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**ORGANIC AGRICULTURE IN KENYA: “AN INTEGRATED ASSESSMENT FOR POLICY
ADVOCACY.”**

**Kenya Country Level Report on Integrated Assessment Project towards Promoting
Production and Trading Opportunities of Organic Agriculture Products from East Africa**

ACRONYMS AND ABBREVIATIONS

ABLH	Association of Better Land Husbandry
AIDS	Acquired Immune Deficiency Syndrome
ASALs	Arid and Semi Arid Lands
CBD	Convention on Biological Diversity
CBOs	Community Based Organizations
CBTF	Capacity Building Task Force
CDE	Centre for Development Enterprises
CSD	Civil Society Organization
CSOs	Civil Society Organizations
EPOPA	Export Promotion of Organic Products from Africa
EPC	Export Promotion Council
EU	European Union
FAO	Food and Agriculture Organization of the UN
GDP	Gross domestic Product
GMO	Genetically Modified Organisms
GNP	Gross National Product
HCDA	Horticultural Crop Development Authority
HIV	Human Immunodeficiency Virus
IAP	Integrated Assessment Programme
ICIPE	International Centre for Insect Physiology and Ecology
IFAD	International Fund for Agriculture and Development
IFOAM	International Federation of Organic Agriculture Movements
IPM	Integrated Pest Management
JAS	Japan Agriculture Standards
KARI	Kenya Agriculture Research Institute
KEBS	Kenya Bureau of Standards
Kenya OA-IAP Project	The Kenya Organic Agriculture Integrated Assessment and Planning
KIOF	Kenya Institute of Organic Farmers
KOAN	Kenya Organic Agriculture Network
KOFA	Kenya Organic Farmers Association
KOOF	Kenya Organic Oil Farmers Organization
KOPA	Kenya Organic Producers Association
MDGs	Millennium Development Goals
MHAC	Manor House Agricultural Centre
MoA	Ministry of Agriculture
MOARD	Ministry of Agriculture and Rural Development
MOOF	Mount Kenya Organic Forum
MoT&I	Ministry of Trade & Industry
NBSAP	National Biodiversity Strategy and Action Plans
NCAPD Development	National Coordinating Agency for Population and
NEMA	National Environmental Management Authority
NGO	Non Governmental Organization
NIT	The National Implementation Team

NOGAMU	National Organic Movement of Uganda
NOP	National Organic Program
NSC	National Steering Committee
NSC	National Steering Committee
OA	Organic Agriculture
OAC	Organic Agriculture Committee
OSEA	Organic Standards for East Africa
PRB	Population Reference Bureau
PRSP	Poverty Reduction Strategy Paper
R&D	Research and Development
S&T	Science and Technology
SACDEP	Sustainable Agriculture Community Development Programme
SACRED	Sustainable Agriculture Centre for Research and Development in Africa
SARD	Sustainable Agriculture and Rural Development
SEE	Socio-Economic and Environment
SIDA	Swedish International Development Agency
SWOT	Strengths, Weaknesses, Opportunities and Threats
TBS	Tanzania Bureau of Standards
TOAM	Tanzanian Organic Agriculture Movement
UK	United Kingdom
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNEP-ETB	United Nations Environmental Programme-Environment & Trade Bureau
UNESCO	United Nations Educational and Social Cultural Organization
USD	US Dollars
USDA-NOP	United States Department of Agriculture - National Organic Programme
VAT	Value Added Tax

FOREWORD

The global economy is in a multi-dimensional crisis. The financial crisis, has been driving much of the developed world into recession, affecting businesses and jobs around the world. The fuel crisis, reflected in the large fluctuating prices is threatening the reliability and security of energy supply, and climate change is aggravating these challenges and the achievement of Millennium Development Goals.

Another related challenge is food security. In 2007, the upsurge in the prices of grains – partly driven by subsidized, food-competing biofuel production – cost developing countries \$324 billion, the equivalent of three years worth of global aid. Although the recession has also brought down food prices, the issue of food security is not to be dismissed. To feed a growing population, the world's food production must double by 2050. But biodiversity and ecosystem services that ultimately determine the future growth of agricultural productivity are eroding rapidly. It is estimated that €50 billion worth of biodiversity and ecosystem services is being lost each year. This loss could exceed €14 trillion per year by 2050.

There is no single clear solution for these problems; however, organic agriculture is one way of moving in the right because it can improve the economies of developing worlds, help to mitigate climate change, develop better food security, and promote biodiversity.

As a contrast to conventional farming, which involves expensive high inputs of synthetic fertilizers and biocides to support high-yielding hybrid crop varieties, organic agriculture relies on ecosystem management and eliminates the use of synthetic inputs. Organic production apart from being suitable to marginal as well as productive environments, contributes to soil, water, and biodiversity conservation. It produces the diversity necessary for healthy nutrition, makes use of local resources and traditional knowledge and thus strengthens farming communities. Since many farms in developing countries use little or no agrochemical inputs, conversion to organic agriculture is simplified because they have been operating using methods similar to organic standards. These farmers are often considered “organic by default”.

In Kenya, as in other East African countries, there are food security issues. Both certified and non-certified organic agriculture offers considerable potentials towards food problems in East African developing countries. However, there are many challenges in Kenya along the supply chain. More resources are need for financing the shift to organic production, adoption of organic methods (research, information, education and public awareness), promoting and marketing of organic production, certification costs, and tariff and non-tariff barriers to access lucrative international markets. There is also a need to raise awareness among policymakers, and private sector about the economic, environmental and social development opportunities that this sector offers and how these opportunities could be seized through economic and policy instruments.

We encourage policymakers and private sector to look into the unprecedented trade promotion, environmental conservation and poverty reduction opportunities being offered by rapidly growing markets for organic products. UNEP-UNCTAD Capacity Building Task Force on Trade, Environment and Development (CBTF) stands ready to assist you in seizing these opportunities.

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EXECUTIVE SUMMARY

The interest in the Kenya organic agriculture IAP project was driven by the fact that agriculture is still the backbone of Kenya's economy, supporting over 75% of the population in terms of livelihoods which makes it a major target for alleviation of poverty in the country. Organic agriculture's potential as a strategy for poverty alleviation, food security, trade, and environmental conservation can be seen from the increasing global market for safe food (WTO requires food exports to comply with higher phytosanitary standards), evidence that organic agriculture can improve incomes and living standards of poor farmers, and studies that illustrate how organic agriculture can contribute to environmental restoration and protection. This potential however, remains largely unexplored in Kenya due to a myriad of reasons, major among them being the lack of a clear policy direction by the government to facilitate the growth of the organic agriculture sector. One of the possible reasons for lack of a policy direction is the fact that no convincing case for the sector has been brought to the policy makers. This report attempts to provide such a justification by showing how production and trade in organic agriculture has the potential of meeting some of the pressing national concerns.

The Kenya IAP project on organic agriculture rolled out in May 2005 through a collaborative effort between the UNEP-UNCTAD Capacity Building Taskforce on Trade, Environment and Development, NEMA and Bridge Africa. The latter is a local NGO active in the area of policy research and advocacy for sustainable development. The IAP project was part of the larger programme aimed at promoting production and trading opportunities in Organic Agriculture in East Africa, whose other components included background studies and regional cooperation. The assessment was carried out by Bridge Africa as the designated national institution responsible for facilitating the overall implementation of the assessment including organizing workshops, consultations with key stakeholders and final documentation. The National Environment Management Authority (NEMA) was the government lead agency responsible for providing technical support towards project implementation.

The first objective of the Kenya IAP project was to establish how Kenya's policies on organic agriculture are responsive to national environmental protection as well as to socio-economic and trade imperatives especially trade improvement and poverty reduction. The Kenyan assessment was expected to involve key stakeholders in analyzing implications of different organic agriculture policy options. The outcomes of the IAP were expected to provide the policy makers with justification on the viability of organic agriculture production and export.

The Kenya IAP project conducted a social, economic and environmental assessment of the benefits of organic agriculture in Kenya, specifically guided by the following objectives:

- To assess the current practices and situation regarding organic agriculture in Kenya, including levels of production, policies, constraints;
- To facilitate the development of a national organic agriculture policy and action plan;
- To facilitate national stakeholder dialogue among all relevant parties and authorities;
- To identify capacity building needs in the promotion of organic agriculture;
- To explore and facilitate the development of an EAC organic standard that is tailored to local ecological, social and economic conditions in order to facilitate exports to major markets.

The main analytical tool used during the IAP project was scenario analysis. This tool was used to explore the range of possible outcomes from alternative policy options on organic

agriculture. The IAP process was conducted in a participatory and country driven manner through stakeholder consultations both national and regional workshops, field work and data analysis. Expert input by UNEP and UNCTAD staff was engaged throughout the project including the review of background documents, review of analytical framework, consultative meetings and review of country draft reports besides training of the country team. The IAP report has heavily relied upon both primary and secondary data including published literature and literature from grey sources. This involved visiting key institutions to look for relevant but unpublished work, which also presented an opportunity for limited discussions with stakeholders.

The IAP process established that Kenya government in the past did not recognize the value of organic agriculture until recently. Consequently, marginal efforts were made to promote the sector through the country's agriculture policies. Instead the government appears to embrace biotechnology as the answer to perennial food shortages. The organic agriculture sector in Kenya has developed without any official government policy support although the sector has benefited indirectly from two main government policies. First, the NGO Coordinating Act (1990) which recognizes the work of NGOs as co-workers in rural development and secondly, the economic liberalization policies of the late 1980s and early 1990s, which created an environment for free enterprise. Indirectly, these two policies created a favorable environment for the development of the organic industry, and the sector has been able to establish and prove itself as an important catalyst in Kenya's development.

The assessment found out that certified and non-certified organic farming in Kenya has a development potential in the country and can contribute towards better livelihoods especially for the poor. This potential is based on broadening the options on the use of local resources, contributing to improved sustainability in terms of production and food security. The export of organic products in Kenya is also a key source of foreign exchange. It also contributes towards economic saving on agrochemicals imports. However, the IAP process noted that the full potential of organic farming in the country has not yet been fully realized due to a range of challenges that tend to disempower organic farmers. Thus, if the full livelihood potential of organic farming is to be unlocked, then a suitable package of policy options is needed to alter prevailing rules of the game as they determine interactions between actors within the organic sector. Without the attention of policymakers and other stakeholders it is not likely that the full potential of Kenyan smallholders as sustainable agricultural producers can be harvested.

