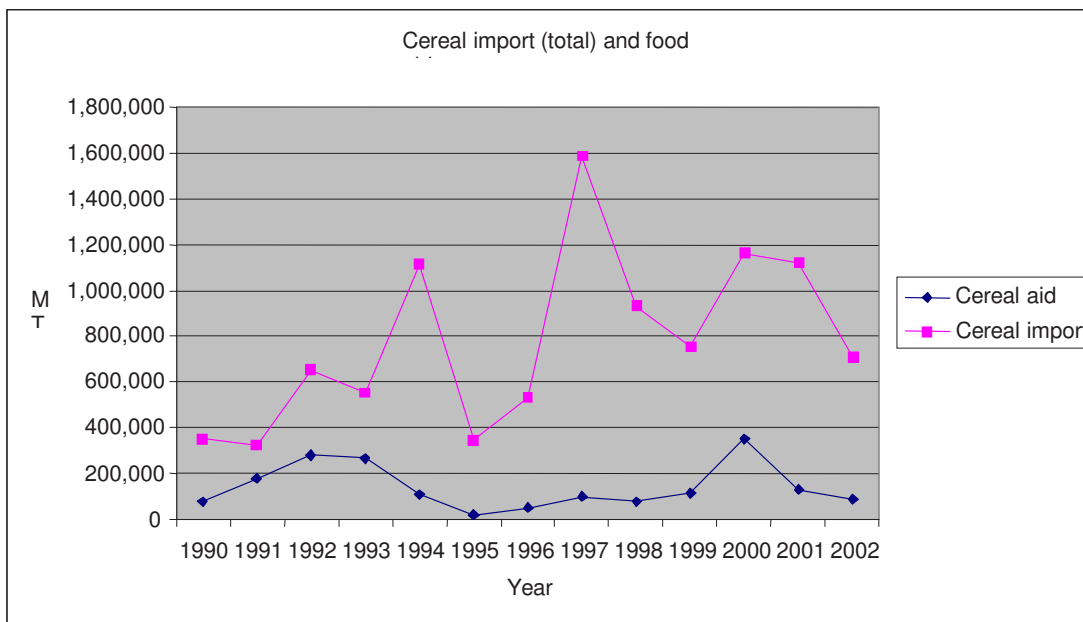
⁷ FAO, Kenya Agriculture Sector Brief, April 2004.

⁸ Yellow maize is seen as uncommon food is referred to as 'chakula cha farasi', meaning 'food for horses'.

⁹ Ugali is a Kenyan dish made of white maize flour. In fact, this dish is what most Kenyans refer to as 'food'. Therefore, if there is no white maize, there is seen to be food insecurity.

Currently, the country imports wheat, rice, maize, powdered milk and sugar, and receives food aid from donor agencies, mainly from the United States and EU, as a form of development assistance and, at times, as emergency relief during shortfalls in production (Kilungo, 1992). Table 30 presents Kenya’s food imports for the period 1980 to 2000. The level of food imports for most commodities was relatively low between 1987 and 1991 (Figure 14) because of food availability from domestic production. However, from 1992, imports have been high (with the exception of 1994 and 1995) because of the decline in domestic production. The fluctuations in import levels are a reflection of the fluctuations in domestic production. The largest amounts of food imports are from the developed countries (EU, United States and Australia). These are countries where food production is highly subsidized, thus posing a threat to domestic production of food commodities. Wheat imports increased from 48 500 tonnes in 1980, to 636 000 tonnes in 2000. Rice and sugar imports increased from 1 200 tonnes and 3100 tonnes, to 105 800 tonnes and 91 600 tonnes, respectively. Dried milk on the other hand, indicates a downward trend from 12 888 tonnes in 1980 to 1 749 tonnes in 2000. Importation of maize has not been as consistent as that of the other foodstuffs. For example, no maize was imported in 1983 and for the period 1987 to 1991. Imports of maize were high in the 1984 drought year, as well as in 1992, 1994, 1997 and 2000.

Figure 2.3:Quantity of total cereal import and food aid



Over the years, Kenya has benefited from various donor agencies. Major organizations involved in food aid include the World Food Programme (WFP) of the United Nations and the United States Agency for International Development (USAID). The importation of wheat, which is the major food aid commodity, is normally on concessionary terms, with an initial down payment of 5 percent, a grace period of ten years and repayment over the succeeding 30 years (Kilungo, 1992). The interest charges are at a rate of 2 percent per annum for the first ten years and 3 percent for the remaining years.

Table 2.3 Imports of major food commodities 1980–2000 ('000 tonnes)

Year	Maize	Wheat	Rice	Sugar	Dried Milk
1980	323.0	48.5	1.2	3.1	12 888
1981	77.3	49.2	4.6	2.1	11 210
1982	89.0	139.3	11.9	2.2	4 210
1983	0.0	81.9	44.8	2.4	4 532
1984	405.4	149.9	0.5	1.7	11 108
1985	125.5	14.8	0.6	39.1	6 677
1986	0.7	115.3	61.7	126.3	1 508
1987	0.0	217.9	39.2	49.1	545
1988	0.0	75.6	10.0	42.0	82
1989	0.0	123.5	30.0	80.0	15
1990	0.0	322.6	28.0	64.0	48
1991	0.0	242.6	61.2	59.7	65
1992	414.9	100.8	58.9	153.8	829
1993	12.9	314.4	37.2	184.8	747
1994	650.4	353.1	93.5	256.1	2 319
1995	12.0	364.0	30.7	244.0	679
1996	10.8	486.9	47.9	65.8	309
1997	1 101.1	388.1	62.4	52.4	863
1998	774.0	478.9	62.8	186.5	2 500
1999	73.5	579.0	53.4	55.6	2 694
2000	409.4	636.0	105.8	91.6	1 749
<i>Average</i>	<i>213.3</i>	<i>251.5</i>	<i>40.3</i>	<i>83.9</i>	<i>3 122.7</i>

Source: Kenya Statistical Abstracts (Various years)

Food aid is mainly linked to emergencies and usually targets vulnerable groups. It is executed in three different ways, general ration, supplementary feeding, and therapeutic feeding.¹⁰ (Gillis *et al*, 2002; Kiio and Upadhyaya, 2002). Kenya receives food aid in the form of cereals, pulses, oils and fats, and various blends. Table 31 indicates the amount of food aid received for the 2002/03 period.

Table 2.4 Food aid 2001 to 2003 (tonnes)

Year	Cereals	Processed cereals	Pulses	Oil/fats	Blends	Total
2001	228 961.63	7 532.21	24 306.18	14 431.87	27 171.91	306 643.10
2002	13 355.69	9 850.94	14 676.24	2 775.05	1 917.09	42 575.01
2003	24 491.63	4 969.37	1 965.69	815.56	2 409.81	34 781.45
<i>Average</i>	<i>88 936.32</i>	<i>7 450.84</i>	<i>13 649.37</i>	<i>6 007.50</i>	<i>10 449.60</i>	<i>127 999.85</i>

Source: World Food Programme

2.2.1 Food insecurity

Food insecurity in Kenya occurs both in urban and rural areas, and in both the high-potential and ASAL areas. About 51 percent and 38 percent of the rural and urban populations, respectively are food-insecure. The insecurity has been attributed to many factors, including decline in agricultural productivity, inefficient food distribution systems, population growth, unemployment and uncertain access to income, and the high

¹⁰ 'General ration' is provided as a complete basket of food commodities in quantities; 'supplementary feeding' specifically targets groups at risk of malnutrition, such as children and pregnant women; 'therapeutic feeding' is usually in feeding centres or clinics, to people suffering from malnutrition.

incidence of HIV and AIDS. Food insecurity in Kenya has been classified as either 'chronic' or 'transitory'.¹¹ 'Chronic' food insecurity results from continuously inadequate access to food and is caused by the chronic inability of households to either produce or purchase sufficient food, whereas 'transitory' food insecurity is inadequate access to food due to instability in food production, food supplies and income. The food problem in Kenya is mainly of a transitory nature, characterized by periodic droughts over the years, and institutional failure and poor policies. These cause food cropping and livestock production to decline, forcing the country to import substantial volumes of food. While food crisis in the ASAL has generally been attributed to climatic and environmental conditions, other equally important factors have been documented. These include limited alternative sources of income, exploitative cereal marketing channels, non-availability of drought and disease resistant crop varieties, limited crop diversification, poor storage methods, lack of credit services, inaccessibility of agricultural services, illiteracy and poverty (Mayanga *et al*, 2003).

Food insecurity has also been viewed as a question of 'entitlements', under which it is acknowledged that not all have equal access to the food available or produced. Sen argues that some people are deprived of food by a breakdown in their 'means' of accessing food. As is evident in Kenya, food insecurity has occurred without any decline in the general supply of food. In other words, food production per person can increase and yet more people still go hungry. This is basically caused by the other intervening variables, like food distribution patterns, as well as national policies and subsidies. Furthermore, food shortages are not experienced uniformly, even in the same food-deficit zone (Sen, 1981).

Recurrent food shortages, especially before grain marketing was liberalized in Kenya have been blamed on the abandonment of indigenous drought resistant crops and soil conservation methods. However, initiatives being made to assist rural communities to revert to these practices are beset by obvious inherent contradictions. Apart from changes in feeding habits and tastes over time, the market has not been overly receptive to these changes, particularly with regard to indigenous crop varieties like millet, cassava, sorghum and cowpeas. It has also become increasingly difficult to convince consumers that their traditional crops and vegetables are not only well-suited to local climatic conditions, but are also nutritious. As a result, there is a dire need for a concerted and participatory effort aimed at sustainable coexistence between 'new' technologies in agriculture, and the traditional farming practices.

Food insecurity has also been caused by land fragmentation, as most of the original large-scale farms have been subdivided beyond economically sustainable production capacity. As a result of this fragmentation, some 89 percent of the households in Kenya are living on less than 3 ha, while more striking is the fact that 47 percent lives on farms of less than 0.6 ha. Thus the country is predominantly made up of small farms. Ten percent of the holdings or 575 000 households are above 3 ha. One third of these are in the large-farm areas of the Rift Valley Province and another one third in the marginal areas of Eastern Province (Kitui and Machakos) and Nyanza Province (Homabay and Migori). The balance is made up of small pockets of large farms in all areas of the country.¹²

Despite the rental market, Kenya is faced with landlessness, as large chunks of idle land owned by the State or individuals still exist. There is a need to revise the existing land laws, land tenure system and land distribution so that land that is idle can be put to productive use. Other bottlenecks to food security include farmers' inability to access food crop research findings, demotivated extension workers, tribal clashes and displacement, illiteracy and use of rudimentary farming methods.

¹¹ Mayanga *et al* define 'transitory' food insecurity as a temporary decline in a household's access to sufficient food supplies. The transitory food insecurity households are those that, under normal circumstances, are able to produce enough stock but are vulnerable to supply problems when external shocks affect their food production systems or distribution chains for a limited period of time.

¹² FAO, Kenya Agriculture Sector Brief, April 2004.

2.2.2 The state of nutrition

While Kenya has been successful in expanding its agricultural exports, per capita food has declined from 2 150 Kcal per day in 1979 to 1 910 in 1992 to 1994. This fall is largely because local staple food production has been outstripped by a relatively high rate of population growth, caused by increases in life expectancy, offsetting the decline in fertility that resulted from a successful family planning programme. With about 44 percent of the population chronically undernourished, it is evident that current demand falls far short of real needs, reflecting the low prevailing per capita income and skewed income distribution, both of which limit access to food. Apart from low energy intake, there is widespread incidence of anaemia induced by iron deficiency, endemic goitre and vitamin A deficiency, as well as nutritional problems caused by lack of clean water and poor hygiene (Horizon, 2015).

Poverty is most serious in areas of high and medium agricultural potential lands. This is because of the very high density of population, which in turn implies small farm size per family. Wide income disparities characterize the Kenyan society. The poorest 20 percent of the population controls about 3.5 percent of the rural income and 5.4 percent of the urban income. On the other hand, the richest 20 percent of the population controls 61 percent of the rural and 51 percent of urban income (Horizon, 2015).