The development of organic agriculture in Kenya is still facing a lot of bottlenecks stemming from inadequate agricultural policies as well as production and marketing. A key drawback for the sector in Kenya is, for example marketing because most importers are looking for organically certified produce. The organic certification is very expensive for smallholders. It is tedious with a lot of paperwork and farmer training will require financial support. The Kenya IAP project identified the main problems faced by the small organic producers in Kenya as threefold, namely: financing the shift to organic production; adoption of organic methods of production; and marketing of organic products

The IAP process established that small farmers are faced by difficulties in gaining access to formal credit for organic agriculture, since they do not have the requisite collateral to obtain

credit and also due to the fact that the financial institutions do not recognize the differences between organic and conventional agriculture. The IAP process further established that farmers will be required to put in place important investments when shifting to organic production. The transitional period was identified as the most difficult one for organic producers in terms of financial needs.

The IAP process identified the key challenges facing the production and trade in organic agriculture in Kenya. The three main challenges include financing the shift to organic production, supporting the adoption of organic methods of production and improving the marketing of organic products.

The following policy-specific recommendations were made from the findings of the Kenya-IAP process:

- a) The government of Kenya (GoK) should formulate clear policies on organic agriculture. Such policies should identify mechanisms for protection of small scale producers because these are the ones facing more serious challenges compared to the large scale producers. The policies should also be designed to enable the strengthening of organic farmer associations and NGOs so that they will play a major role in the marketing of organic produce, and the dissemination of organic technologies among the small scale producers;
- b) The GoK through Ministry of Agriculture and Organic Agriculture sector stakeholders should revise the existing policies which have relevance in organic agriculture to ensure that they effectively consider the vision and mission of organic agriculture in Kenya;
- c) The GoK and OA sector stakeholders through consultations to formulate Legislation that will promote and enable a National Organic Agriculture Regulatory System. This will help the efforts around regional cooperation in standards development and implementation and establish easier entry to international markets.
- d) National Organic Agriculture Movement in consultation with Agriculture sector ministries and parastatals like Kenya Bureau of Standards to establish a National Organic Committee (NOAC) with cross-cutting representation of government and all stakeholders in the sector. A key task for the NOAC would be to explore and spearhead the prospecting, development and eventual implementation of policies to enable and promote organic agriculture.

Some of the existing policy windows to anchor organic agriculture policies is in the Vision 2030 which is a new and ambitious economic blueprint to make Kenya a middle income nation by the year 2030. Other relevant policies include programmes and projects aimed at mainstreaming MDGs in to national development and planning. Sectoral policies under review and others under preparation such as the national food and nutrition policy also offer suitable resting places.

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1.0: INTRODUCTION

The Integrated Assessment of the Organic Agriculture Sub-sector in Kenya was undertaken between 2005 and 2006 as part of an East African initiative to promote production and trade in organic products in East Africa. Like the other East Africa countries, Kenya's economy is still heavily dependent on agriculture. This is in spite of the fact that Kenya's other sectors such as industry, tourism and services are relatively more developed than those of the countries of the East African Community (EAC). However, the agriculture sector in general and the organic agriculture sub-sector in particular plays a major role in the country's economy as the leading contributor to the Gross Domestic Product (GDP) and as the major foundation of Kenya's rural economy. In addition, the inherent ecological resilience and social responsiveness of organic agriculture production presents an important policy option to confront the hostile environmental conditions and social inequalities in the country. However, the Sub-sector is currently operating and growing in a policy vacuum. It is against this background that an integrated assessment of the sub-sector was undertaken.

1.1: This Report

This Report therefore presents the detailed outcomes of the integrated assessment study of the organic agriculture sub-sector. The purpose of the Report is to map out in a comprehensive manner the current and future trends in the production and trade in organic agriculture in the country, examine the social, economic and ecological dimensions of the sub-sector to provide an empirical basis for effective policy and decision making. On the basis of the findings, potential growth scenarios are developed, analyzed and their integrated socio-economic and environmental impacts assessed. The objective is to provide a set of policy response options that can mitigate any potential negative impacts of the different policy scenarios and provide a robust policy environment for increasing the production and trade in organic agriculture.

The analysis, observations and recommendations contained in this report are designed for a multi-stakeholder audience. First, the report targets Government officials who are engaged in any form of decision making that either positively or negatively impact on the organic agriculture sub-sector. Government policy makers working in the ministries of agriculture, finance, environment, commerce trade and several others engaged in education and research will find it a useful resource. Specific proposals have been made on how these agencies of Government can accelerate the positive gains already being experienced in the Sub-sector. Secondly, the Report is targeted at agriculture focussed NGOs in Kenya that work in the areas of environment, social equity and economic empowerment. Thirdly, the Report also targets the international development community involved in financing conservation, social equity and economic empowerment programmes. It is argued that supporting a robust organic agriculture sub-sector could potentially enable a wide range of stakeholders meet their multiple objectives by focusing on the organic agriculture sub-sector as a major investment opportunity. Finally, the private sector has been one of the major key drivers for the growth of the organic agriculture sub-sector in Kenya. This report provides basis for an evidence-based policy dialogue on the role of Government in supporting the sub-sector.

The findings of the assessment are presented in four parts. Part 1 which includes this introduction provides a detailed background of the policy context that informed the study and the analysis presented. In addition to providing a detailed overview of the agriculture sector as whole, this part of the report examines the social and macro-economic environment within

which issues of production and trade in organic agriculture is articulated. Part 2 of this is a more focused discussion of the critical organic agriculture issues relevant to Kenya. Organic agriculture is seen as being inherent in the structure of the agriculture sector in general given the fact that the Kenyan smallholder farming community does not generally use inorganic inputs. It is nevertheless observed that the increasing internationalization of organic agriculture standard setting practices including certification and branding are giving organic agriculture a new dimension that puts it at the centre of national and international policy making. Part 3 of the report presents the integrated assessment of the Sub-sector. In this part, the key drivers of organic agriculture production and trade are presented and analyzed and potential growth scenarios mapped out. Part 4 which is the last part of the Report presents the general conclusions from the assessment and a set of recommendations and policy options that may be pursued to promote sustainable organic agriculture production. It is emphasized that there are a range of policy choices that may be implemented to ensure that the economic, social and ecological underpinnings of organic agriculture are mutually re-enforcing.

1.2: Kenya country integrated assessment of organic agriculture project

The Kenya IAP project on organic agriculture rolled out in May 2005. The project was undertaken as part of an East Africa-wide initiative on “promoting production and trading opportunities for organic agriculture in East Africa.” The project was undertaken with financial and technical support from the Capacity Building Task Force (CBTF), a joint programme of the United Nations Environment Programme (UNEP) and the United Nations Conference on Trade and Development (UNCTAD). The National Environment Management Authority (NEMA) was the responsible government agency of the Government of Kenya while Bridge Africa was designated the National Research Institution (NRI). The Kenya Organic Agriculture Network (KOAN) provided a framework for the involvement of organic agriculture NGOs and the private sector.

The first objective of the Kenya IAP project was to establish how Kenya’s policies on organic agriculture are responsive to national environmental protection as well as to socio-economic and trade imperatives especially trade improvement and poverty reduction. The Kenyan assessment was designed to involve key stakeholders in analyzing implications of different organic agriculture policy options key socio-economic and environmental parameters. The outcomes of the IAP are intended to demonstrate to policy makers the substantial opportunities that can be realized if the country made appropriate investments and provided needed policy support to the organic agriculture sub-sector. The following were the specific objectives of the project.

- To assess the current practices and situation regarding organic agriculture in Kenya, including levels of production, policies, constraints;
- To facilitate the development of a national organic agriculture policy and action plan;
- To facilitate national stakeholder dialogue among all relevant parties and authorities;
- To identify capacity building needs in the promotion of organic agriculture;

1.3: Kenya country integrated assessment approach and methodology

The IAP process was conducted in a number of systematic steps. The first step involved forming a National Implementation Team (NIT). The NIT comprised the National Environmental Management Authority (NEMA) as the government lead agency and Bridge

Africa as the implementing institution. Bridge Africa was mandated to undertake a thorough review of available literature, prepare project background papers, and carry out the actual assessment including fieldwork. The preliminary assessment results were presented at several workshops in 2006 both in Arusha, Tanzania and Nairobi, Kenya.

The main analytical tool used during the IAP project was scenario analysis. This tool was used to explore the range of possible outcomes from alternative policy options on organic agriculture. The IAP process was conducted in a participatory and country driven manner through stakeholder consultations both national and regional workshops, field work and data analysis. Expert input by UNEP and UNCTAD staff was engaged throughout the project including the review of background documents, review of analytical framework, consultative meetings and review of country draft reports besides training of the country team. The IAP report has heavily relied upon both primary and secondary data including published literature and literature from grey sources. This involved visiting key institutions to look for relevant but unpublished work, which also presented an opportunity for limited discussions with stakeholders.

At the beginning of the IAP process, the NIT identified specific social, economic and environmental (SEE) indicators to be applied in the IAP process in order to measure the impact of organic agriculture in the three sectors. The selected indicators are shown in Table 2. Fieldwork in the IAP process involved an analysis of organic farmer and farmer groups but this was limited to those involved in the production of macadamia nuts and herbs and spices. This was because the NIT felt that these two crops would offer best results for the analysis since both had very high potential for addressing the priority policy concerns. Secondly since the two crops were already being grown by small-scale farmers, they would have the requisite experience in conversion as well as the production and market related issues.

Table 1: A summary of the SEE indicators in the Kenya IAP project

Sector	Indicators
Social	<ul style="list-style-type: none"> - Number of farmers adopting organic agriculture - Number organic agriculture related employment opportunities - Improved living standards - Level of food and nutrition security - Reduction in rural to urban migration - Improved health standards - Reduction in agrochemical related diseases
Economic	<ul style="list-style-type: none"> - Increased income at the household level - Increase in investments e.g. number of new businesses - Increase in household income - Percentage increase in volume and value of exports - Farm gate prices - number of certified organic farmers and traders - Increased revenue
Environment	<ul style="list-style-type: none"> - Increase in farm-based biodiversity - Number of trees and diversity of species on farm

	<ul style="list-style-type: none"> - Improved soil fertility - Improved agricultural yields - Percentage reduction in use of chemicals - Amount of land under organic production - Reduction in the application agrochemicals
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The SEE indicators were applied in a survey conducted among the key stakeholders in Kenyan organic agriculture (Annex Table 1) where a questionnaire was administered to key informants and focus groups conducted to determine what they considered as the key challenges facing organic agriculture in Kenya.