The incidence and intensity of hunger and malnutrition has increased significantly and per capita supply of the main staples has been declining since the early 1980s. Chronic undernutrition is the most common form of malnutrition in Kenya and is mainly associated with insufficient dietary intake, because households lack adequate resources (income) to secure their basic food requirements.¹³ From 1982 to 1994, the nutritional status of children showed an uneven trend, although there was marginal improvement at the national level. The rates of chronic undernutrition – measured by retarded growth – appeared to be declining at a rate of 1 percent a year between 1982 and 1987. However, this trend reversed thereafter and the nutritional status deteriorated. In 1994, the prevalence of chronic undernutrition among children under five years had risen to 34 percent, a level that is 15 times higher than that expected in a healthy, well-nourished population. The observed trend of undernutrition at the national level corresponds with the decline in per capita food availability, declining economic performance especially in small-scale agriculture, and rising levels of poverty. Chronic undernutrition does not affect all children uniformly in the country and the national estimates shows regional variations.

Children in Kwale and Kilifi, in Coast Province, and Makeni, Kitui and Machakos, in Eastern Province, were the most vulnerable, with half of the children suffering from chronic undernutrition. Other districts with high undernutrition are also found in Western, Nyanza and Rift Valley Provinces. Increasing poverty and declining access to basic health care are the main causes of this situation. The prevalence of stunting among children remained high in Coast, Eastern, Nyanza and Western provinces (UNON, 1999).

2.2.3 Poverty and vulnerability

Table 32 indicates poverty incidence estimates in Kenya. The intensity and prevalence varies across different regions. On a national scale, it is estimated that about 56 percent of the population lives below the poverty line. Rural poverty is marked by its common connection to agriculture and land, whereas urban poverty is more heterogeneous and dependent on the means of generating income.

¹³ Undernourished in the context of world food summit 1996 refers to person whose food consumption level is inadequate in terms of calories consumed relative to requirements on a continuing basis.

Table 2.5 Poverty incidence estimates in Kenya 1981 to 2000

Region	1981/82	1992	1994	1997	2000
Central	25.7	35.9	31.9	31.4	35.32
Coast	54.6	43.5	55.6	62.1	69.88
Eastern	47.7	42.2	57.8	58.6	65.90
Rift Valley	51.1	51.1	42.9	50.1	56.38
North Eastern	NA	NA	58.0	65.5	73.06
Nyanza	57.9	47.4	42.2	63.1	70.95
Western	53.8	54.2	53.8	58.8	66.11
Nairobi	NA	26.5	25.9	50.2	52.56
Rural	48.8	46.3	46.8	52.9	59.56
Urban	NA	29.3	28.9	49.3	51.48
National	46.8	46.3	46.8	52.3	56.78

NA = Not Available

Source: GOK, Economic Surveys, Kenya PRSP (2002)

The distribution of the poor according to regions in Kenya, shown in Table 32, indicates that poverty levels are highest in ASALs in Coast, North Eastern and Eastern Provinces and in the highly populated regions of Western, Nyanza, Rift Valley and Central Provinces. These areas have few agricultural opportunities because of climatic conditions, or have been overexploited as a result of population pressure in the case of high-potential agricultural areas. Many factors are considered to contribute to poverty in Kenya. They include:

- Low agricultural productivity and poor marketing; unemployment and low wages;
- Lack of access to productive assets, particularly land;
- Poor infrastructure;
- Gender imbalance;
- High costs of social services;
- Bad governance; and
- HIV and AIDS (Kenya PRSP, 2001).

The country's strategy to address poverty is to implement pro-poor policies. These include policies that address agricultural growth, food security, employment generation and income distribution.

The poor in rural Kenya are approximately 12 million people in 2.1 million rural households, plus another 2 million individuals in 500 000 urban households. Table 33 indicates that the absolute number of poor individuals is highest in Rift Valley, Nyanza and Eastern Provinces. There are also more poor people in urban areas than in all of Central and Coast Provinces put together, with Nairobi alone having 1 million individuals living in poverty. The poor are all over the country and poverty is as much a rural as an urban problem.

Table 2.6 The poor in Kenya

	% Poor	% Of Rural Poor	Individuals	Households	HH Size
Rural					
Rift Valley	51	0.23	2 691 909	485 182	5.5
Nyanza	63	0.23	2 678 518	507 720	5.3
Eastern	61	0.19	2 280 334	382 037	6.0
Western	57	0.15	1 739 131	315 074	5.5
Central	32	0.10	1 126 826	216 047	5.2
Coast	62	0.08	883 667	138 691	6.4
North Eastern	68	0.03	369 684	60 604	6.1
	53	0.86	11 770 069	2 105 355	
Urban					
Nairobi			959 973	238 328	4.0
Other Urban			1 033 929	254 117	4.1
		.14	1 993 902	492 445	
Total			13 763 971	2 597 800	

Source: GOK 2001. Poverty Reduction Strategy Paper

The poor and the rich live side by side in Kenya, in both rural and urban areas. Attempts to show whole districts or sublocations as being a particular percent poor could mask the fact that income inequality and diversity within even single villages is greater than the diversity across districts or regions. There are poor people in the richest areas, and rich households in the poorest areas, villages and neighborhoods.¹⁴

Kenya is characterized by a highly diverse climate that varies from a tropical hot and humid coastline to a temperate climate inland, and further to a dry climate in the north. Recurrent drought is widespread and it is one of the major causes of vulnerability at the household level. Over 70 percent of the country is arid, receiving less than 510 mm of annual precipitation. Only 12 percent of the total land area is classified as having high or medium potential, while the remaining 88 percent is classified as low-potential or ASAL. Rainfall is highly unreliable and unpredictable and the country experienced severe drought in the years 1974, 1984, 1994 and 1999, resulting in significant decline in production. In the marginal areas (mainly in the eastern parts and the lake basin) with 30 percent of the national area under maize, yields range up to 8 bags per acre depending on weather conditions. The average yield of maize is 1.7 tonnes per ha. (Oluoch-Kosura and Karugia, 2004).

The rapid spread of HIV and AIDS poses grave health problems and has damaging macroeconomic consequences, such as reduced savings, falling labour productivity and loss of experienced workers. Around 700 people die daily in Kenya from AIDS. The disease has been declared a national disaster and accounts for the majority of patients in Kenya's hospitals. About 2.2 million people are infected and 700 000 of these have full-blown AIDS and require urgent treatment in public health care facilities. The number of AIDS orphans is estimated to have reached 1.1 million, making it the third worst affected country in the world. The high rate of sexual transmission among the 15 to 24-year age group is expected to increase the deaths from AIDS daily to 1 400 in the next five years (FAO, Kenya, 2003).

Since the disease affects the able-bodied members of the community, families have to adjust the land area devoted to farming. Remote fields are abandoned, while nearby fields are overused and undermaintained. A switch to crops requiring less labour is common. Available resources are also diverted to medical care, food and funeral expenses, instead of investment on the farm (Oluoch-Kosura and Karugia, 2004).

¹⁴ FAO, Kenya Agriculture Sector Brief, April 2004.

Women provide the bulk of the farm labour. However, women experience land tenure insecurity and this has a negative impact upon their agricultural productivity and food security. Traditional tenure systems discriminate against women in the control, acquisition and ownership of land. Women are also discriminated against when it comes to acquisition of credit (Oluoch-Kosura and Karugia, 2004). Many cultural practices disadvantage women in terms of ownership of productive assets, like cattle, houses, etc. and hence command over the resources that accrue from these assets. In the event of separation or death of a spouse, some women face discrimination that negates their rights to inherit family assets, making them even more vulnerable.

The elderly, orphans, the disabled and the pastoral community in Kenya are the most vulnerable groups for they lack necessary social and economic support. The level of vulnerability of the elderly has increased, as a result of immigration of young adults from the rural areas to the urban centres, and the effects of death from AIDS, which has also increased the number of orphans. The pastoral community is basically affected by drought and their conditions continue to worsen owing to the frequency of drought and their rapid population growth.

2.2.4 Domestic food requirements

Table 34 gives production and demand projections for major food crops for the period 2004 to 2014.¹⁵ By 2014, Kenya is expected to have to import 4 percent, 84 percent and 65 percent of maize, wheat and rice requirements, respectively. If Kenya hopes to avoid using meagre foreign exchange reserves to import food, it has to put in place measures to increase agricultural production and productivity.

Table 2.7 Production, demand and import projections for major food crops ('000 tonnes)

		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Maize	Production	2 815	2 874	2 934	2 996	3 059	3 123	3 189	3 256	3 324	3 394	3 465
	Demand	2 919	2 980	3 043	3 107	3 172	3 239	3 307	3 376	3 447	3 519	3 593
	Deficit	104	106	109	111	113	118	118	120	123	125	128
Wheat	Production	244	249	254	259	264	270	276	282	288	294	300
	Demand	905	973	1 046	1 124	1 208	1 299	1 396	1 501	1 614	1 735	1 865
	Deficit	661	724	792	865	944	1 029	1 120	1 219	1 326	1 441	1 565
Rice	Production	57	58	59	60	61	62	63	64	65	66	67
	Demand	114	116	118	120	122	124	126	128	130	132	134
	Deficit	57	58	59	60	61	62	63	64	75	66	67

Source: Author calculations

Livestock products include milk, beef, mutton, goat meat, camel meat, pork, poultry and eggs. An average of 2.2 billion litres of milk is produced annually, while local milk demand is 2.1 billion litres. The meat subsector is dominated by red meat (beef, mutton and goat). Red meat accounts for about 70 percent of the meat consumed locally, while white meat (pork and poultry) makes up the remaining 30 percent. The production of red and white meat is 250 000 and 40 000 tonnes per year, respectively. The estimated per capita consumption of livestock products is 9 to 10 kg for beef, 2 kg mutton and goat, 1.2 kg poultry and 0.3 kg for pork. This indicates that there is considerable potential for increased milk and meat production, which would, in turn, imply increased food security.

¹⁵ The production projection have been extrapolated at 2.1 percent, 2.1 percent and 1.7 percent for maize, wheat and rice, respectively, taking into account the expected hectareage and yields of each of the crops. The demand projections are 2.1 percent, 7.5 percent and 1.7 percent for maize, wheat and rice, respectively, reflecting the population growth rate, rural-urban migration and change of food preferences.

As indicated in Table 35, provided that Kenya intensifies livestock production by putting in place implementable strategies to increase both livestock production and productivity, Kenya is not in any serious danger of failing to meet most of her livestock product requirements. The Table indicates that only beef and camel meat will be in deficit during the period under consideration. Other meat products will be in surplus, all things remaining equal.

Table 2.8 Production and demand projections for various livestock products

Item	Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Milk (million litres)	Production	2 879	2 951	3 039	3 130	3 224	3 321	3 420	3 540	3 663	3 792	3 925
	Demand	2 691	2 825	2 995	3 175	3 365	3 567	3 781	4 008	4 248	4 503	4 773
	Deficit	188	126	44	(45)	(141)	(246)	(361)	(468)	(585)	(711)	(848)
Beef (tonnes)	Production	323 021	332 857	342 693	353 128	363 563	374 470	385 704	397 275	409 193	421 469	434 113
	Demand	360 200	371 180	382 000	393 650	405 300	417 459	429 982	442 881	456 167	469 852	483 948
	Deficit	37 179	38 323	39 387	40 522	41 737	42 989	44 278	45 606	46 974	48 383	49 835
Mutton (tonnes)	Production	40 830	42 006	43 182	44 320	45 457	47 821	50 308	52 924	55 676	58 571	61 617
	Demand	53 350	54 885	56 420	57 905	59 390	62 478	65 727	69 145	72 741	76 523	80 502
	Deficit	12 530	12 879	13 238	13 585	13 933	14 657	15 419	16 221	17 065	17 952	18 885
Goat (tonnes)	Production	47 810	49 365	50 920	52 680	54 440	56 237	58 092	60 009	61 989	64 035	66 148
	Demand	42 220	43 590	44 960	46 515	48 070	49 656	51 295	52 988	54 737	56 543	58 409
	Surplus	5 590	5 775	5 968	6 165	6 370	6 581	6 797	7 021	7 252	7 492	7 739
Camel (tonnes)	Production	8 470	8 525	8 580	8 685	8 790	8 895	9 001	9 109	9 218	9 329	9 441
	Demand	8 300	8 350	8 400	8 450	8 500	8 602	8 705	8 809	8 915	9 022	9 130
	Deficit	170	175	180	235	290	293	296	300	303	307	311
Pig (tonnes)	Production	15 326	16 111	16 896	17 762	18 628	19 541	20 498	21 502	22 557	23 662	24 821
	Demand	7 631	7 857	8 083	8 427	8 770	9 200	9 651	10 124	10 620	11 140	11 686
	Surplus	7 695	8 254	8 813	9 335	9 858	10 341	10 847	11 378	11 937	12 522	13 135
Poultry (tonnes)	Production	23 196	23 784	24 371	24 988	25 604	26 244	26 900	27 572	28 261	28 968	29 692
	Demand	23 021	23 637	24 253	24 912	25 570	26 209	26 864	27 536	28 224	28 930	29 653
	Surplus	175	147	118	76	34	35	36	36	37	38	39
Eggs (millions)	Production	1 136	1 171	1 205	1 242	1 278	1 315	1 353	1 392	1 432	1 474	1 517
	Demand	1 010	1 040	1 070	1 104	1 138	1 171	1 205	1 240	1 276	1 313	1 351
	Surplus	126	131	135	138	140	144	148	152	156	161	166

Source: National Development Plan 2002-2008, Kenya Dairy Development Policy, GoK 2000 and Authors' calculations

2.3 Internal food transfers

Movement of foodstuffs from surplus areas to deficit areas characterizes Kenya's food distribution. For example, maize is produced primarily in the medium and high-potential areas of the Rift Valley Province. It finds its way to distant deficit areas of North Eastern, Eastern and Coast Provinces, and the urban centres. However, an empirical diagnosis shows that, because of problems in food distribution and marketing procedures, there are cases where people starve in drought-prone areas, like Turkana and the North Rift Valley, while several tonnes of maize await marketing opportunities in the not far distant Kitale in Trans

Nzoia District. A case in point is the 1983/84 famine that affected various parts of the country. The local residents in Machakos and Makueni districts dubbed the famine '*ngwa ngwete*', which means, 'I am dying, though I have the means'. The people had money to buy food but there was hardly anything in the commercial foodstores. Since there were foodstuffs elsewhere in the country, particularly in the Rift Valley, what the people in question experienced was an artificial shortage of food occasioned by poor distribution systems and policies. Additional evidence from Kenya's high potential areas shows that food insecurity can be experienced in the midst of plenty, arising from the combination of lack of information, an impassable road network and control of the movement of grains.

2.4 Food security strategies and safety nets

Kenya has, over the years, faced increased food deficits as a result of prolonged droughts and low productivity. Lack of effective early warning systems, lack of adequate strategic reserves, high post-harvest losses and lack of effective control of crop and livestock diseases have compounded the challenges. The private sector has demonstrated its ability to import food items that are needed in times of domestic production shortfalls. This has decreased the need for a large national strategic reserve, although this dependency on imported foodstuffs does not encourage sustainable food security.

Kenya's Special Programme for Food Security Concept Note, prepared by the Ministry of Agriculture and Livestock Development, Department of Agriculture Extension, intends to institute a national early warning and food distribution system, and maintain a national strategic reserve but encourage the private sector to get involved in the international grain trade through a more predictable policy and tariff regime. Towards halving the number of food-insecure people, a target of at least 6 million persons has been set, and it seeks to ensure that the number of chronically food-insecure does not increase beyond present levels.

A significant programme under existing national funds was planned, beginning with the 2004/05 budget, and through District Food Security Steering Committee actions in the 2003/04 budget year (starting 1 July 2003). District consultations and planning will be undertaken to prepare budget requests for the 2004/05 fiscal year. The Ministry has, in the meantime, conducted sensitization workshops for key stakeholders, from the public and private sectors, at national (including the donors), provincial and district levels. Staff members at district level have embarked upon familiarization and documentation of successful initiatives.

Start up activities for the Kenya Special Programme for Food Security and Food Security Network include:¹⁶

- 1 District level consultations for development of profiles, priority-setting and budget commitments, setting the stage for scaling up of activities within districts and divisions.
- 2 District preparation activities including training of facilitators (government, NGO and CBO extensionists), testing grant modalities and exchange visits. Support to national policy development on a Food Security Strategy that would include the Office of the President, Disaster Management Unit, production and storage issues, and interministerial issues, such as trade, communications, infrastructure and other macroeconomic concerns.
- 3 Formulation of a national programme or project, with national and external funding, to address the immediate issue of 1 million chronically food-insecure households, with all national extension providers orienting their work plans toward the proposed approach.
- 4 Strengthening of the current Inter-Ministerial Committee on Food Security, combined with drawing linkages with the Kenya Food Security Meeting and means of supporting joint activities, so as to ensure greater attention to issues of chronic, rather than transitory, food insecurity.

¹⁶ FAO, Kenya. 2003. Food Security and Agriculture Development Horizon 2015, November 2003 (Draft).

CHAPTER 3: SUPPORT FOR AGRICULTURE: MAGNITUDE, EVOLUTION AND TRENDS

3.1 Importance of the agriculture sector

Agriculture is the major sector in Kenya and, although its contribution to GDP has declined from 35 percent in 1964 to about 26 percent in 2004, its contribution to development is still significant (Kenya, 2002).⁸ Out of the total 56.9 million ha of Kenyan land, over 90 percent is classified as agricultural land.

Agriculture employs about 75 percent of the labour force, provides raw materials for the agro-based manufacturing industries (which constitute 70 percent of all industries) and provides about 45 percent of the Government's revenue. Besides, the sector is the growth engine for the non-agricultural sector, with a multiplier effect of about 1.64 (Block and Timmer, 1994). Thus, agriculture is the mainstay of the Kenyan economy and is expected to maintain its role as the primary engine of growth for the economy in the foreseeable future.

The fisheries subsector contributes about 3 percent of GDP and 3 percent of total export earnings. It employs about 58 000 people directly, and 500 000 indirectly through fish processing and trade. This subsector falls under the Ministry of Livestock and Fisheries Development (MoLFD), which has the mandate to promote sustainable development of the livestock and fisheries sector and ultimately contributes to the achievement of food security. The cooperative movement plays an integral role in the procurement of agricultural and livestock inputs, and marketing of outputs. The movement also plays a major role in facilitating the building up of revolving funds for cooperative movements in various organizations. The Ministry of Cooperative Development and Marketing (MoCDM) is, therefore, expected to spearhead the growth and development of an economically viable cooperative movement through formulation, development and implementation of policy guidelines, programmes and legal frameworks that meet the aspirations of cooperative members.

3.2 The nature of Kenyan agriculture

Kenya's agriculture is dominated by primary production of a few commodities,⁹ namely cereals (maize, wheat and rice), traditional food crops (pulses, roots and tubers, millet and sorghum), industrial crops (sugar, pyrethrum, cotton, tobacco and sisal), exports crops (tea, coffee and horticulture) and livestock (milk, meat and eggs) (Nyangito, 1998).¹⁰ Kenya's agriculture sector is characterized by smallholder mixed farming. Smallholders account for over 65 percent of the total agricultural output. Pastoralism is the main form of production in the ASAL areas. The smallholder farmers in ASAL and agropastoral districts have the potential to grow cotton as a cash crop and maize, sorghum, millet and pigeon peas for subsistence. Plantation crops grown on a monoculture basis include coffee, tea, wheat and maize.

Table 36 presents the value of agricultural primary production for 1995.¹¹ The table illustrates the actual value of specific commodities in the GDP. What is evident is that livestock contributed the largest value of agricultural primary production of Kshs 66.3 billion, while cereals, cash crops, domestic and export

⁸ Todaro (2001) defines development as the process of improving the quality of all human lives. Three equally important aspects of development are: (1) raising people's living levels – their incomes and consumption levels of food, medical services, education, etc. through relevant economic growth processes; (2) creating conditions conducive to the growth of people's self-esteem, through the establishment of social, political and economic systems and institutions that promote human dignity and respect; and (3) increasing people's freedom by enlarging the range of their choice variables, as by increasing varieties of consumer goods and services.

⁹ Other crops and livestock produced in Kenya, which at present contribute little to agricultural GDP, include sunflower, sesame, soybeans, rapeseed, castor seed, cashew nuts, ostrich bixa, bees and crocodile.

¹⁰ Agriculture includes fishing, and forestry and logging.

¹¹ The figures reflect the current situation with very minor adjustments.

horticulture, and others contributed Kshs 28.9, Kshs 31.5, Kshs 19.8 and Kshs 10.2 billion respectively. On the other hand, livestock, cereals, cash crops, domestic and export horticulture, and others contributed 39.8 percent, 17.5 percent, 19.0 percent, 11.8 percent, and 6.1 percent, respectively of the value of total agricultural GDP. As a share of total GDP, livestock contributed 10.1 percent, followed by cash crops (4.7 percent), cereals (4.3 percent), and others contributing 1.6 percent.

Table 3.1 Value of agricultural primary production, 1995

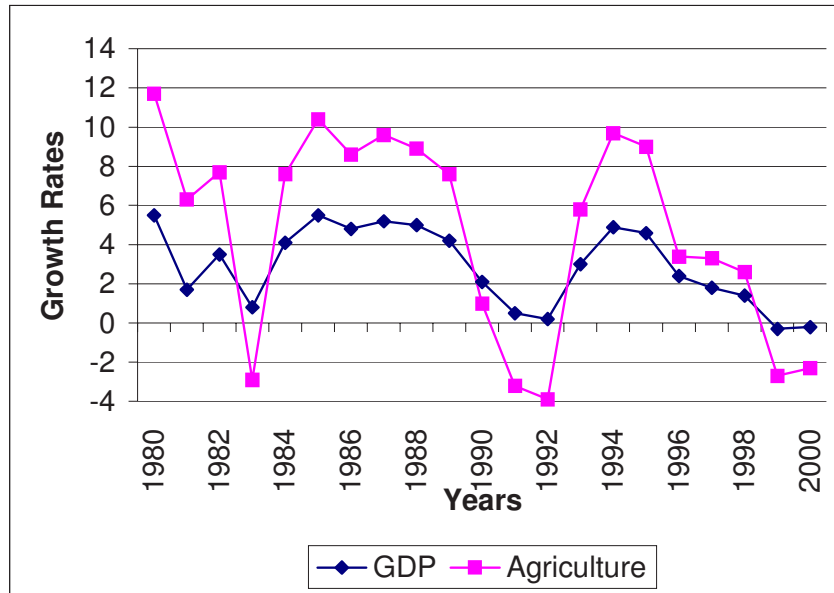
Commodity	Value of primary production(Kshs Billions)	% of agricultural GDP	% of total GDP
Beef cattle	25.0	15	3.8
Dairy products	23.1	13.9	3.5
Maize	20.1	12.1	3.0
Tea	16.6	10.0	2.5
Coffee	14.9	9.0	2.2
Domestic horticulture	12.7	7.6	1.9
Chicken products	7.6	4.6	1.1
Export horticulture	7.1	4.2	1.1
Sugar	7.1	4.2	1.1
Goats	6.5	3.9	1.1
Pulses	5.9	3.6	0.9
Sheep	4.1	2.4	0.6
Potatoes	3.1	1.9	0.5
Wheat	2.9	1.8	0.4
All primary agriculture	156.1	94.2	23.6
<i>Average</i>	<i>12.1</i>	<i>7.2</i>	<i>1.8</i>

Source: Kenya at the cross roads

3.3 Agricultural growth trends and sector analysis

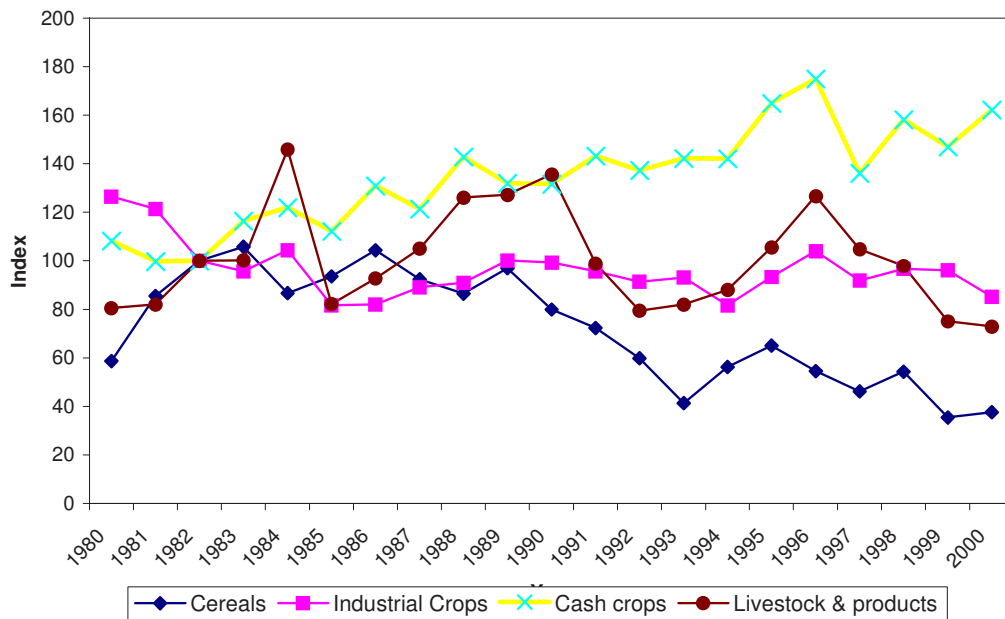
A very close relationship exists between the growth of agriculture and that of the whole economy (Figure 15). When the performance of the agricultural sector is good, that of the economy is also good and the reverse holds true as well. This positive correlation illustrates the need for the Government to increase productivity in agriculture if the economy is to move anywhere at all.