1.4: Kenya - An overview

Kenya is situated on the eastern coast of Africa lying astride the equator with a total area of 582,650 km² (224,962 sq mi), including 11,230 km² (4,336 sq mi) of water. It is bordered to the north by Sudan and Ethiopia, to the east by Somalia, to the south east by the Indian Ocean, to the south by Tanzania, and to the west by Lake Victoria and Uganda. Kenya has a total land boundary length of 3,477 km (2,161 mi) and a coastline of 536 km (333 mi). The environment in Kenya consists of the following key types of natural ecosystems: arid and semi arid areas; savanna; forests; marine and coastal ecosystems; and inland freshwater and saline ecosystems. About 80 per cent of the country is arid or semi-arid land and the potentially cultivable land covers only 99,420 km² or 10 million ha or about 20 per cent of the land surface.

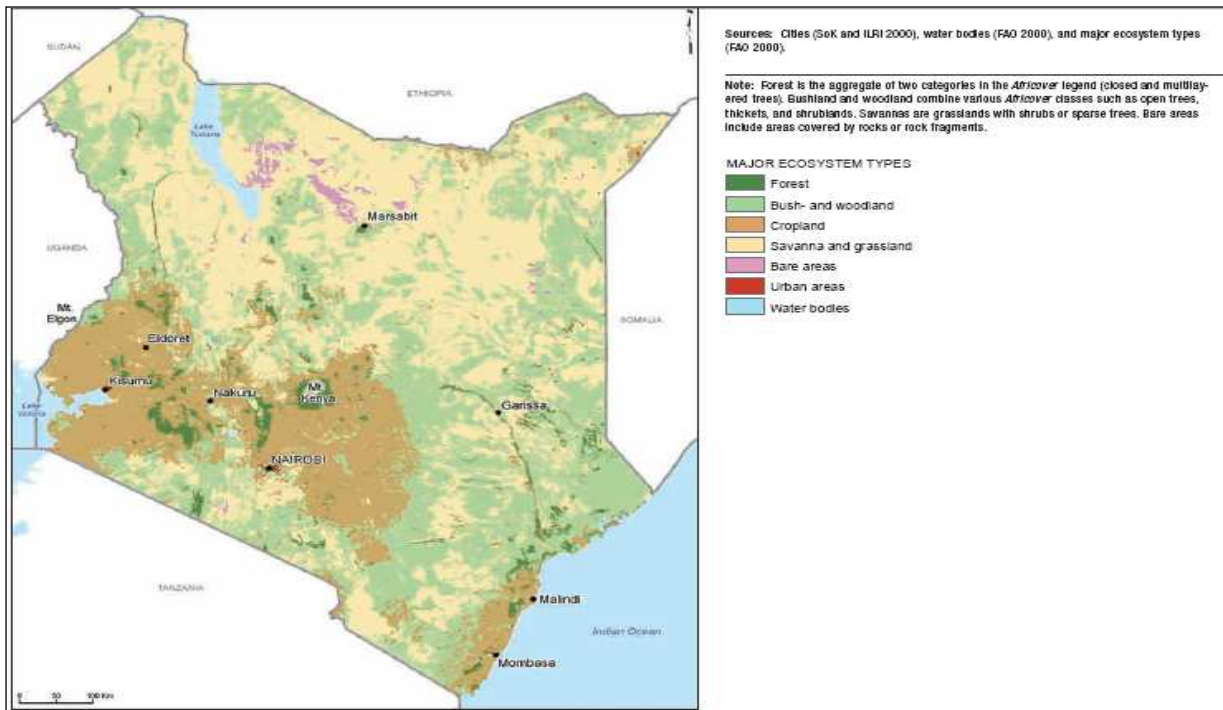


Figure 1 - Distribution of agricultural activities in Kenya (2002)

Kenya can therefore be classified as a dryland country with less than 20% of humid environment and over 80% of dryland (Figure 2). The drylands of Kenya approximately include savanna (8%), semi arid areas (14%), arid areas (36%) and very arid areas (22%). The high and medium potential areas in the humid zone are suitable for rained agriculture and are dominated by crop and dairy farming, occupying 31% and 30%, respectively. It is therefore

partly because of the known ecological resilience of organic agriculture production that makes the system a potential policy choice for Kenya. (Milestad and Darnhofer, 2003); Table 2 shows the distribution of land in Kenya according to agricultural potential.

Table 2: Agricultural land in Kenya ('000 ha)

Province	High potential	Medium potential	Low potential	Other land	Total land area	Density (Person per sq. km)
Central	909	15	41	353	1318	282
Coast	373	796	5663	1472	8304	30
Eastern	503	2189	11453	1431	15576	30
Nairobi	16	-	38	14	68	3079
North Eastern	-	-	12690	-	12690	8
Nyanza	1218	34	-	-	1252	350
Rift valley	3025	123	12220	1515	16883	38
Western	741	-	-	82	823	406
Total	6785	3157	42105	4867	56914	49

Source: Government of Kenya, CBS, Statistical Abstract (2004)

Kenya's population has increased rapidly by 28% from 6,416,000 in 1950 to 8,189,000 in 1960, by 37% to 11,253,000 in 1970, by 46% to 16,466,000 in 1980, by 36% to 22,400,000 in 1987, and by 24% to an estimated 27,885,000 in 1995. The population of Kenya was 28.7 million in 1999. In 2005 the population was estimated by the United Nations at 33,829,590 with a growth rate of 2.5% p.a. and the <15 year bracket accounting for 44% of the population, the 16-64 year bracket for 52% and the >65 year bracket for only 4%. The population is projected to be 36.5 million in 2010. Figure 1 shows the 2002 population density map of Kenya.

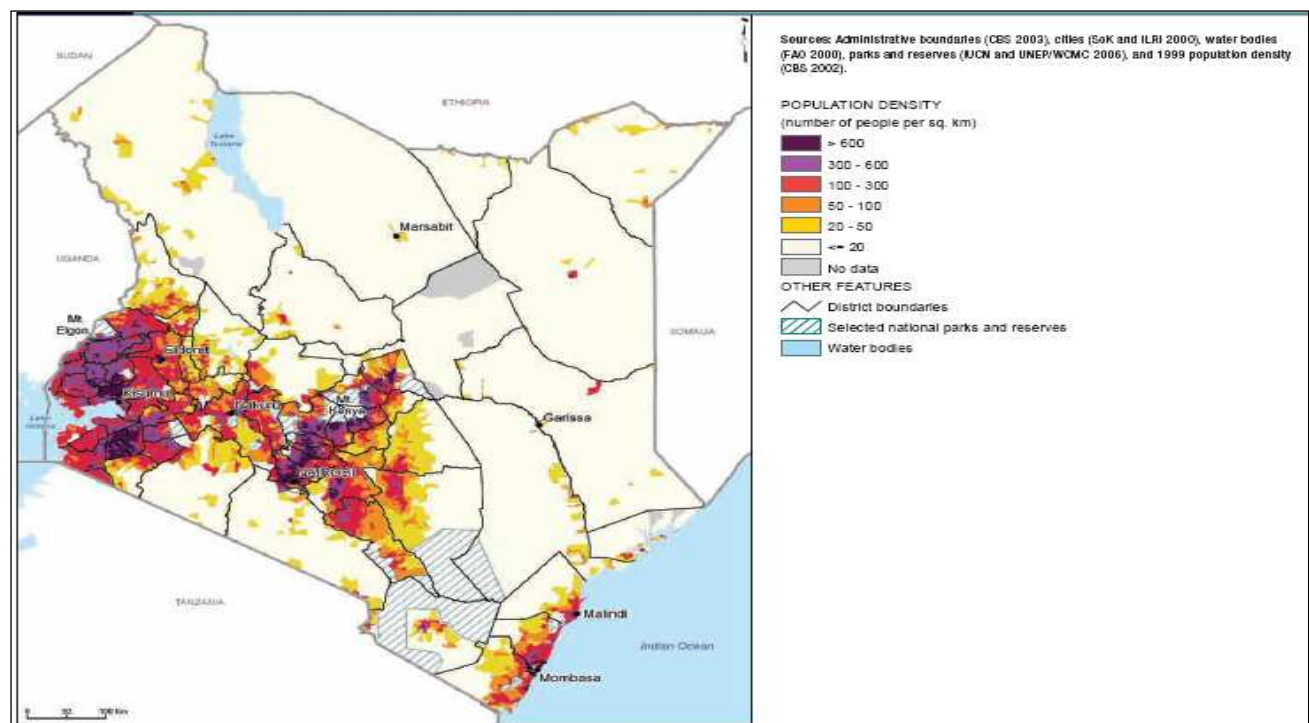


Figure 2: The population density of Kenya (2002)

1.5: The agriculture sector in the Kenyan economy

Agriculture remains the mainstay of the Kenyan economy with important vertical and horizontal linkages to other sectors such as industry (especially agro-processing), manufacturing and service sector. The agriculture sector accounts for an estimated 26% of total GDP and a further 27% through links with manufacturing, distribution, and other services sub-sectors (Republic of Kenya, 2007).ⁱⁱ The sector accounts for 60-65% of the country's export earnings and 45% of total government revenue (Republic of Kenya 2005).

In spite of its importance, there has been consistent decline in agricultural production since the 1980s in spite of the initial impressive performance during the 1960s and 70s. (Odame, Kameri-Mbote and Wafula, 2003). Existing data shows that production has declined from 4.6% in 1960 to less than 1% in the 1990s (Odame, Kameri-Mbote and Wafula 2003) and -2.4% in 2000 (Alila and Atieno, 2006).ⁱⁱⁱ Further, the sector's contribution to GNP dropped from 35% to 28% during the same period (Republic of Kenya 2000 cited in Odame, Kameri-Mbote and Wafula 2003). Figure 3, below shows the trends in productivity for selected crops in Kenya for the period 1990 to 2006.

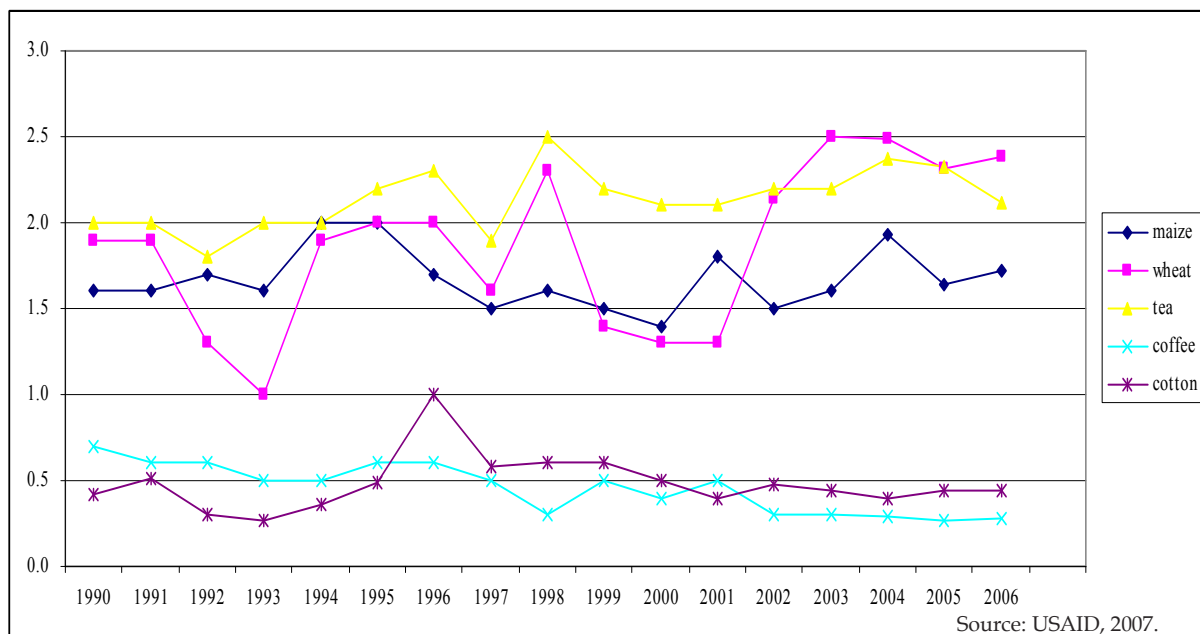


Figure 3: Trends in productivity for selected crops in Kenya, 1990 to 2006

1.5.1. Agriculture and poverty

The importance of the agriculture sector in general and the organic agriculture sub-sector in particular in addressing the problems of rural poverty in Kenya cannot be overemphasized. As already alluded to, 80 percent of the Kenyan population live in rural areas and an estimated 70 percent rely directly on the agricultural sector for livelihoods (IFAD, 2007).^{iv} More than a half of the Kenya's total population is estimated to be poor and at least 7.5 million all the poor people live in extreme poverty. This percentage of the population is also comprised of the most vulnerable groups like pastoralists, the landless, and subsistence farmers who depend on agriculture as their main source of livelihoods. Rural poverty is mainly caused by low agricultural productivity, which is also exacerbated by land degradation and insecure land tenure.

Agriculture is also seen as the main source of growth that may have significant impact to poverty eradication consistent with the goals set out in the Millennium Development Goals (MDGs). In a 2007, the International Food Policy Research Institute (IFPRI) examined different sources of growth for the Kenyan economy and the extent to which each of those sources would contribute to poverty eradication under different scenarios (IFPRI, 2007).^v Among other things, it concluded that the agriculture sector must play a more central role in Kenya's overall development strategy if development is to have substantial impact on poverty eradication. Particularly relevant to organic agriculture is the study's recommendation that for agriculture to make its full contribution to economic growth and poverty eradication, a broad-based growth in all the agriculture sub-sectors is necessary. Consequently, it is tenable to argue that growth in the sector is therefore expected to have a greater impact on the larger section of the population than any other sector.

1.5.2. Agriculture and employment

The importance of the agriculture sector in the economy is reflected in the relationship between its performance and that of the key indicators like GDP and employment. Since independence, Kenya has relied heavily on the agriculture sector as the base for economic growth, employment creation and generation of foreign exchange. The sector has also been a major source of the country's food security and a stimulant to off-farm employment. Trends in the growth rates for agriculture, GDP and employment, show that the declining trend experienced in the sector's growth especially in the 1990s, is reflected in the declines in employment and GDP as a whole (Figure 4). The growth rate fell from 4.6% p.a. in 1964-73 period to 1.1% per annum in 1996-2000. Between 1990 and 1995, the growth rate was a mere 0.4% p.a. In the year 2000, agriculture performed poorest: it shrunk at a rate of 2.3% and, as noted by Nyoro *et al* (2001), production of both food and export crops followed a declining pattern.

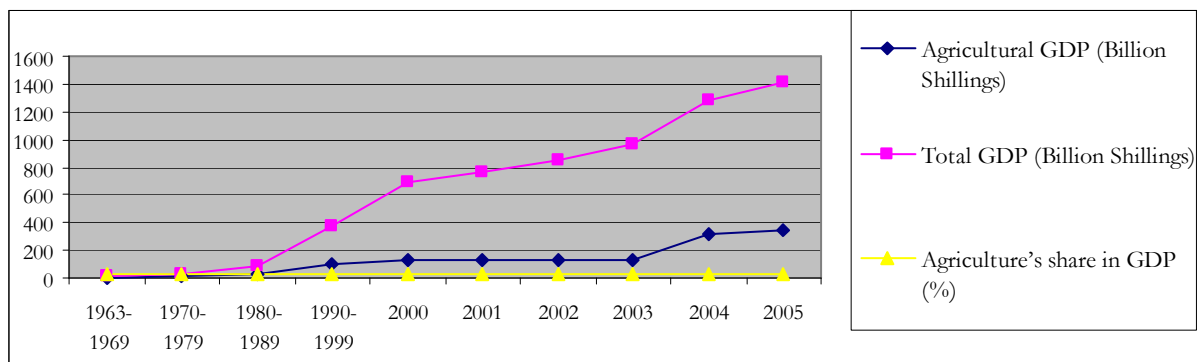


Figure 4: Agricultural GDP as a share of total GDP (1963-2005) - Source: GoK, Statistical Abstracts, (Various years)

1.5.3. Agriculture and gender

The significant involvement of women in small scale agriculture is an important factor among measures to improve agricultural performance. Women provide 75% of the labour force in small scale agriculture and manage 40% of the small scale farms. Up to 2/3 of the female population in rural areas is engaged in subsistence farming. Despite women's significant contribution to agriculture, they face a number of constraints, especially limited access to productive resources like improved inputs, extension, and marketing facilities which limit their productivity. Institutional factors also limit women's access to financial services.

1.6. Agriculture and the Environment in Kenya

Kenya's agriculture is in many ways linked to the environmental conditions in the country. Kenya is home to 35,000 known species of flora and fauna. Over the last half a century, remarkable achievement has been made in preserving this environment. For example, more than 50 national protected areas, including five Biosphere Reserves and three World Heritage Sites have been established. Thirteen percent of Kenya's total surface area is currently in protected areas. The government has long been committed to conserving Kenya's valuable natural resources and wildlife and has enacted a number of policies for environmental management and conservation, such as the Wildlife Policy, Forest Policy, Fisheries Policy, and National Land Policy.

However, the interaction of an increasingly poor population and the environment due to expansion of human settlement and engagement in unsustainable farming practices have impacted negatively on farmlands, landscape, forest land, wetlands and biodiversity, almost throughout the country. Expansion of human settlements have reduced the land potential, especially in the arid and semi-arid areas, making the struggle for survival hard and leading to severe over-exploitation of natural resources and destruction of critical ecosystems.

The increase in population has also resulted in massive land sub divisions in the high and medium potential areas. Massive degradation has also resulted from unsustainable land use practices such as increased application of fertilizers without use of organic manure. Agricultural intensification has also led to a number of environmental problems such as outbreak of pests and pollution of water resources from the heavy use of fertilizers and agricultural chemicals. There are also increased health problems related to the use of pesticides.

Environmental degradation and rising poverty is a major concern relevant to agricultural development. As agricultural land continues to be scarce, and rural poverty continues to increase, agricultural practices that conflict with the environment have increased. High levels of poverty in the rural areas, where agriculture is the main source of livelihoods, have significant implications for environmental sustainability. The poor people tend to engage in farming practices that negatively affect the environment and reduce the land potential. With increased pressure on the natural resource base and the need to increase productivity, the challenge remains that of intensifying land use while enhancing the long run productive capacity of the resource base. Low productivity, with pressure on the natural resource base has led to increased migration into the Arid and Semi Arid Lands (ASALs) with inappropriate farming practices and negative environmental consequences.

1.7. Agricultural policy and regulation in Kenya

Promoting organic agriculture production and trade in Kenya should be considered against the background of the overall agriculture policy in the country. This is essential for any meaningful strategy and course of action to promote the organic agriculture sub-sector. However, it is also important to recognize that agriculture policy in Kenya has continued to evolve over the last two decade. The ministries responsible for agriculture and livestock development are the lead agency in matters of agriculture in Kenya. Other major institutions involved in agricultural activities include the Office of the President, the ministries responsible for environment, natural resources, planning and national development, co-operative development, research, technical

training and technology, local government, energy, lands and settlement, water resources, and related state corporations and parastatals. However, a wide range of other stakeholders in the private sector and civil society are involved. These include NGOs, CBOs, companies, development partners, and local farmers among others. The government through the Ministry of Agriculture has over the years put in place a number of policies to guide development in the sector. These policies range from general policies on service delivery to commodity based policies. Some of the key policies are considered below.

a) Food policies

The government has enacted three policies on food security including Sessional Paper No. 4 of 1981 on National Food Policy, Sessional Paper No. 1 of 1986 on Economic Management for Renewed Growth, and Sessional Paper No. 2 of 1994 on National Food Policy. The three sessional papers outline the actions to be taken in order to promote food security in the country. Sessional Paper No. 2 is still the one in force up to now. The Ministry of Agriculture is however, in the process of revising this paper and converting it into a National Food and Nutrition Policy. This draft policy is at an advanced stage of development because the draft is ready and a cabinet memo for the same has been done. Section 2.24 of the draft policy calls for increased production and recommends agricultural intensification by using certified seed maize to increase production from 50% to 100%. Section 2.29 of the draft policy, the National Food and Nutrition Policy, aims at promoting a “green revolution” through the use of hybrid seeds, fertilizers, pesticides, irrigation and mechanization. Section 3.5 of the draft spells out the government’s main objective to ensure supply of adequate and quality inputs. Section 3.6 spells out the government policy to ensure supply of fertilizers to increase production.