Figure 3.1: Growth rates of GDP Agriculture and GDP



When the performance of the sector is analysed - in terms of production, area, yields, marketed volumes, prices, exports and imports - one draws the conclusion that agricultural performance, especially in the post-reform period 1994 to 2000 was negative. Agricultural production shows mixed trends for various commodities (Figures 13, 14 and 15). Most commodities, particularly food and industrial crops have shown a decline in production, as reflected in sales to marketing boards, while some crops like tea and tobacco (and cash crops in general) show a generally increasing trend after 1990 (Figure 16).

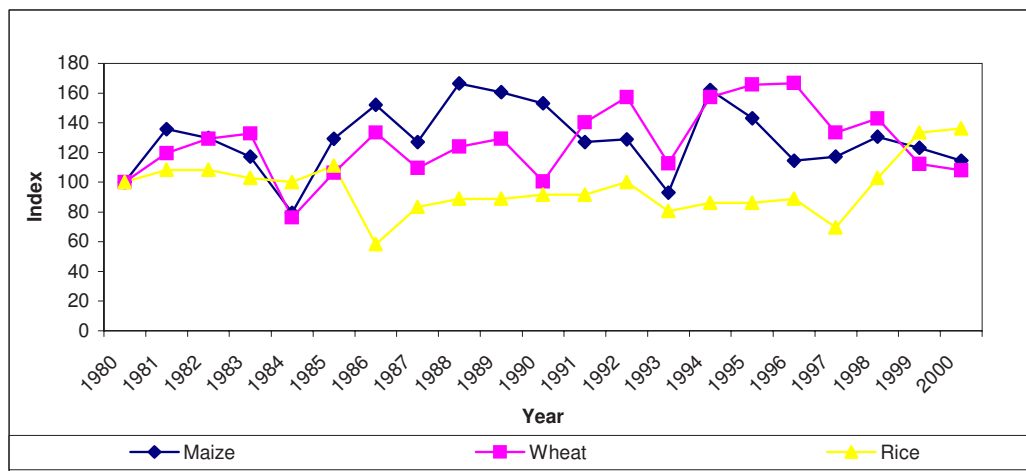
Figure 3.2: Quantum Indices of Agricultural Sales to Marketing Boards (1982 = 100)



Source: Kenya Economic Survey

The poorest performance has occurred in maize, rice and wheat (Figure 17). The mixed trend in production is attributed to a number of factors that include area expansion or contraction, and climatic, technological and price changes. While it is true that climatic factors such as drought are important in explaining Kenya’s agricultural performance, the major culprits are policy related.

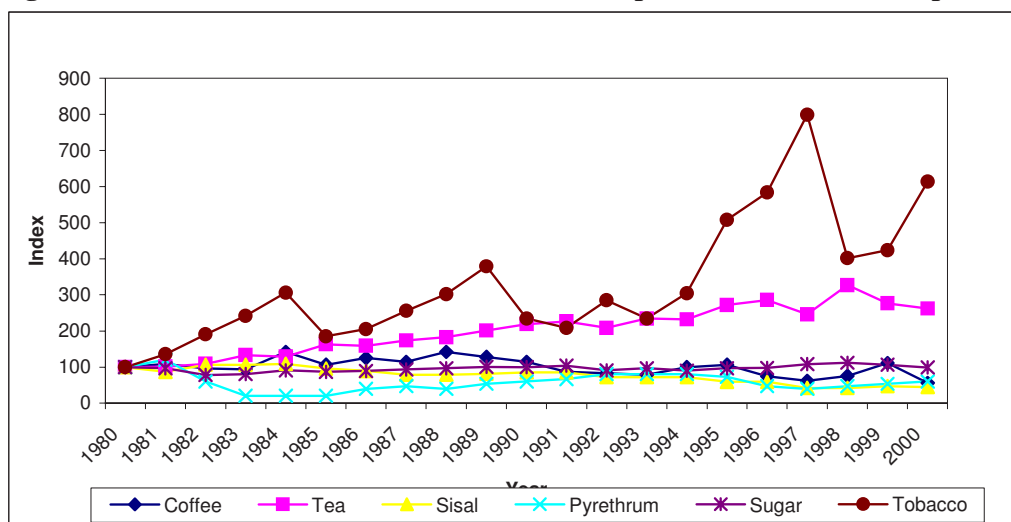
Figure 3.3: An Index of Domestic Food Crops Production (1980 = 100)



Source: Economic Survey.

Furthermore, although some commodities, like tea, show a generally increasing trend in production, this is attributed to an increase in hectare rather than an increase in productivity or yields. In all cases, productivity for all the commodities is low, compared with research station results or those obtained in developed countries.

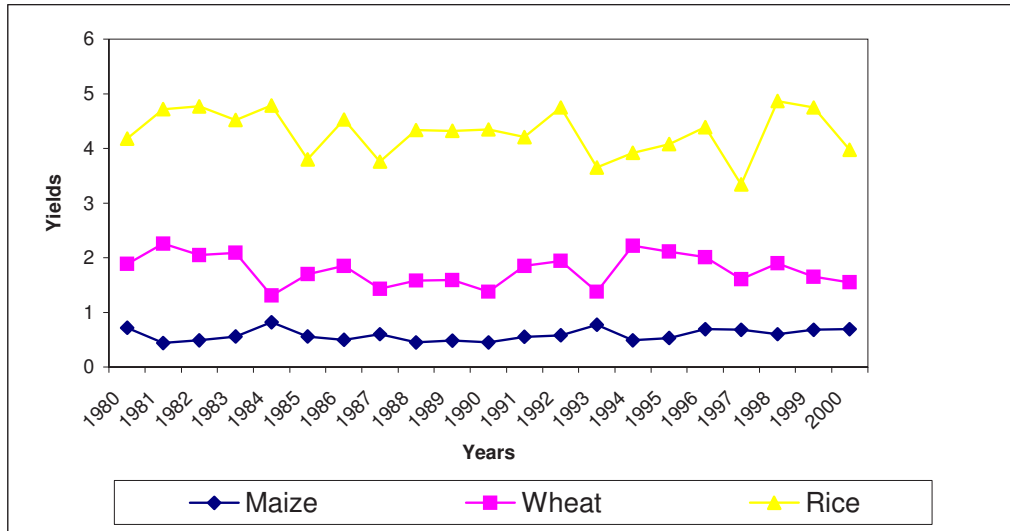
Figure 3.4: An Index of Domestic Production of Export and Industrial Crops (1980 = 100)



Source: Economic Survey.

The area under crops shows mixed trends. There has been a general increase in the area under food crops (maize and wheat) and cash crops (tea, coffee and horticulture). However, there has been a decline in the area under industrial crops, particularly sisal and cotton, but a mixed trend is observed for sugar cane, while a general increase occurred for tobacco. Given these trends in area expansion, the decline in production cannot be attributed to contraction in area, but changes in yields. The yields for various crops shown in Figure 19 (maize, wheat and rice) and Figure 20 (coffee, tea, tobacco and sisal) indicate that yields for most of the crops have stagnated since 1980, although some marginal increases have occurred for a few crops, such as tea.

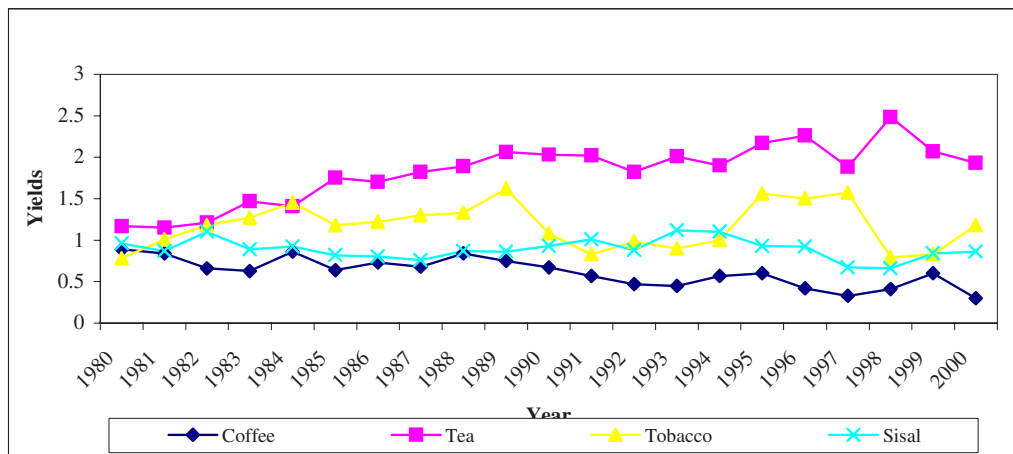
Figure 3.5: Cereal Yields (Tonnes/ha) 1980 -2000



Source: Kenya Economic Surveys.

A common feature for all crops is periodical fluctuations in yields. Different levels of crop husbandry practices, fertilizer and chemical use, quality of seed and production techniques explain the fluctuations in yields. Stagnant yields and/or declining levels are a reflection of poor crop husbandry practices, low levels of use of fertilizers and chemicals, use of poor quality seed and generally non-optimum production techniques.

Figure 3.6: Industrial crop yields (tones/has) 1980-2000



Source: Kenya Economic Surveys.

These problems extend to livestock production and, as a result, production of livestock products, particularly milk has declined. In particular, poor livestock disease control has resulted in the existence of animal diseases that restricted beef exports to European markets.

3.4 Challenges, constraints and opportunities

3.4.1 Challenges

The main challenges facing the rural sector, as identified by Kenya's Rural Development Strategy 2002–2017 are to increase productivity and economic growth in order to halt the worsening poverty levels, and to attain the target of reducing poverty by 50 percent by the year 2015. They have to be confronted at a time when Kenya faces a declining financial and natural resource base, the HIV and AIDS pandemic, insecurity, and the ill effects of globalization.

Another major challenge of the agricultural sector is to compete in the world market. The country depends on a narrow range of primary agricultural products for export, which are facing a fairly volatile and stringent world market. One of the greatest challenges in Kenyan agricultural exporting is to increase the volume and value of exports within the various trade protocols of the WTO's AoA.

3.4.2 Constraints

The growth of Kenya's agriculture and food sector is constrained by both economic and non-economic factors. These include:

- Institutional weakness;
- Collapsed infrastructure;
- Lack of an effective land policy;
- Low political support;
- High taxation;
- Poor research and extension linkages;
- Increasing prevalence of HIV and AIDS and other diseases; and
- Dysfunctional institutions, especially in the finance sector.

The section that follows examines these constraints in greater detail.

There is poor agrarian leadership in Kenya. The leadership has failed to promote an all-inclusive agriculture development framework, where the state, the private sector, civil society, institutions of higher learning, and the farming community participate. The framework must be indigenously led but Kenya can always use relevant experiences from the successful economies, for example the Asian economies (Naya and Mcleery, 1994). Past policies have been supply-driven and designed without the participation of stakeholders, especially the farmers. Even if such policies were good for the farmers, they may not have had the desired effect, as there was no ownership by the intended beneficiaries (Gitu, 2001; Idabacha, 2000). More important is that the leading role of women in all agricultural production activities has been ignored (Boserup, 1970; Sachs, 1983; FAO, 1993; Pinstруп-Andersen and Pandya-Lorch, 2000; Todaro, 2000).

The weakness of most of the resource-poor farmers' organizations is another component of the institutional failure. There is poor governance and weak leadership in many of the resource-poor-farmer groups. In particular, some of these groups are led by people who perceive them as avenues for accessing financial resources from support organizations. These are the most troublesome of all farmer groups in that they inhibit the farmers' ability to establish institutional capacity for self-development or to address their needs e.g. through failure to mobilize their own resources to reasonable levels before seeking external support. Weak leadership also tends to create dependency on others for direction and frequently leads to failure to articulate group needs and demands.