Green Revolution methods are contrary to the concept of organic agriculture. Green Revolution technologies are based on the use of chemicals, extensive irrigation, and the use of high yielding varieties, including genetically modified (GM) plant varieties. This has led to substantial productivity gains over the past 50 years and has eliminated starvation in many countries. However, evidence has shown that the Green Revolution has not been effective as a strategy for poverty reduction for majority of the world’s rural poor. Green Revolution strategies have been known to result in increased inequality and poverty, and has resulted in environmental degradation. Organic agriculture was largely prompted by the negative effect of the Green Revolution.

b) Extension policies

The Ministry of Agriculture operated without a national extension policy up to 2001. This is because extension was previously seen as the sole responsibility of government and was usually donor funded. In 2001 it was found necessary to have an extension policy to take care of the changing needs of farmers and to accommodate the growing number of extension providers. This was also to give a framework within which to accommodate extension. The National Agriculture Sector Extension Policy (NASEP) was therefore published in 2001. Modalities for putting NASEP into effect were set out in the national agriculture and Livestock Extension Programme Implementation Framework (NALEP-IF). The key goals of NASEP were the emergence of extension systems that are demand-driven and with greater involvement of the private sector. It also focussed on the progressive commercialisation and privatisation of extension services. However, both NASEP and NALEP-IF do not make any specific provisions for organic agriculture. Further, the lead organizations in organic agriculture in the country like

KOAN and KIOF are not cited among the extension providers. These are organizations such as Kenya Institute of Organic Farming (KIOF) and Sustainable Agriculture Community Development Programme (SACDEP).

c) Strategic Plan 2006- 2010

The Strategic Plan for the agriculture sector which is an implementation tool for the Strategy for Revitalizing Agriculture (SRA; 2004- 2014), sets the goals and strategies that the Ministry of Agriculture will pursue over the 5 year period. It is a commitment by the ministry to improve service delivery in line with the national aspirations as articulated in the Economic Recovery Strategy (ERS), 2003. The Strategy for Revitalizing Agriculture (SRA; 2004- 2014) presents strategic interventions which will transform agriculture into a competitive and commercially oriented enterprise.

The Strategic Plan has only considered some of the critical issues for social, economic and environment sectoral integration. Section 3.3.4 on conservation of the environment and natural resources through sustainable land use practices, for example, directs the Ministry of Agriculture to ensure dynamic equilibrium of agricultural land through sustainable land use practices and environmental conservation. The Strategic Plan does not, however, explicitly make any provisions in support for organic agriculture despite the fact that it has provisions for environmental conservation and sustainable land use.

d) Commodity policies

In an effort to promote agricultural development, the Ministry of Agriculture has in the recent years made a lot of progress towards formulation of commodity-specific policies. The general idea has been to provide comprehensive direction towards commodity-specific enterprise development. Some of the commodity policies under preparation include: Potato Policy (2005); Pyrethrum Policy (2005); Cotton Policy (2006); Sugar Policy (2006); Oil Crop Policy (2006); and the Nuts and Cassava Policy. A review of these commodity based policies reveal that none has made any provisions for organic production of the products. However, a number of these crops are grown without use of any external inputs. This is either due to the fact that the farmer cannot afford the inputs or because the soil is still able to support a crop.

Alila and Atieno (2006) and the Kenyan Ministry of Agriculture (2007) have identified the following as the cornerstone of Kenya's agriculture policy:

- Increasing agricultural productivity and incomes, especially for small-holder farmers.
- Emphasis on irrigation to reduce over-reliance on rain-fed agriculture in the face of limited high potential agricultural land.
- Encouraging diversification into non-traditional agricultural commodities and value addition to reduce vulnerability.
- Enhancing the food security and a reduction in the number of those suffering from hunger and hence the achievement of MDGs.
- Encouraging private-sector-led development of the sector.
- Promoting conservation of environment and natural resources through sustainable land use practices, and
- Promoting market and product development by adopting a value chain approach.

In all these cases, organic agriculture can play a role in enhancing the articulated policy objectives. On the other hand, the sub-sector can also benefit from the stipulated policy framework since attainment of these policy objectives is clearly consistent with the principles and practices that underpin organic agriculture production and trade.

e) Environment concerns

The Government of Kenya has developed guidelines to integrate environmental concerns in the agriculture sector especially in relation to management and conservation of critical ecosystems and genetic resources. The national legislation restricts the transfer of productive arable land to non-agricultural uses especially human settlement and commercial investment. The Ministry of Agriculture is primarily concerned with the conservation of agricultural biodiversity especially biodiversity of relevance to food production. Biodiversity conservation is undertaken on-site at the farm level, and off-site at the National Gene Bank and public arboreta. All these are reflected in the National Biodiversity Strategy and Action Plans (NBSAP) and the National Environmental Action Plans (NEAP) from which the NBSAP were derived. The Environmental Management and Coordination Act (1999) was enacted and became operational in 2000 as a measure to safeguard environment from agricultural activities. However, enforcement of this legislation has been rather wanting as population pressure and demand for environmental resources has been increasing in the recent years.

Sustainable agriculture concerns in Kenya are considered through a wide range of programmes and projects such as integrated pest management (IPM), soil and water conservation, environment management, rehabilitation of degraded lands and conservation of flora and fauna. IPM in Kenya is coordinated by the Crop Protection Branch of the Ministry of Agriculture. The Government in the early 1990's also initiated the Safe Use of Pesticides Project with the main goal of ensuring safety in application and disposal of pesticides.

The key constraints for sustainable agriculture in Kenya include low rainfall, use of improper technologies which are not adapted to local conditions, poor returns to agricultural products, low price of outputs relative to the price of the inputs; thin markets with price risks that undermine incentives to invest in land; and water deficits for crop growth in and out of the growing seasons. In most years, dry spells during the rainy season cause markedly reduced yield or total crop failure.

Increasing importance of small scale agriculture in the sector, coupled with its declining productivity and low incomes are a concern especially relevant to poverty reduction efforts. The small scale sector contributes 75% of total agricultural production and over 70% of the total marketed production, reflecting the increasing importance of smallholder farms in agricultural production. The small scale sector absorbs about 51% of the total labour force in the overall agriculture sector. Food production also accounts for a major share of small scale agricultural production, (Republic of Kenya 1999). The importance of smallholder agriculture as a source of livelihoods in the rural areas is therefore a major concern for agricultural and rural development. This is because of the high poverty levels in the rural areas especially among smallholder subsistence farmers.

Organic agriculture's potential as a strategy for poverty alleviation, food security, trade, and environmental conservation can be demonstrated in several areas. The demand for safe organic food is growing in international and domestic markets. Poor farmers in rural areas possess a

comparative advantage over established conventional farmers because their methods have been largely organic by default, allowing them to benefit from the organic market sooner (transition period from a conventional farm to an organic farm can take 3-5). Organic agriculture is likely to benefit the poor living in marginal areas the most, by improving productivity and incomes, and promoting environmental sustainability.

Generally, the above analysis suggests economic and agriculture sector trends that are relevant to the development of the organic agriculture sub-sector in Kenya. First, it is evident that overall agricultural sector productivity has been decreasing or is not growing at rates necessary for the achievement of Kenya's national and international development targets. Secondly, the trends in poverty clearly show increase in poor people especially in the rural areas where agriculture is the main source of employment and livelihoods. Thirdly, there is evidence of increased environmental degradation rooted in the demographic structure of the rural population, which if not addressed will further aggravate rural agricultural productivity hence undermining attainment of economic growth projections and current efforts to reduce poverty especially in the rural areas. In all these cases, it is tenable to argue that an understanding of how organic agriculture production and trade can contribute to reversing these negative trends is essential for a robust national policy on agriculture and poverty eradication.

2. ORGANIC AGRICULTURE IN KENYA

2.1. Defining Organic Agriculture

FAO has defined organic agriculture as a system that relies on ecosystem management rather than external agricultural inputs. It is a system that begins to consider potential environmental and social impacts by eliminating the use of synthetic inputs, such as synthetic fertilizers and pesticides, veterinary drugs, genetically modified seeds and breeds, preservatives, additives and irradiation. These are replaced with site-specific management practices that maintain and increase long-term soil fertility and prevent pest and diseases. It aims to optimize quality in all aspects of agriculture and the environment by respecting the natural capacity of plants, animals and the landscape. The International Federation of Organic Agricultural Movements (IFOAM), defines organic agriculture as "a whole system approach based upon sustainable ecosystems, safe food, good nutrition, animal welfare and social justice". Certified organic agriculture is considered as a defined and regulated system of agricultural production that seeks to promote and enhance ecosystem health whilst minimizing adverse effects on natural resources. During the Kenya IAP project organic agriculture was considered as the farming system that respects the biological relationships that exist in nature thereby fostering natural resource and environmental conservation.

The key goals of organic agriculture are as follows: to produce food of high nutritional quality in sufficient quantities; to interact in constructive and life enhancing way with natural systems and cycles; to encourage and enhance biological cycles within the farming system which includes microorganisms and other plants and animals; to maintain and increase long-term fertility of soils; to promote the healthy use and proper care of water, water resources and aquatic life; to use as far as possible, renewable resources in locally organized agricultural system; to minimize all forms of pollution that may result from agricultural practices; and to maintain the genetic diversity of the agricultural system and its surroundings, including the protection of plant and wildlife habitats and ecosystems. Organic agriculture is therefore

considered as a sustainable and environmentally friendly form of agricultural production currently practiced around the world and has particular advantages for small-scale farmers in Africa.

Organic agriculture in Kenya dates as far back as farming has been in the country. However, most farmers are involved in it by default not by design. Many farms in Africa including Kenya has limited access to external inputs due the cost factor. The history of organic farming in Kenya can be traced back to the 1980s. In 1984, University of East Anglia in the UK organized a course in organic farming at Enmesh College in England which was attended by Kenyans. The participants then returned and introduced organic farming in the country eventually establishing the Kenya Institute of Organic Farming (KIOF). Kenya therefore has two decades of formal organic farming history although the organic sector is still relatively small but growing very fast. The Ministry of Agriculture did not pioneer the development of the sector in Kenya but rather the farmers, NGOs, faith-based organizations and the private sector, which have taken the initiative themselves.