Kenya suffers from collapsed infrastructure, including a poor road network, inadequate railway network, unreliable and costly electricity and water supply, and lack of information and communications technology infrastructure. Due to the poor transport network, commodity prices often fluctuate substantially from one region to the other and are seasonally volatile. Even when agricultural surplus zones have gluts, it is not

possible to transport the produce to the deficit zones. Similarly, when technical solutions in agriculture have become available, lack of infrastructure causes problems in their transmission, especially with regard to marketing, credit, extension and input provisions. In some cases, the cost of transporting agricultural inputs and produce is so high that farmers do not produce at all, even if other resources are available. This has had a serious negative effect on the development of the agriculture sector, and consequently on poverty and food security.

Kenya's agriculture is predominantly rainfed and output is, therefore, heavily influenced by the amount, distribution and variability of rainfall, which causes considerable risks and uncertainty in production. Land scarcity is further dramatized by episodes of severe droughts (Short and Gitu, 1990). Recurrent drought has been associated with significant declines in production and consequent food shortages.

High taxation, especially on inputs, including machinery, fuel and spare parts, negatively affects the competitiveness of Kenya's agriculture. Taxation and policy biases against agriculture include:

- Concentration of public investments in areas of infrastructure and provision of safety nets in urban areas;
- Direct taxation of agriculture-based exports and local authority tax;
- Subsidies and tax waivers for capital intensive technologies, such as computers and mobile phones, instead of reducing costs of agricultural inputs;
- Development of infrastructure in urban areas rather than in rural areas where the infrastructure is needed most;
- Weak farmers institutions to support agriculture; and
- Market access and transport costs that are biased against rural development.

Input-intensive technologies are not economical either when farmers must pay prices for fertilizers and receive only 30 to 60 percent of the market value for their produce, or when surplus product cannot be transported and sold because of lack of infrastructure.

Land has been one of the most contentious issues in Kenya's political economy. The lack of a coherent land policy that harmonizes the different land-based activities, such as agriculture, pastoralism, tourism, industrial location and human settlement has continued to undermine agricultural development and food security. The surveying, titling and registration of land is about 80 percent complete in the high and medium-potential areas of the country but this cannot be said for ASAL areas. Some authors believe that ownership of land greatly influences the intensification of agriculture, as title to land gives one the exclusive right to operate a particular landholding and invest on it, and can also be used as collateral in sourcing financial credit (Bwika, 1990). Lack of title deeds has weakened farmers' resolve to operate their landholdings and deterred long-term investment on the land. Furthermore, land ownership and credit access is highly biased against women, who are the main operators of land in Kenya. Some empirical evidence has pointed to the non-existence of a casual relationship between the formal registration or titling of holdings and the propensity to invest, demand credit, increase yields and exchange land through sales and purchases. Nevertheless, it is accepted that, to achieve the desired effect of land registration and titling, other complementary factors, such as access to quality inputs, infrastructure and efficient marketing of produce, must be in place. These complementary factors are mostly unavailable leading to missing markets and non-realization of increased productivity (Migot-Adhola *et al*, 1994; Obunde *et al*, 2003).

Agricultural productivity is threatened by the HIV and AIDS pandemic. The opportunity cost in terms of foregone production is high and, at the same time, mortality and morbidity from HIV and AIDs results in labour shortages for both farm and domestic work. In the rural areas, estimates indicate HIV prevalence to be between 12 and 13 percent. This threatens the ability of the small farmer to produce sufficient food. Similarly, other diseases, such as tuberculosis and malaria are having a similar effect (Saitoti, 2000; Wilson, 2001; Bernet and Rugalema, 2001).

Building a Case for More Public Support

Low political support and non-performance of policies have affected agricultural growth. Kenya's leadership must play a greater part in guiding agricultural development than hitherto. It must drive the agricultural development process and must provide political support, which is vital for a rapid and sustained growth process.

Weak research and extension linkages have adversely affected agricultural production and productivity. Although Kenya's agricultural research system is relatively strong, compared to other developing countries, progress in increasing total factor productivity in agriculture suggests that it has inherent weakness that force it to operate below its potential. This has been related to:

- Weaknesses in research, priority-setting, financing and management;
- Poor interagency linkages;
- Underfunding of operational costs; and
- Lack of managerial autonomy and accountability (Simons and Gitu, 1989; Simons, 1989; Gitu, 2001; Omamo, 2003).

A major limiting factor to agricultural research has been the fact that local research institutes rely mainly on donor funds. The weaknesses in research and extension linkage have limited the generation of new technologies. Recent analysis shows a declining trend in efficiency and effectiveness of the Ministry of Agriculture extension services (Kosura, 2001). This is a result of declining budgetary allocations to the sector, lack of clear objectives, failure to identify the role of beneficiaries, and poor organizational and institutional structures among other factors. Although new technologies are available on-shelf, the farming community has not benefited from them, since research findings do not flow to the farming community because of the dysfunctional extension service.

Strong credit and marketing institutions supported agricultural production systems in the first decade after independence. These included the Agricultural Finance Corporation (AFC) for credit, National Cereals and Produce Board (NCPB) for marketing of maize, wheat and other cereals, Kenya Meat Commission (KMC) for marketing meat, Kenya Cooperative Creameries for milk, and Kenya Sugar Authority (KSA) for sugar, just to mention a few. These institutions initially performed fairly efficiently but, in response to high-level Government interference, corruption and poor management, their performance has deteriorated to a point that they have increasingly failed to provide services to farmers. For example, before the onset of market liberalization, formal agricultural credit was provided at subsidized rates through a number of credit schemes especially for maize farmers. These schemes are no longer in operation. By comparison with commercial banks, the lending rates of the AFC were lower and more stable, and loans were more widely available. In an attempt to increase financial resources to the sector, the Government introduced a requirement that commercial banks and non-banking institutions lend between 17 and 20 percent, and 10 and 15 percent to the agricultural sector, respectively. However, this has not happened, as both types of institution have remained conservative and resistant to lending to agriculture, because of the assumed risks and uncertainties associated with agricultural production.

Other constraints that have also contributed to the decline in agricultural production and productivity and must be removed include:

- Lack of storage and other post-harvest technologies;
- Lack of a comprehensive legal framework to guide formulation of consistent policies;
- Poor marketing information;
- Lack of capacity in the private sector to take over functions performed by the State before liberalization;
- Inadequate integration and coordination of activities by major players in the sector, including various Government ministries, farmers' organizations, private sector, donors and NGOs;
- Inadequate high-yield crop and livestock varieties; and

- High input costs, especially for animal feeds.

These constraints must be removed if agricultural productivity is to be increased. In addition, there is a need to improve macroeconomic performance in order to enhance domestic savings rates and promote capital formation for wealth creation and economic growth (GoK, 1986; Nyangito, 2001; Lipton, 1987; Eicher, 1988; Gitu and Short, 1990; Gitu and Kanyua, 1991).

3.4.3 Opportunities for growth and development in agriculture

The Kenya Government has, in a number of policy documents, emphasized self-sufficiency in domestic production of the main food commodities, as well as the ability to generate adequate foreign exchange as a means of achieving food security. As noted earlier, the country has not attained the desired self-sufficiency, except in the case of maize in the 1970s. There have been shortfalls in foodstuffs, particularly maize, because of the reduced hectareage under, low levels of fertilizer use, discontinuation of crop insurance schemes, particularly the Guaranteed Minimum Return (GMR), drought and other factors. Subsequent policy papers have addressed farmer incentives to increase food production and create an effective distribution system to guarantee that food reaches deficit areas.

Even with the adverse climatic conditions and the scarcity of medium to high-potential land, it has been demonstrated that, given adequate support and non-interference in production and marketing, Kenya is capable of increasing both production and productivity in agriculture. The tea, horticulture and dairy subsectors are among those in which Kenya has had the greatest success and still has great potential to increase production and productivity. The success in these subsectors can be attributed to a combination of factors including:

- Favorable weather conditions over some of the years;
- Availability of credit;
- Emerging market opportunities; and
- Government sponsored research and extension, training, and monitoring.

The Government also created an enabling environment by removing bureaucratic structures in the market mechanism. The combined Government assistance and restraint from interference helped in the rapid expansion of these subsectors (Nyangito, 1996; Kimenye, 1995).

These three successful subsectors are examined in more detail below:

- Tea Kenya currently produces about 16 percent of the world's marketed black tea and ranks second after Sri Lanka in tea exports. Kenya is also the third largest tea producer in the world, after India and Sri Lanka. The tea sector has recorded rapid growth both in hectareage and in production. The smallholders witnessed the highest expansion, with production rising from a mere 1.7 percent of the total tea production in 1963 to 61.6 percent in 2000. Tea is a major source of employment, income and foreign exchange.

Table 3.2 Tea Production

Year	Estates			Small Holdings		
	Area	Prod.	Yield	Area	Prod.	Yield
1963	17 921	17 770	0.99	3 527	312	0.09
1990	29 979	87 089	2.91	67 041	109 997	1.64
1991	31 017	90 847	2.93	69 609	112 742	1.62
1992	31 340	88 261	2.82	72 162	99 881	1.38
1993	31 754	98 634	3.11	73 109	112 535	1.54
1994	32 038	90 338	2.82	78 183	119 084	1.52
1995	32 201	105 580	3.28	80 355	138 945	1.73
1996	32 523	113 091	3.48	81 159	144 071	1.78
1997	32 694	91 014	2.78	84 657	129 708	1.53
1998	33 761	114 527	3.39	84 657	175 628	2.07
1999	33 586	94 853	2.82	86 813	153 855	1.77
2000	34 090	90 740	2.66	88 146	145 546	1.65

Source: Gitu and Nzuma

The remarkable growth in the tea subsector is attributable to a number of factors, including favourable land and investment policies, institutional support, attractive world market prices and the land redistribution policy adopted by the Government at independence and completed in the mid 1970s. Under land redistribution, large-scale settler farmers were bought out by the Government, and the land was subdivided and given to smallholder farmers. In addition, the abolition of the policy that previously restricted Africans from growing cash crops led to the expansion of the area under smallholder tea. Favorable investment policies for estates, particularly the non-interference in production, processing and marketing, encouraged tea growing by large-scale farmers. The success of the smallholder grower is also attributable to the Kenya Tea Development Authority (KTDA) involvement in the provision of extension services and inputs to farmers, collecting green leaf, processing, and marketing of made tea. In addition, there have been a number of policy reforms in the tea sub-sector, including deregulation of markets and prices to encourage the private sector to play a more active role in production, processing and marketing of agricultural commodities, divestiture of Government's role in productive activities in agriculture to allow marketing institutions to operate like commercial entities and compete with the private sector, and macroeconomic reform policies that removed restrictions on the exchange rate, retention and remittance of foreign exchange and the liberalization of interest rates. Other areas of reform have included the conversion of the KTDA into a farmer-controlled organization.

While the above success story is remarkable, there have also been hindrances to the growth of the subsector, including poor road infrastructure, inefficient management of the collection network, inadequate processing capacity and low fertilizer use. In order to improve tea production, there is a need to provide credit facilities, especially to smallholder farmers, strengthen extension services and increase processing capacity. Increased research on high-yielding varieties, and drought and frost-tolerant varieties, as well as increased involvement of farmers in the management of the industry are also needed. Finally, tea is sold without blending and packaging to reflect that it is Kenyan tea, despite the fact that blended tea fetches prices six times higher than bulk exports. There is, therefore, great potential for earning more from exports if Kenya blends and packages its tea for export.

- Horticulture Kenya's success in expanding horticultural exports (fruits, vegetables and cut flowers) is well known. Horticulture ranks second to tea in agriculture export earnings and it accounts for approximately 16 percent of domestic agricultural exports. It is a major source of income and employment in the rural areas. This sector directly contributes to food security, as 95 percent of its production is consumed locally. Smallholder growers account for 80 percent of all growers and

produce 60 percent of horticultural exports. Recognising the importance of the horticulture subsector, the Government established the Horticultural Crop Development Authority (HCDA) in 1967 to develop the sector. The HCDA has been able to help farmers in an advisory and regulatory capacity over the years. Most horticultural exporters work through private sector intermediaries, local farmers and merchants, who fund farmers willing to grow the produce, provide them with information about quality, prices and timing of supply, communicate to exporters the local supply conditions, distribute packaging materials to farmers and pay at the end of the season. The intermediaries provide the collection points to which farmers deliver their produce and from which the exporters collect it.

The major horticultural crops include French beans, tomato, cabbages, mangoes, citrus, onion, macadamia, cut flowers and Asia vegetables. The major export crops are cut flowers, fruits, vegetables, spices and herbs. Table 38 presents Horticulture Crop Production Trends for 1996 to 2000. A total of 2.75 million tonnes of horticultural products are consumed in the domestic market. In addition to horticulture being a major source of foreign exchange, it directly contributes to food security as a source of vegetables. The subsector has also contributed immensely to poverty reduction, through the creation of rural employment. Horticulture is labour-intensive and largely under irrigation so there is potential to grow two crops a year.

Table 3.3 Horticulture crops production trends

Year	Crop	Area ('000' ha)	Production	Value (million Kshs)
1996	Fruits	95	1 397	23 699
	Vegetables	81	936	9 315
	Herbs and spices	2	7	181
	Cut flowers	1	39	4 366
	Total	179	2 379	37 561
1997	Fruits	129	1 713	12 718
	Vegetables	88	988	12 281
	Herbs and spices	1	6	147
	Cut flowers	1	40	7 443
	Total	219	2 747	32 589
1998	Fruits	135	2 141	14 367
	Vegetables	91	1 043	11 934
	Herbs and spices	1	5	88
	Cut flowers	1	34	4 857
	Total	228	3 223	31 246
1999	Fruits	136	2 158	18 462
	Vegetables	97	1 128	12 259
	Herbs and spices	1	6	130
	Cut flowers	2	41	7 412
	Total	236	3 333	38 263
2000	Fruits	136	2 063	25 246
	Vegetables	88	1 048	13 123
	Herbs and spices	1	5	200
	Cut flowers	2	42	7 227
	Total	227	3 158	45 796

Source: National Development Plan 2002–2008

- **Dairy** A fundamental change in the structure of the commercial dairy industry occurred in the past thirty years. This has been attributable to a number of measures that the Kenya Government took in the early years of independence, which included guaranteed favourable feed prices, efficient land policy, effective disease control services, wider availability of credit especially to small-scale farmers, the development of the national artificial insemination services, favourable output pricing and marketing structures, and effective institutions. The dairy industry has grown from 421 000 dairy cattle producing 793 000 litres of milk in 1963 to 3.3 million dairy cattle producing 2.5 billion litres of milk by 2003 (Table 39). Among the Government institutions that helped the growth of this sector was the Settlement Trustee Fund, which financed the purchase of dairy animals for those who were

resettled in the settlement schemes that the Government created after independence. Dairy farmers were provided with loans to acquire land, grade dairy animals and build fencing. These credit facilities were long-term and attracted low interests rates. The Government also established farmers' training institutes, which introduced modern methods of animal husbandry. Kenya has the potential to produce over 4 billion litres of milk, provided that a number of constraints are removed, including the existing ineffective artificial insemination services, an inadequate disease control system, the non-availability of credit to farmers, lack of breeding stocks, high feed prices, inappropriate policies, and poor institutional governance, including corruption. To further improve the dairy industry there is a need to facilitate the development of producer organizations, and improve transport and processing infrastructure, including roads, cooling and processing facilities and the dairy cattle genetic base.

Table 3.4 Dairy cattle and milk production

Year	Dairy Cattle (000's)	Milk Production (million litres)
1963	421.00	793.00
1968	491.00	834.80
1973	900.00	1 227.26
1978	1 128.00	901.12
1983	2 219.00	1 367.60
1988	2 687.00	2 160.00
1993	3 069.00	2 366.20
1998	3 177.00	2 654.10
2003	3 300.00	2 500.00

Source: Gitu and Nzuma

3.5 Agricultural policies, expenditure and support services

In the first and second decade after independence, macroeconomic policies covering monetary, fiscal, exchange rate, and trade policies, and budgetary decisions had profound impacts on the profitability of the agriculture sector and the welfare of farmers. Nevertheless, a set of relationships among fiscal, inflationary pressure, exchange rate options and agricultural profitability underlies the indirect imposition of a tax on agricultural producers. Kenyan farmers face heavy implicit taxation through unfavorable macroeconomic policies, especially overvalued exchange rates, which reduce the prices they obtain for their exports. On monetary policy, the requirement that ceilings on loan interest rates must include all lending-related charges and fees was removed, permitting institutions to set their lending rates to reflect current market conditions. Monetary policy has had a negative impact upon the availability of credit for agriculture. The major concern with the foreign exchange policy is the need for a stable exchange rate that supports and reduces uncertainty in the sector. The current floating exchange rate seems to be hurting Kenyan agriculture because of its instability and uncertainty.

The role of the Ministry of Agriculture (MoA) and the Livestock and Fisheries Development is to provide a conducive policy environment and appropriate services for the sector to develop. The Ministries are also responsible for the control of crop and livestock production, marketing, extension, land use development, regulation of agricultural credit, advice on soil conservation and agricultural research. They are also the reference points in agricultural policy formulation and implementation. One of the core functions of the MoA is to ensure food security through appropriate crop production technologies. It endeavours to attain this through, among other things, provision of good quality seed and the control of pests and diseases. The Ministry has the major responsibility for creating an enabling environment for the players in the agriculture sector, through development of effective policies and strategies, reviews of policies and the regulatory framework, and ensuring control of pests and diseases. It also facilitates collaboration among various stakeholders, such as researchers, private agrobusiness enterprises, farmers, NGOs, community-based organizations (CBOs) and development partners. This can only be achieved if relevant policies are formulated and implemented to enhance productivity, which leads to an enhanced food security status and a reduction in

poverty. Broad self-sufficiency in the production of foodstuffs has been a stated policy objective in the agriculture sector as a means of sustaining livelihoods in the country.

3.5.1 Market liberalizations

In the first two decades of independence, the thinking was that government involvement in agriculture was the prime mover in the growth of the rural economy, and agriculture in particular. This thinking was to be reversed in the third decade, when too much government intervention in agriculture started to be viewed as having negative impacts on agriculture. State involvement was viewed as unsustainable, costly and responsible for the creation of market distortion and the budgetary implications arising therefrom. Beginning in the early 1980s, policy-makers from major international institutions, especially the IMF and the World Bank, in collaboration with local technocrats and policy-makers, started to call for the reduction of government involvement in productive sectors. It was believed that developing economies like Kenya would grow much faster with less government involvement, since markets would promote competition, which putatively motivates efficient allocation of resources and encourages innovation. This was the beginning of the liberalization paradigm. A shift towards liberalized market policies in Kenya started in the 1980s but it was not until 1993 that the government became committed to implementation of these policies (Ikiara, Juma and Amadi, 1998; Nyangito, 1998).

Despite high expectations, liberalization failed to deliver fully, for five key reasons:

- 1 It was fast;
- 2 It was broad and far-reaching;
- 3 It was poorly sequenced and not synchronized with other policies;
- 4 There was policy instability, which reduced investor confidence; and
- 5 There was a lack of harmony and coordination in implementation of the policies (Nyangito, Argwings Kodhek, Omiti and Nyoro, 2003).

The result of this broad and fast-paced liberalization of the agriculture sector tended to confuse farmers, as it increased uncertainty in agricultural markets, thereby undermining confidence in the policies. Furthermore, major institutional change resulting from the reforms required sufficient implementation capacity and this was sorely lacking within Government.

After liberalization, the state was to play a reduced role in the agriculture and food sector but the private sector, which was supposed to fill the gap left by the State, has not actively participated in the sector. Reasons given for this phenomenon include lack of capacity, poor infrastructure, inadequate regulatory systems and assumed high risk in investing in agriculture. Liberalization came in to address constraints that prevailed in the agriculture sector. However, the literature indicates continued prevalence of those constraints. For example, the removal of subsidies, in particular on agricultural fertilizer, and flotation of currencies, resulted in increased costs of farm inputs, making it difficult for farmers to increase or even to maintain previous production levels from the same amount of land. Furthermore, while liberalization was supposed to ensure availability of food to all people and at all times, cases of hunger are still reported, even in areas that were previously self-sufficient. Furthermore, pricing and marketing liberalization of the food sector led to dramatic producer price increases in nominal terms for most commodities. The dramatic price increase for food crops was due to removal of price controls and response to market forces, indicating that prices were set below the market price, as determined by supply and demand. Nevertheless, production volumes indicate a poor response to price increases, due to the fact that real producer prices fluctuated dramatically while the terms of trade between outputs and inputs worsened. Consequently, the profitability of growing food crops dropped, as the prices did not provide adequate incentives for increased production of the crops. Furthermore, an analysis of the input and output price shows that liberalization measures have yet to have a positive impact upon profitability in agriculture. Trade liberalization has led to an increase in import of foodstuffs, and a reduction in government support to agriculture.

Liberalization of agricultural markets was supposed to lead, among other things, to improved production and distribution of key agricultural commodities, especially foodstuffs. But several years into the liberalization era, the country continues to experience frequent food shortages that greatly compromise the welfare of its citizens, especially the poor. This calls for serious rethinking and a marked shift in development paradigm and policy-making in agricultural development and food security strategies, if Kenya is to reverse the declining trends in agricultural production and productivity.

The need for improved agricultural productivity in recent years has attracted the attention of policy-makers, researchers and development practitioners in Kenya because declining agricultural productivity has led to food shortages, underemployment, low incomes from cash crops and poor nutritional status. This trend must be reversed, if Kenya is to attain sustainable development. More public investment should be channelled into agriculture in the areas of human capital, technology and institutional innovations among others. This is because the transformation of agriculture ought to be public-sector led in future. As noted by Eicher in reference to Initiative for Development of African Agriculture (IDEAA) countries,

The current emphasis of many donors and academics on 'freeing agriculture from the state', downsizing and reducing the role of the state represents a misleading understanding of history and a misleading guide to action in the IDEAA countries. Instead of endorsing a blanket reduction of the state involvement, we should be analyzing the changing and evolving roles of the state in relationship to civil society, the private sector and NGOs overtime. Specifically, we should be asking, what are the new roles for old actors such as the state? (Eicher, 2001)

3.5.1 Market liberalizations

In the first two decades of independence, the thinking was that government involvement in agriculture was the prime mover in the growth of the rural economy, and agriculture in particular. This thinking was to be reversed in the third decade, when too much government intervention in agriculture started to be viewed as having negative impacts on agriculture. State involvement was viewed as unsustainable, costly and responsible for the creation of market distortion and the budgetary implications arising therefrom. Beginning in the early 1980s, policy-makers from major international institutions, especially the IMF and the World Bank, in collaboration with local technocrats and policy-makers, started to call for the reduction of government involvement in productive sectors. It was believed that developing economies like Kenya would grow much faster with less government involvement, since markets would promote competition, which putatively motivates efficient allocation of resources and encourages innovation. This was the beginning of the liberalization paradigm. A shift towards liberalized market policies in Kenya started in the 1980s but it was not until 1993 that the government became committed to implementation of these policies (Ikiara, Juma and Amadi, 1998; Nyangito, 1998).

Despite high expectations, liberalization failed to deliver fully, for five key reasons:

- 1 It was fast;
- 2 It was broad and far-reaching;
- 3 It was poorly sequenced and not synchronized with other policies;
- 4 There was policy instability, which reduced investor confidence; and
- 5 There was a lack of harmony and coordination in implementation of the policies (Nyangito, Argwings Kodhek, Omiti and Nyoro, 2003).

The result of this broad and fast-paced liberalization of the agriculture sector tended to confuse farmers, as it increased uncertainty in agricultural markets, thereby undermining confidence in the policies. Furthermore, major institutional change resulting from the reforms required sufficient implementation capacity and this was sorely lacking within Government.