The government viewed the development of organic agriculture in Kenya as a contradiction of the Green Revolution being promoted in many parts of the developing world mainly with donor support. The organic agriculture sector in Kenya has therefore mainly developed without any formal government policy support. The sector has consequently encountered a wide range of challenges during the last two decades, especially in the areas of regulation and marketing. Despite these challenges, the sector is considered to have a good potential of catalyzing the socio-economic and environment sectors especially through rural employment creation and incoming generation as well as combating food insecurity and ensuring long-term environmental security. The aim of the Kenya IAP project was to highlight the benefits of the organic sector in Kenya, and identify the key challenges facing the sector in order for the policy makers to find ways of addressing them.

2.2. Current Trends in Organic Agriculture

According to Kimemia and Oyare (2006), each of the three East African countries has had quite a different history since independence, which has ultimately influenced the development of their organic agriculture sectors. In Kenya, colonial land occupation was common, especially in areas of high productivity where large scale farms were developed with a focus on high input agriculture. As a result, many of these inputs were introduced to surrounding smallholder producers. This was also true in many parts of Tanzania. However during the country's socialist period, there was a strong government promotion of cooperative societies as a means of supporting farmer and many chemical inputs were introduced directly to smallholder farmers. In Uganda, colonial land occupation was never prolific and farm size, therefore, remained small, with smallholder farmers as the backbone of agricultural production. These past scenarios are still largely reflected in the East African organic agriculture sector today. In Kenya, a few large commercial farms have led the way in export-oriented organic production. In Tanzania most organic produce comes from smallholder farmers arranged in strong cooperative unions, and in Uganda organic production is dominated by smallholder farmers organized through private companies.

Certified organic agriculture in Kenya dates back to the early 1980s when the first pioneer organic training institutions were established (Bett & Freyer, 2007). During that period, a few

horticultural companies such as Panafood in Naivasha started growing organic vegetables mainly for export. According to Bett and Freyer (2007), initial efforts to promote organic agriculture in Kenya were made by rural development NGOs, CBOs and faith based organization. The six key organizations involved in the establishment and development of the organic agriculture sector in Kenya included: Kenya Institute of Organic Farming (KIOF) formed in 1986. Kitale-based Manor House Agricultural Centre (formed in 1984); Thika-based Sustainable Agriculture Community Development Programme (SACDEP formed in 1992); Nairobi-based Association of Better Land Husbandry (ABLH) formed in 1994; and the Molo-based Baraka Agricultural College and the Sustainable Agriculture Centre for Research and Development in Africa (SACRED-Africa). It is estimated that KIOF has so far trained 5000 farmers in organic farming practices since it was established in 1986, while Manor House Agricultural Centre has so far trained over 6000 Kenyan farmers in organic farming. These institutions are mostly relying on funding from foreign donors and collaborations with national and international research institutes and universities

The geographic areas with a good potential for the establishment and promotion of organic agriculture in Kenya are widespread throughout the country but mostly in the humid zones. Table 3 shows the types of organic products that are currently produced in the different provinces of Kenya. The Central, Western and Nyanza Provinces, together with some parts of the Rift Valley, have higher potential for production and have a wider variety of crops compared to other regions. Whereas the Eastern parts of the Rift Valley and North-eastern Province have a higher potential for wild harvests, the Central Province has the most certified organic farms in terms of acreage. In recent years, new organic crops have been introduced targeting dry land zones which constitute over 80% of the country. Two examples include *Aloe* farming and production of gum Arabica from the dry land *Acacia* trees. Such nature-based enterprises are bound to transform the local economies in the ASALs with good conservation dividends in those area most of which are grappling with widespread problems of environmental degradation.

Table 3: The types of organic foods in Kenya

Regions (Provinces)	Non-certified Organic Products	Certified Organic Products
Nairobi	Processing of dried fruit	Processing of cold pressed oils Processing of vegetables
Central	Fruits - avocados, mangoes, passion, apples, guava, pineapples, pawpaws. Coffee, vegetables (both exotic and indigenous), potatoes (Irish and sweet), water melon sweet melon, green peas, ginger, green pepper, okra.	Avocadoes and mangos (in-conversion), coffee, vegetables (baby vegetables and salad vegetables), dried fruit, bird's eye chili. Cane fruit.
Nyanza	Bananas, fruits, ground nuts, sesame, sugar cane, chilies, sorghum, millet,	Birds-eye chilies
Rift Valley	Honey, tea, fruits, aloe, gum arabica	Honey, black & herbal tea, dried culinary herbs and spices, essential oils, cold pressed oils, nutraceuticals, vegetables (baby vegetables and salad vegetables).
Eastern	Vegetables, fruits (mangos, papaws and oranges), cassava, millet, sorghum,	

	amaranth, medicinal plant products	
North Eastern	Aloe, gum Arabica	Essential oils
Western	Indigenous vegetables: amaranth, spider plant, saghert,	Pineapples
Coast	Cashew nuts, ground nuts, turmeric, ginger	Natural craft products as certified NTFP ² by FSC

Source: KOAN 2005

2.3. Status of Organic agriculture in Kenya

There is only anecdotal evidence about the current status of organic agriculture in the country. Part of what is well known is that the sector is still relatively very small although it is growing quite rapidly. This growth has mainly been stimulated and sustained by a collaborative network of NGOs comprised mainly of farmers' organizations on the one hand, and private companies engaged in organic agriculture production and trade on the other. It is currently estimated that 182,000 hectares of land are under organic management. This accounts for only about 0.69 per cent of the known total agricultural land in Kenya. IFOAM estimates that an estimated 30,000 farmers have changed over to organic farming techniques in recent years (IFOAM and FiBL, 2006)^{vi} while KOAN estimated that another 853 hectares are currently in conversion (KOAN, 2005).

Recent reports also suggest an increasing trend of farmers shifting from conventional agriculture to organic farming. In June 2008 alone, over 100 farmers in Central Kenya are reported to have formed themselves into the Subuko Organic Farmers Association with the ultimate objectives of achieving the required standards of chemicals free production (Allafrica, 2008). This trend is reflective of a consistent pattern of farmers organizing themselves into organic agriculture producer associations. Bett and Frayer (2007) identified at least six major players in the Kenyan organic agriculture subsector (Table 4) all of whom are non-governmental actors. These include: Kitale-based Manor House Agricultural Centre, Baraka College in Molo, the Sustainable Agriculture Community Development Programme in Thika, the Kenya Institute of Organic Farming (KIOF), the Sustainable Agriculture Centre for Research, Extension and Development in Africa (SACRED-Africa), and the Association for Better Husbandry with headquarters in Nairobi. Despite the growing trend, in Kenya, out of the approximately 10 million ha of cultivatable land, in 2006, only 3307 ha was used for organic farms.

Table 4: Organic farm sector in relation to Kenya's eight Provinces (2008)

Province	No. of farm enterprises + supply organizations	No. of out growers	arable land (ha)	Wild area/ extensive (ha)	Total (ha)
Central	19	5.418	3.023	40.500	48.861
Coast	2	474	1.543		2.017
Eastern	4	334	324		658

² Non Timber Forest Products, Forestry Stewardship Council certification and labelling

Nairobi	2		16		16
North eastern	0				
Nyanza	0				
Rift Valley	5	154	276	32.640	32.599
Western	3	100	251		351
Total	35	6.480	5.433	73.140	85.053
Source: KOAN, Encert, field data (2008)					

Organic agriculture has further been boosted by an extensive network of small-scale organic farmers sometimes organized in small farmers' groups and associations such as Mount Kenya Organic Farming (MOOF). Since around 2002, there have been efforts to increase coordination among organic agriculture farmers. For example, in 2003 small-scale organic farmers formed a national unifying association, the Kenya Organic Farmers Association (KOFA). While the larger companies and commercial farmers most of whom are already in the export market have also organized themselves into the Kenya Organic Producers Association (KOPA). In 2004/2005, organic agriculture stakeholders in Kenya, including KOPA and KOFA, formed the Kenya Organic Agriculture Network (KOAN), mandated to be the umbrella body representing all organic agriculture organizations in Kenya to support the successful growth of the sector and champion its course. Since its inception, KOAN has aimed at developing and promoting local and export markets, supporting development of affordable local certification capacity and creating awareness of market opportunities in the organic sector.

INSERT INFORMATION ON KOAN

The government of Kenya appears to have started appreciating the role of organic agriculture in the country and is now participating in its development, though no tangible policy framework has so far been developed. Since the 1998, some government programmes have been introduced to provide support for farmers reverting to organic management strategies. This includes the establishment of extension services and demonstration farms. Kenyan universities are now also taking organic agriculture seriously with more agriculture, environment and natural resources management students increasingly undertaking research and writing theses on aspects of organic agriculture. Currently, Egerton University is developing a curriculum for a course in organic agriculture. This shows the appreciation of organic agriculture in academic circles.

2.1.1: Standards and Regulations for Organic Agriculture in Kenya

According to UNEP-UNCTAD (2006), East Africa has previously relied heavily on external standards for certification and regulation of organic production and exports. Initially, all certified organic production was mostly certified either according to the EU regulation 2092/9, the US National Organic Program (NOP), or the organic standards of Japan Agriculture Standards (JAS). However, due to high costs and adaptation problems, there was a need to create standards for the organic industry in East Africa that were still considered equally reliable and locally adapted. By 2005, there were several public or private organic standards

developed in East Africa. These included: one private sector standard by Go-Cart and NOGAMU in Uganda; one working draft from the TBS and a private standard by Tanker in Tanzania; and two private sector standards by KIOF and KOAN in Kenya UNEP-UNCTAD (2006).

The Kenya Bureau of Standards (KEBS), eventually entered the arena and formed a “Technical Committee on Organic Foods” whose mandate was to develop a set of organic standards for Kenya. KBS is a statutory governmental organization that develops national standards in all sectors (Kimemia & Oyare, 2006). The KBS organic standards and guidelines (DKS 1928:2004) were developed in a participatory manner and eventually gazetted in January 2006. It is expected that the application of national standards for organic agriculture will open the door for the registration and accreditation of other private standards in order for them to engage in local certification (UNEP-UNCTAD, 2006). KEBS agreed to set up a structure that will accredit other organizations or companies that may wish to certify growers.

In recent years, the three East African countries have come up with one East African Organic Product Standard (EAOPS). The standard was developed through a public-private partnership of East African businesses, government bureaus, organic movements and certification bodies, in cooperation with the UNEP-UNCTAD CBTF, and IFOAM as well as GROLINK and EPOPA. In this way, the spirit of cooperation through the organic sub sector has found its way in the region. It is expected that the standard, once finalized, will be used as the common standard by that EAC, and boost organic trade and market development in the region, define a common vision of organic agriculture in East Africa, raise awareness about organic produce among farmers and consumers, facilitate training and certification, and create a unified negotiating position that should help East African organic farmers win access to export markets.

2.1.2: Certification

Organic products have no outright distinction from conventional products especially at the market. Therefore, organic products require strict inspection right from when the product is being produced and processed. Organic marketing agents have therefore established an inspection system to which the organic farmers wishing to market their produce as organic must apply for inspectors to inspect their production systems, write a report and have another independent third party give a certificate of organic production after studying the inspection report. This is a guarantee process for consumers to know the product is really organic. The organic product must be accompanied by the certificate of organic production all the time or be labelled organic, with the label of the certifier, UNEP-UNCTAD (2006).

There are several reasons why certification and mandatory regulation is necessary in organic agriculture. Organic standards are used to create an agreement within organic agriculture about what an "organic" claim on a product means, and to inform consumers. It is intended to assure quality and prevent fraud, and to promote commerce. For organic producers, certification identifies suppliers of products approved for use in certified operations.

Certification is essentially aimed at regulating and facilitating the sale of organic products to consumers. Organic produce generally sells at premium prices in overseas markets and gains higher profits for farmers. There are now over 70 countries that have home-based organic certification systems. Asia has 117 certification bodies, 104 of these based in China, India and

Japan UNEP-UNCTAD (2006). Most Latin American countries have their own domestic certification bodies. However, organic certification services have not yet been fully established in many other parts of the world (Kimemia & Oyare, 2006). In Africa, organic certification is mainly organized under participatory guarantee systems whereby an Internal Control System (ICS) operated by a farmers' group is linked to an exporter, who holds the organic certificate. Currently, East Africa leads the continent in that kind of certification.

Until recently, organic agriculture certification in Kenya has been pursued by locally registered non-governmental organizations largely engaged in promoting sustainable agriculture. Over 20 organizations ranging from community-based organizations (CBOs), Non-governmental Organizations (NGOs) and religious organizations have been engaged either in promotional, marketing or trading activities. However, KIOF, ABLH and KOFA are the main organizations that have been significantly involved in national certification related activities. However, the certification has been provided by international companies such as the Organic Food Federation and the Soil Association. As a result of the work of these organizations and a range of other actors, there are number of players engaged in the local produce of organic products. Examples include: Green Dreams Ltd producing lettuce; Vitacress producing spring onions, salads and baby carrots; and Kenya Nut Company producing macadamia nuts and coffee. In the domestic market, EnCert, registered 2005, was the first body to offer organic certification services for the domestic organic sector. EnCert offers independent third-party inspection and certification services for organically produced products based on EnCert Organic Standards. These standards satisfy the requirements of the EAOPS. Certification services are offered to individuals as well as producer groups.

The cost of certification remains one of the most contentious issues in organic agriculture both for small scale farmers and the commercial operators. Much of the certification activities are undertaken by international companies which possess the required accreditation for designated markets. International certification and inspection can be very expensive. For example, in 2000 SAC charged individual producers a certification fee of £200 plus inspection costs of £350 per day per inspector plus airfares, accommodation and other expenses. In the same year EcoCert (Germany) charged £303 per inspector per day, plus £350 travel time, plus travel and subsistence at cost price, plus taxes (Giersemehl, 2000). For many small farmers one option for reducing the high costs of international certification is to form a producer group or co-operative and apply for certification as a group rather than as individual producers (Barrett et al., 2001; Harris et al., 2001). In this endeavor the Conservation Agriculture Trust of Kenya (CATOK), a non-profit trust duly registered under Trustship Act of Kenya was formed with the aim of assisting farmers and agricultural exporters access the services of internationally recognized organic inspectors and certification bodies within the recognition of FAO, IFOAM and EU.

In 1997 ABLH, in collaboration with Soil Association began providing certification services. However, after three years the collaboration came to an end. In 2001, ABLH approached the UK-based Organic Food Federation (OFF) to continue with the project, which they accepted, but the work never took off (Kimemia & Oyare 2006). Through an initiative of the ICIPE, AfriCert Ltd was formed in 2003 to carry out certification services in the country. AfriCert has achieved

ISO 65 accreditation, which is one step towards getting international recognition for its organic certification. Some of the other certification organizations or agencies still active in the Kenyan market include the Soil Association (SA-UK) and EcoCert (France).

2.1.3: Market Trends for Organic Agriculture Products

According to UNEP-UNCTAD (2006) and Bett and Freyer (2007), export of organic products from Kenya has been taking place for the last two decades. This mainly consists of vegetables and fruits produced by large scale farms. In 2005, between 2,200 to 2,400 metric tonnes of organic produce worth over USD 4.6 million was produced and exported from Kenya (UNEP-UNCTAD, 2006). Over the years, exports have diversified beyond vegetables and fruits to include other products such as essential oils, dried herbs and spices as well as products for the cosmetic and pharmaceutical industries which are more often produced by smallholders. Besides the export market, there is also a growing domestic market. This sub-section analyzes the current trends in both the international and domestic market.

(a) International market

The interest in organic agriculture has been sparked by impressive international market trends. A number of studies have shown that organics have grown at a rate of nearly 20 percent per year for the last seven years, and industry experts are forecasting continued growth. One study, undertaken by the Organic Trade Association, surveyed industry leaders about the trends in organics and where they saw the next 20 years taking them. They forecasted that overall, the everyday use of organic products of all kinds will be both accepted and routine by the year 2025.

According to the Natural Food Merchandiser (NFM 2006) suggests that American shoppers spent more than US\$51 billion on all natural and organic products in 2005. In their overview of market trends, they pointed to several trends in the organic and natural food industry, including increased sales of natural products by 9.1 percent across all retail and direct to consumer sales channels. Organic food sales grew 15.7 percent overall, and the fastest growing segment of organic food products is in the organic fresh meat and seafood sales, which grew by more than 67.4 percent in 2005 to US\$114 million. Additionally, growth of more than 30 percent occurred in the organic nutrition bars, beer and wine and foodservice segments of the market. Organic pet products grew 37.5 percent to reach a US\$65 million market (NFM 2006).

In its 2007 manufacturer survey, the Organic Trade Association made a series of observations about current trends in the global market sales of organic agriculture products which provide compelling evidence for deliberate policy emphasis on the sub-sector. According to the survey, U.S sales of organic food and beverages have grown from \$1 billion in 1990 to an estimated \$20 billion in 2007 and are projected to reach nearly \$23.6 billion in 2008. In 2006, organic food and beverage sales accounted for approximately 2.8 percent of overall food and beverage sales (2007 *Manufacturer Survey*, Organic Trade Association).

It is also important to recognize that consumers in the United States and the European Union (EU) make up 95 percent of the world's retail sales of organic food products, which is estimated at more than US\$25 billion worldwide (ERS). In 2001, the EU outpaced the United States in the number of certified farms and acres in organic. The EU had more than 143,000 farms (more than 4.4 million hectares) under organic production, while the United States had only 6,949 farms

(with just under one million hectares) farmed organically. Nevertheless, the growing demand for organic products means that these regions will remain some of the biggest markets for such products from countries such as Kenya. Globally, demand for organic products continues to grow. The World Organic Agriculture estimates that sales of organic products continue to grow at a rate of over US\$5 billion annually (The World of Organic Agriculture: Statistics & Emerging Trends 2008). Accordingly, the most important import markets for organic agriculture continues to be the United States, the EU and Japan.

The best trade opportunities for Kenya include high value and value added products including organic honey, coffee, nuts and oil seeds, fresh vegetables, herbs and spices, essential and pressed oils, indigenous plant materials and flavorings such as vanilla, fragrance, cosmetic and body care products and nutraceutical materials. IS THIS RELATED TO LOCAL TRADE OR INTERNATIONAL TRADE?

INSERT GLOBAL MARKET STATS HERE

(b) Domestic market

Market studies for organic produce have showed that the African market has been quite small in most parts of the continent. This is due to a number of factors such as products not getting to the market place due to inadequate transportation, reliance on rain fed irrigation, low-income levels, lack of local organic standards and certification infrastructure (Kalibwani, 2004, cited in Bett & Freyer, 2007). UNEP-UNCTAD (2006) established that amongst the many initiatives in Kenya to develop organic farming there are only a few that have focused their efforts on developing and expanding the domestic markets. Kenya has almost 20 outlets where consumers can buy organic products. The City of Nairobi and its environs alone has up to 13 outlets and the number is growing. Other upcoming markets are scattered in the main towns in Kenya. Over 50 herbal clinics scattered throughout the country are also promoting healthy eating through organic diets. Table 5 provides a summary of some of the key outlets for organic produce in Kenya and their products which clearly shows that the majority of those outlets are currently concentrated within the upper class zones of urban areas such as Nairobi Downtown, Westlands, Muthaiga and Gigiri where the people are aware and can afford the organic products. Most of these outlets are also importing some of the products because of inadequate local supply or lack of the required product-specific certification services.