After liberalization, the state was to play a reduced role in the agriculture and food sector but the private sector, which was supposed to fill the gap left by the State, has not actively participated in the sector. Reasons

given for this phenomenon include lack of capacity, poor infrastructure, inadequate regulatory systems and assumed high risk in investing in agriculture. Liberalization came in to address constraints that prevailed in the agriculture sector. However, the literature indicates continued prevalence of those constraints. For example, the removal of subsidies, in particular on agricultural fertilizer, and flotation of currencies, resulted in increased costs of farm inputs, making it difficult for farmers to increase or even to maintain previous production levels from the same amount of land. Furthermore, while liberalization was supposed to ensure availability of food to all people and at all times, cases of hunger are still reported, even in areas that were previously self-sufficient. Furthermore, pricing and marketing liberalization of the food sector led to dramatic producer price increases in nominal terms for most commodities. The dramatic price increase for food crops was due to removal of price controls and response to market forces, indicating that prices were set below the market price, as determined by supply and demand. Nevertheless, production volumes indicate a poor response to price increases, due to the fact that real producer prices fluctuated dramatically while the terms of trade between outputs and inputs worsened. Consequently, the profitability of growing food crops dropped, as the prices did not provide adequate incentives for increased production of the crops. Furthermore, an analysis of the input and output price shows that liberalization measures have yet to have a positive impact upon profitability in agriculture. Trade liberalization has led to an increase in import of foodstuffs, and a reduction in government support to agriculture.

Liberalization of agricultural markets was supposed to lead, among other things, to improved production and distribution of key agricultural commodities, especially foodstuffs. But several years into the liberalization era, the country continues to experience frequent food shortages that greatly compromise the welfare of its citizens, especially the poor. This calls for serious rethinking and a marked shift in development paradigm and policy-making in agricultural development and food security strategies, if Kenya is to reverse the declining trends in agricultural production and productivity.

The need for improved agricultural productivity in recent years has attracted the attention of policy-makers, researchers and development practitioners in Kenya because declining agricultural productivity has led to food shortages, underemployment, low incomes from cash crops and poor nutritional status. This trend must be reversed, if Kenya is to attain sustainable development. More public investment should be channelled into agriculture in the areas of human capital, technology and institutional innovations among others. This is because the transformation of agriculture ought to be public-sector led in future. As noted by Eicher in reference to Initiative for Development of African Agriculture (IDEAA) countries,

The current emphasis of many donors and academics on 'freeing agriculture from the state', downsizing and reducing the role of the state represents a misleading understanding of history and a misleading guide to action in the IDEAA countries. Instead of endorsing a blanket reduction of the state involvement, we should be analyzing the changing and evolving roles of the state in relationship to civil society, the private sector and NGOs overtime. Specifically, we should be asking, what are the new roles for old actors such as the state? (Eicher, 2001)

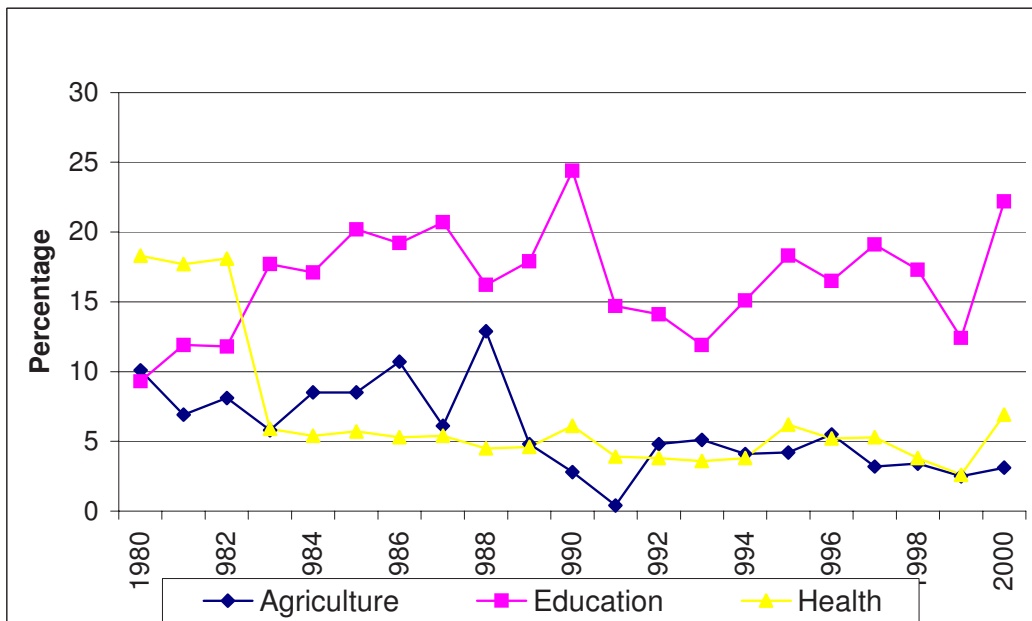
3.5.2 Comparison of agriculture support with support to education and health

Given its contribution to the economy and relatively high multiplier effect compared with other sectors, agriculture offers the best prospect for economic growth. In view of this, it is necessary to allocate more resources to the sector within the national budget. However, the allocation of government expenditure to the sector forms a relatively small share when compared with education and health (Figure 21) and has been declining.

In the period between 1980 and 2000, budget allocation to agriculture as a share of total public expenditure averaged only 6.6 percent, compared with education and health at 15.6 percent and 12.6 percent respectively. Available statistics indicate that, on average, Kenya used to spend over 10 percent of its total government budget on agriculture in the first decade after independence.

Table 40 presents the share of agriculture, education and health in total public expenditure. With the introduction of structural reforms, the allocation to agriculture declined significantly, as a result of withdrawal of subsidized services to farmers. In the period 1980 to 1985, the allocation to agriculture was 9.3 percent of total public expenditure on average, as compared with 14.8 percent and 12 percent for education and health respectively. The budget allocation to agriculture declined to 7.9 percent of the total public expenditure during the transitional period, 1986 to 1993, as compared with the budget allocation to education, which increased to 15.6 percent, and 14.5 percent for health. After 1993, the allocation to agriculture has declined to 3.7 percent as opposed to an increased allocation to education at 17.3 percent of total public expenditure and 4.8 percent for health for the period 1994 to 2000.

Figure 3.7: Agriculture, Education & Health Share of Total Public Expenditure; 1980-2000



Source: Kenya, Statistical Abstracts.

Table 3.5 Agriculture, education and health shares of total public expenditure (percent)

Year	Agriculture	Education	Health
1980	10.14	9.30	18.30
1981	6.90	11.90	17.70
1982	8.10	11.80	18.10
1983	5.80	17.70	5.90
1984	8.50	17.10	5.40
1985	8.50	20.20	5.70
1986	10.70	19.20	5.30
1987	6.10	20.70	5.40
1988	12.90	16.20	4.50
1989	4.80	17.90	4.60
1990	2.80	24.40	6.10
1991	0.40	14.70	3.90
1992	4.80	14.10	3.80
1993	5.10	11.90	3.60
1994	4.10	15.10	3.80
1995	4.20	18.30	6.20
1996	5.50	16.50	5.20
1997	3.20	19.10	5.30
1998	3.40	17.30	3.80
1999	2.50	12.40	2.60
2000	3.10	22.20	6.90
<i>Average</i>	<i>5.80</i>	<i>16.60</i>	<i>6.80</i>

Source: Kenya Statistical Abstracts

3.5.3 Agriculture recurrent and development expenditure

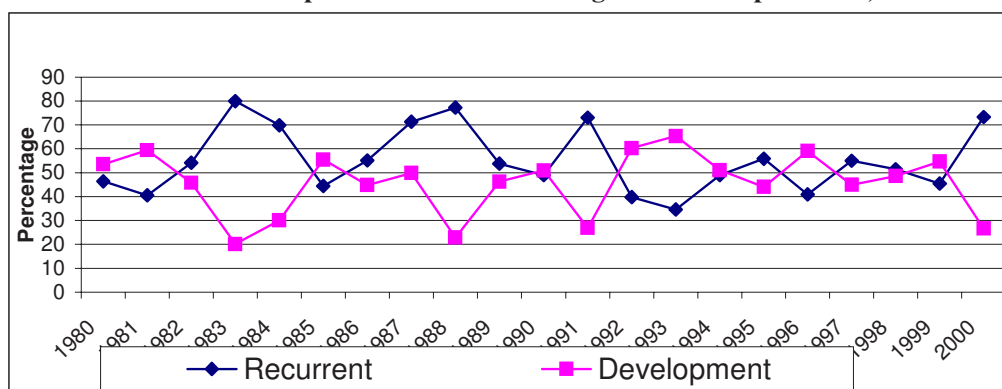
Approximately 54 percent of the Government's expenditure on the agriculture sector is recurrent, being dominated by salaries (Table 41). Only about 46 percent is spent on agricultural development, which includes agricultural research and market information, animal health services, crop protection, seed inspection, mechanization services and farm planning services. The amount spent on recurrent expenditure has been consistently higher than that spent on development expenditure since 1995/96 except for the years 1996/97 and 1999/2000.

Table 3.6 Government expenditure in agriculture, 1980 to 1999 (Kshs million)

Year	Agriculture Recurrent	Agriculture Development	Total agriculture Expenditure	Total public Expenditure	Agriculture share of total Public Expenditure (%)
1980/81	904	1 042	1 946	5 196	10.1
1981/82	628	920	1 548	22 456	6.9
1982/83	1 048	886	1 934	23 814	8.1
1983/84	1 166	294	1 458	24 848	5.8
1984/85	1 808	780	2 588	30 434	8.5
1985/86	1 244	1 552	2 796	32 568	8.5
1986/87	2 454	1 994	4 448	41 262	10.7
1987/88	3 362	1 354	2 716	43 978	6.1
1988/89	6 200	1 832	8 032	62 038	12.9
1989/90	1 654	1 422	3 076	63 120	4.8
1990/91	772	804	1 576	56 314	2.8
1991/92	266	98	364	98 534	0.4
1992/93	2 340	3 544	5 884	121 294	4.8
1993/94	3 212	6 058	9 270	180154	5.1
1994/95	3 688	3 844	7 532	184 112	4.1
1995/96	4 322	3 300	7 732	183 408	4.2
1996/97	4 590	6 636	11 2263	202 956	5.5
1997/98	4 268	3 488	7 756	242 610	3.2
1998/99	4 868	4 598	9 466	272 812	3.4
1999/00	4 422	5 316	9 738	383 408	2.5
Average	2 660	2 494	5 054	114 466	5.9

Source: Kenya Statistical Abstracts

Figure 3.8: Recurrent and Development as share of total Agricultural Expenditure; 1980-2000



Source: Kenya Statistical Abstracts (Various Years)

This is possibly because of fiscal reforms, in which the Government emphasized reduction of its public expenditure and found it easier to reduce development expenditure than recurrent expenditure (Figure 22). Most importantly, perhaps, most of the development expenditure is funded by donors. The problem with donor funding is that it is usually unstable, because of the donors' changing policies and, hence is not a sustainable long-term strategy for agricultural development. The instability of donor funding is part of the reason for the observed fluctuations. The trends in recurrent and development expenditure are mirrored more prominently in education and health, where recurrent expenditure has exceeded development expenditure for the entire period under consideration for both sectors. The section that follows disaggregates public sector expenditure for agriculture-related sectors.

3.5.4 Disaggregated public expenditure in agriculture

Tables 42, 43 and 44 present a disaggregated picture of public spending on the three ministries comprising the bulk of the agricultural sector (the MoA, Ministry of Livestock and Fisheries Development and Ministry of Cooperative Development) for the financial years between 1990/2000 and 2002/03.

Table 3.7 Total public spending on MoA, 1999 to 2002 (actual in Kshs billion)

	1999/00	2000/01	2001/02	2002/03
Recurrent	4.9	5.8	4.8	3.7
Development	0.3	0.9	1.0	1.3
Total	5.2	6.7	5.8	5.0
Share of GoK expenditure	4.2	4.0	3.4	2.7
Share of GDP	0.5	0.5	0.5	0.4
Agric recurrent as % of total agric exp	94	87	83	74
Agric development as % of total agric exp	6	13	17	26

Source: BMD

Recurrent expenditure accounted for over 70 percent of the total agricultural expenditure, which is dominated by salaries for employees, including extension officers. On the other hand, less than 30 percent is spent on agricultural development, which includes agricultural research and market information, animal health services, crop protection, seed inspection, mechanization services and farm planning services. Government expenditure on agriculture over the period has generally declined, from about 4.2 percent to 2.7 percent, while it has stagnated at about 0.5 percent of GDP. Agriculture still offers the best prospect for economic growth and, as such, more resources need to be directed towards this sector if it is to spearhead economic recovery. The share of total Government expenditure devoted to the MoLFD was 1.7 percent in 2000/01 and declined to 1.1 percent in 2002/03 (Table 43). As a proportion of GDP, the expenditures have ranged from 0.33 percent in 2000/01 to 0.25 percent in 2002/03.

Table 3.8 Total public spending on MoLFD, 2000 to 2003 (actual in Kshs billion)

	2000/01	2001/02	2002/03	2003/04
Total (MoLFD) Expenditure (Kshs billion)	2.8	2.3	2.9	1.1
Share of GoK expenditure	1.67	1.37	1.06	-
Share of GDP	0.33	0.25	0.25	-
Agric Recurrent as % of total agric Exp	78	93	89	86
Agric Development as % of total agric Exp	22	7	11	14

Source: MoALD

On average, recurrent expenditure accounted for more than 80 percent of the funds allocated to the MoLFD over the period, again consisting mainly of salaries, as well as transfers and a small provision for operation and maintenance. Development expenditure accounts for the difference and funds core poverty programmes, such as livestock extension services, fisheries development, development of veterinary farms, and disease and pest control, as well as other development initiatives, such as research and extension, inspection and quality assurance, infrastructure, and monitoring and surveillance. For the sector to grow, more funds should be allocated, especially to fund development projects.

The total MoCDM expenditure, as a proportion of total government expenditure, was 0.165 percent in 2002/03, while as a proportion of GDP it was 0.0452 percent (Table 44). Recurrent expenditure accounted for 89.5 percent in 2002/03 and this share increased to 97.5 percent in 2003/04, while the share of development expenditure declined from 10.5 percent to 2.5 percent over the same period.

Table 3.9 Total public spending MoCDM, 2000 to 2003 (actual in Kshs billion)

	2000/01	2001/02	2002/03	2003/04
Recurrent	0.2	0.3	0.3	0.2
Development	0	0	0.1	0.1
Total	0.2	0.3	0.4	0.3
Share of GoK expenditure	0.100	0.114	0.165	0.092
Share of GDP	0.029	0.029	0.045	0.024
Agric Recurrent as % of total agric Exp	100	100	89.5	97.5
Agric Development as % of total agric Exp	0	0	10.5	2.5

Source: BMD.

3.5.5 Agricultural production services

The low allocation of development expenditure to the agriculture sector is testimony that increasingly, the Government has reduced direct provision of production services, leaving them in the hands of the farmers and private players. The Government's funding of different domestic support measures to the agriculture sector is indicated in Table 45. The Government has, in the recent past, increased its funding to support services, such as marketing and research, and seed inspection on nominal terms since 1990, as opposed to provision of direct domestic production support measures, such as artificial insemination, tractor hire, aerial spraying, veterinary services and farm planning (Mugunieri, Omiti and Irungu, 2002; Nyangito, 2003).¹²

Table 3.10 Expenditure in agricultural production services 1980 to 2000 (Kshs million)

Year	Marketing & Research	Artificial insemination	Aerial spraying	Tractor services	Govt vet services	Seed inspection service	Farm planning
1980	2 624	17	120	2 363	31	46	1
1981	2 703	17	124	2 435	32	47	1
1982	2 919	18	130	2 523	32	48	1
1983	3 066	19	135	2 611	35	48	2
1984	3 126	19	137	2 676	38	48	2
1985	3 281	20	139	2 944	50	82	2
1986	3 081	15	141	1 052	174	113	4
1988	3 174	18	140	2 073	112	104	6
1989	3 139	17	144	1 783	143	111	6
1990	9 315	18	141	2 027	122	110	6
1991	9 789	17	144	2 030	125	110	6
1992	9 559	17	144	1 843	141	117	5
1993	10 700	16	145	1 800	146	119	4
1994	9 815	15	140	1 805	148	121	5
1995	10 450	16	149	1 924	158	129	5
1996	11 240	17	160	2 071	170	139	5
1997	11 688	18	166	2 152	177	144	5
1998	12 621	19	179	2 324	191	156	5
1999	12 998	20	184	2 393	197	161	5
2000	12 152	19	172	2 237	184	150	5
<i>Average</i>	<i>7 021</i>	<i>17</i>	<i>140</i>	<i>2 051</i>	<i>115</i>	<i>100</i>	<i>4</i>

Source: Kenya, Statistical Abstracts (various years)

¹² Domestic support provided through general services and public stockholding for food security purposes and strategic reserve operations (Green Box measures) was estimated at Ksh. 3 791 million in 2000, of which agricultural education accounted for 29.7 percent.

The latter services are considered as direct subsidies for agricultural production. This is allowed for developing countries under the SDT clause for developmental measures, under the Agreement on Agriculture of the WTO. The low levels of funding for these direct services means that the costs of these inputs to farmers for agricultural production have increased. This has been a particular problem in maize production, where the cost of fertilizer increased substantially with liberalization of the inputs market.

While liberalization of service provision was expected to improve the efficiency in service delivery, not all services have improved. It has been shown that extension and veterinary services have improved in most areas, while the delivery of artificial insemination has deteriorated. A study conducted in Central Kenya reveals that 85 percent of smallholder dairy farmers reported that Government extension and veterinary services were available and 60 percent of the farms reported using the services. Private veterinary services were also available to 80 percent of the farms, of which 60 percent reported using them. For the case of private extension service, 15 percent of the farms reported its availability (Staal *et al*, 2001). The trend in AI services is grim. The study revealed that only 30 percent of households reported its availability from cooperatives and 25 percent reported its availability from private practitioners. The study further revealed that, overall, over 71 percent of sampled households used bulls for breeding, which could imply that the lack of selective breeding may pose a long-term constraint to continued productivity increases if reduced use of AI leads to a degradation of herd genotype.

What is obvious is that the Government should increase its support to agriculture and reduce bureaucracy, which stalls development. This sentiment has been supported by Schapiro and Wainaina (1989), who note in reference to Kenya horticulture sector,

... government-sponsored research, training, monitoring and other activities facilitated the expansion of the horticultural sector. However, it is what the government did not do – create a large bureaucracy structure and interfere to a significant extent with the market mechanism – that is most impressive. Without this combination of government assistance and government restraint, it is highly unlikely that expansion in horticultural exports would have been as rapid or as large.

3.6 Development strategies and programmes in agriculture

Policies affecting agriculture consist of government decisions that influence the level and stability of input and output prices, public investment, costs and revenues, and allocation of research and development funds to improve farming and agriculture-related processing technologies (Nyangito, 2001). Some of these policies affect agriculture more directly than others, particularly the sector policies affecting particular commodities and production techniques. These have included, in particular, quantitative controls, subsidies and taxes on inputs and outputs. Policies that affect agriculture indirectly are of two types. One set is macro policies that affect agriculture by defining general trade regimes, interest, exchange, and wage rates. The second set of indirect policies is concerned with investment decisions in provision of services, such as research and development, education, health, transport, market infrastructure and institutions, which have a broad impact on agriculture sector productivity. These policies can be broadly classified into:

- Pricing and marketing, including marketing institutions;
- Research and extension;
- Land, credit and financial institutions, including the role of cooperatives;
- Infrastructure investment, including transport and irrigation;
- Food security and self-sufficiency; and
- Agricultural input policies.

Several policy initiatives have been issued and documents have been prepared since 2001 to highlight the Government's objectives regarding sustainable growth and socio-economic development, and to build overall programmatic frameworks for their implementation. The most important policy documents are discussed below

3.6.1 The Poverty Reduction Strategy Paper (PRSP), 2001–2004

This document outlines priority areas and measures necessary for poverty reduction and economic growth. The PRSP was prepared through a consultative process in all districts and involved the Government, the private sector and the civil society. In it, Government commits itself to priority actions in two broad areas:

- 1 Creating opportunities for rural communities and the private sector to effectively carry out their activities in an increasingly competitive global environment; and
- 2 Accelerating policy and institutional reforms, particularly the large backlog of legislative and regulatory reforms.

During the PRSP consultations, agriculture and rural development (ARD) in general, received top ranking as the key sector through which to tackle the increasing level of poverty. The ranking within ARD (in descending order) was crop development, rural water, livestock development, food security, lands and settlement, environmental management and fisheries (Agriculture Sector Brief and Horizon, 2015).

Within agriculture, crop development is the priority sector, with poor extension services, inefficient rural financial systems, the poor state of rural infrastructure and poor marketing and distribution systems being identified as the main constraints. In the livestock sector, the PRSP identified marketing systems and infrastructure, disease control and extension services as priority interventions. The challenge for the Government is to mobilize the necessary resources and build the institutional capacity to implement the proposed measures.

The causes of poverty were identified as:

- Low agricultural productivity and poor marketing;
- Insecurity;
- Unemployment and low wages;
- Bad governance;
- Land issues;
- Lack of infrastructure, especially roads;
- Cost of social services and education;
- The HIV and AIDS epidemic; and
- Gender imbalance.

The PRSP has addressed the removal of these causes and it is hoped that extreme poverty will be reduced by 50 percent by 2015, while the overall target is to reduce poverty prevalence to less than 30 percent by the same year. The strategies to achieve these targets in the agriculture sector include:

- Crop development through improved extension services;
- Provision of credit to the smallholder farmers;
- Improvement of the rural infrastructure, including roads for ease of transporting farm produce to the markets;
- Development of marketing linkages between producers and consumers through the provision of market information; and
- Capacity building for the institutions charged with the implementation of the strategies.

3.6.2 The Economic Recovery Strategy for Wealth and Employment Creation (2003–2007) (ERSWEC)

This document lays out the main policies of the new Government. The Strategy intends to restore and sustain economic growth, generate 500 000 jobs per year to absorb the over 2 million Kenyans who are currently unemployed and reduce poverty. It lays out the main agricultural policies, which are further elaborated two draft documents:

- 1 The Strategy for Revitalizing Agriculture (SRA), 2004–2014 Developed by the Ministry of Agriculture, this is a joint strategy with the Ministry of Livestock and Fisheries Development, although this Ministry has also developed its own Strategic Plan (see below). The SRA makes bold and potentially far-reaching proposals. It accepts the growth target for the sector of 3.1 percent, but does not say where the growth will come from. However, its analysis of the key constraints to Kenyan agriculture indicates that this is the beginning of a process that may more clearly define and achieve that target. The SRA recognizes low productivity as the key constraint in Kenyan agriculture, resulting in symptoms like high production costs and competition from imports. The productivity problem is broken down into three components – extension, research and economic and financing concerns. The extension problem manifests itself in the lack of awareness or use of existing productivity enhancing technologies, while the research problem, as laid out in the SRA, refers to the non-existence of appropriate productivity enhancing technologies. The economic and financing problem occurs as farmers being aware of, but unable to afford available productivity-enhancing technologies. This is attributed to some of the poor services they receive in terms of the policy, legal and regulatory framework, the input and output marketing services that result, and the poor access of the agriculture sector, particularly the typical small-scale producer, to different types of financial services.
- 2 The Ministry of Livestock and Fisheries Development Strategic Plan 2003–2007 The Strategic Plan gives further insight into the Government’s priority interventions in the livestock sector. In the area of disease control, related to enhancing the export of livestock products, the Ministry proposes to develop and implement disease and pest eradication programmes, develop and operationalize disease-free zones, and set up risk analysis and trace-back systems to meet the requirements of international livestock markets. The strategy also calls for a streamlined legislative policy framework, review of the National Livestock Policy, the policy regime surrounding the provision of veterinary services, and the Wildlife Conservation Act, which does not allow ostriches, crocodiles and other emerging livestock species to be domesticated. Liaison with various Government departments will be used to enhance security in livestock producing areas (Agriculture Sector Brief).

3.6.3 *The National Development Plan (NDP), 2002–2008*

The plan is a statutory policy document outlining the development policies and strategies to be pursued by the Government and other development agencies over the medium-term (a seven year period) and was launched around the same time as the PRSP.

3.6.4 *The Kenya Rural Development Strategy (KRDS), 2002–2017*

This is a longer-term framework document outlining a broad range of strategies for improvement of rural Kenya over the next 15 years. Considering food security promotion and attainment as the initial step towards poverty alleviation and equitable growth and development in rural areas, the KRDS is a roadmap for Government, private sector, civil society (religious groups, NGOs, rural communities, CBOs) and other development partners.

Several policy actions and interventions are proposed within the KRDS framework to facilitate the process of rural development, with agriculture providing the stimuli, resources and markets. Agricultural growth must serve as the catalyst for broad-based economic growth and development. Through forward and backward linkages to the non-farm economy, agriculture will generate raw materials, employment, income, larger markets and growth in the rest of the economy (Horizon, 2015 and Agriculture Sector Brief).