Table 5: Summary of some of the key outlets and organic products in Kenya

Outlet	Location	Organic products
Uchumi Supermarkets	Key cities including Nairobi, Mombasa and Kisumu	Fruits and vegetables, honey, herbal pharmaceuticals
Nakumatt Supermarkets	Key cities including Nairobi, Mombasa and Kisumu	Fruits and vegetables, honey, herbal pharmaceuticals
Healthy U at Sarit Centre	Nairobi	Porridge oat, honey and sunflower.
Zucchini Green	Westlands, Nairobi	Organic salad vegetable (lettuce) and other

Grocers at ABC Place		greens
Green Dreams Organic Shop	Gigiri, Nairobi	Emailed Su about this.
Organic Green Grocers based at the Mobil Plaza	Muthaiga, Nairobi	Salad vegetable and other conventional green groceries
Green Corner	Highridge and Yaya Centre, Nairobi	Fresh fruits and vegetables, dairy, eggs, frozen meats, dried and canned items, spices.
Juja Organic Market	Juja Town	Fresh fruits, dried fruits, vegetables, herbs, spices, tubers, squash, and vegetables, nuts, porridge powders, <i>Chapati</i> flour, herbal teas, body care products, honey, arrowroots, oranges, amaranth grains, garlic, ginger and sweet potato.
Biosafe Technologies	Juja Town	Mushroom
Bridges Organic Health Restaurant	Nairobi Downtown	Fresh vegetable and fruit juice cocktails, dietary fiber, vitamins, minerals, oils, vegetable soups, and traditional Kenyan dishes made with whole grain and organic ingredients.

Generally, the data on organic supplies to domestic market outlets is largely unavailable. However, some of the analysis that has been undertaken on such supplies from smallholder farmers to Bridges Organic Restaurants shows that average monthly supplies have been growing steadily. It is estimated, for example, that purchases of organic produce grew from an estimated \$984 in 2006 to \$2064 in 2007 representing a 109% growth. Table 6 below indicates that organic producers selling to the Bridges Organic Restaurants got an average premium of up to 90% over an above the normal conventional prices. The average value of monthly purchases has also increased further in the first half of 2008 to \$2939 representing 42percent growth (Kledal, et al, 2008 (unpublished)). The most common types of organic produce in the local market include: indigenous vegetables, especially “Sukuma wiki” (kales) and cabbages; French beans, runner beans, mange tout, fruits and salads; tea including hibiscus tea, jam, and macadamia nuts and oils.

Table 6: Organic and Conventional Price comparison for products supplied to Organic Bridges Restaurant Bridges in 2007

Product	Unit cost	Conventional	Organic	Difference	% additional price/income to organic producers
Matoke (Raw bananas)	Per piece	1.5	3	1.50	100
Ripe bananas	Per piece	4	5.5	1.50	37.5
Pawpaw	Per Kg	20	45	25.00	125
Pineapple	Per Kg	25	45	20.00	80
Carrots	Per Kg	15	25	10.00	66.66666667
Kales (<i>sukuma wiki</i>)	Per Kg	12	30	18.00	150
Corriander (<i>Dhania</i>)	Per Kg	6	10	4.00	66.66666667

Black night shade (<i>Managu</i>)	Per Kg	12	30	18.00	150
Arrow roots	Per Kg	15	40	25.00	166.6666667
Eggs	Per piece	7	10	3.00	42.85714286
Potatoes	Per Kg	17	28	11.00	64.70588235
Broccoli	Per Kg	35	50	15.00	42.85714286
Garden Peas	Per Kg	80	110	30.00	37.5
Passion	Per Kg	25	40	15.00	60
Tree tomato	Per Kg	45	70	25.00	55.55555556
Avocado	Per piece	3	7	4.00	133.3333333
Spinach	Per Kg	15	30	15.00	100
Pumpkins	Per KG	21	35	14.00	66.66666667
Mangoes	Piece	10	20	10.00	100
Sweet potatoes	Per Kg	12	30	18.00	150
Water Melons	Per Kg	25	45	20.00	80
Onions	Per Kg	25	55	30.00	120
					1995.975724
Average % increase in income for Organic producers					90.72616926

Source: Organic Bridges Restaurant, 2007

2.2: Socio-economic and environmental impacts in Kenya

The Kenya IAP project established that there are limited studies undertaken in Kenya to effectively assess the specific socio-economic and environmental impacts of organic agriculture in the country according to the specific SEE indicators developed by the NIT for the Kenya assessment. The IAP project could not get enough secondary data to effectively apply the SEE indicators in order to generate a reliable country impact profile. However, using the feedback from two case studies (Green Dreams Ltd. and Brides Organic Health Restaurant), impromptu chats in the field and discussions with key informants as well as findings from other studies especially Kimemia and Oyare (2006) and GTZ-SUSTAINET (2006) several generic SEE impacts for Kenya were identified as follows.

2.2.1: Social impacts

- **Production of cheap and healthy food** - According to Kimemia and Oyare (2006) a study of Mirichi Organic Farmers Association in Kenya established among other things that organic farming is a cheap option towards food security as farmers do not need to buy expensive synthetic inputs. They rely on local resources like compost that is produced on the farm. Organic farming also yields healthy foods and is both ecologically friendly and resilient. An assessment of some farms under the association showed that the maize crops were able to withstand moisture stress more than those of conventional farmers. Social awareness programs promote the benefits of organic produce in helping fight against diseases such as diabetes, hypertension, heart disease and cancer (Case Study: Bridges Organic Health Restaurant).
- **Enhanced family involvement in agriculture** - According to Kimemia and Oyare (2006), the study of Mirichi Organic Farmers Association also showed that organic farming quite often involves the entire family. Children are more involved in raising small stock like rabbits and chicken while women work more on kitchen gardens. Other activities like horticulture are done

in togetherness. Kimemia and Oyare (2006) concluded that organic agriculture will not only ensure food security but also promote participation by all family members in production.

- **Gender empowerment** - Organic agriculture enables different social groups that may not have previously been involved in agricultural trade to become more involved. This is particularly true for Kenyan women who, in many cases do not have access to the inputs or credit required for cash crop farming. Organic farming is therefore a source of empowerment. In general, the amount of empowerment depends on several specific household considerations, including:

- Initial gender relations, with respect to how labor is divided, who makes the decisions, and who does the housework.
- If women have sufficient bargaining power or role in decision-making within the household. The extent to which women can influence how the extra income can be used is also crucial as women are known to be more likely than men to spend extra income on the children and the well-being of the family.
- While women's may be increased incomes, this increase may not be enough to compensate for the multiple burdens which women have to carry.

- **Employment creation** - Unemployment is a serious problem in Kenya with most job seekers migrating to the urban areas for formal employment. This problem of rural to urban migration including the increased upsurge of urban slums can be reduced by the organic agriculture sector through the creation of rural occupational opportunities. The Kenya IAP project established that most of the organic product outlets in Nairobi were facing a problem of inadequate supply of organic produce which is an indicator of underutilized opportunities in the rural production areas. In general, organic agriculture creates more local jobs than conventional farming as it is more labour intensive and uses less expensive inputs. In the Green Dreams Inc. case study each small scale producer had on average 5 dependants. Green Dream Inc. has 500 producers so it has created 2500 local jobs.

- **Reliance on local inputs** - Conventional farming relies heavily on regular or increasing inputs of chemical fertilizers and pest control. The recent global financial, food, and fuel crises made these high yield inputs very costly and farmers had to borrow heavily in order to sustain productivity. This led to significant declines in terms of trade and incomes of farmers. As mentioned above, organic farming eliminates the use of expensive synthetic inputs and as a result organic farmers in Kenya have realized the value of the inputs they readily have around them in form of manure from their animals. This is very often wasted in conventional systems. Waste plant matter from roadsides and the field boundaries are used as mulch or to make compost. At the same time, local varieties of crops, many of which are ideally adapted to local conditions but which have been half-forgotten in the rush to adopt modern varieties are used in organic agriculture.

- **Application of indigenous knowledge** - An important local input in organic farming is the people's own knowledge. Local people are experts on the plants, animals, soils and ecosystems they are surrounded by and on which they depend. Instead of condemning this as superstitious nonsense, organic agriculture draws on this wealth of knowledge, and encourages local people to use it, test it, and promote what works. The widespread use of indigenous vegetables like *amaranthus* in Kenya is a good example of the application of local knowledge for the realization of traditional vegetables. Helping to preserve and spread local traditions which, apart from strengthening the social fiber, may even have future economic positive impacts when connected to rural community tourism projects.

2.2.2: Economic impacts

- **Premium price** - Engagement with the lucrative and rapidly expanding organic foods market in Kenya especially around the city of Nairobi is a key indicator of the potential benefits of the organic sector. The survey conducted as part of the Bridges Organic Health Restaurant case study showed that organic producers selling to the restaurant got an average premium of up to 90 percent over and above the normal conventional prices.

The economic significance of organic farming, however, spreads well beyond the premium market into numerous additional non-monetary returns accruing to the producers by virtue of their being organic, these include land productivity and food security.

- **Reduced financial risk, increased profit margins and access to new markets:** Organic farming often involves substituting purchased inputs such as synthetic fertilizers and pesticides with ones that are locally available and naturally produced, thereby increasing the profit margin of the farmer. Organic farming also reduces financial risk by avoiding the need to take high-interest loans for purchase of agro-inputs, and also avoids mono-cropping. Organic processes promote biodiversity of crops, as a result if one crop fails there are others that will survive to sustain the farm. For many farmers, switching to organic farming often also implies opening up access to a market that is in high demand and is not readily accessible to high yield conventional farmers.

- **Knock-on effect on conventional prices:** Organic agriculture has also been seen to have a positive impact on the conventional market. It is the 'gross earnings' of the agriculture sector in Kenya rather than just the 'margin of the premium' that represent the true benefit of organic farming. The premium offered on organic products, has a knock-on effect on the prices offered in local conventional markets by creating competition as the local non-organic traders seek to maintain their supply base. Thus, the benefits of organic farming become more diffuse and more widespread. SHOULD WE KEEP THIS?

2.2.3: Environmental impacts

- **Agro-biodiversity conservation:** Maintaining agricultural biodiversity is vital in ensuring long-term food security. Field audits during the Kenya IAP project observed that organic farms exhibited great biodiversity, with more trees, a wider variety of crops, use of local varieties of seed and many natural predators controlling pests and helping to prevent disease. Organic farmers are both custodians and users of biodiversity at the gene, species and ecosystem levels. At the gene level, endemic and locally adapted seeds and breeds are preferred for their greater resistance to diseases and resilience to climatic stress. At the species level, diverse combinations of plants and animals optimize nutrient and energy cycling for agricultural production. Finally, at the ecosystem level, the maintenance of natural areas within and around organic fields and the absence of chemical inputs create habitats suitable for wildlife. Reliance on natural pest control methods maintains species diversity and avoids the emergence of pests resistant to chemical controls.

- **Improvement of soil fertility** - Conventional farming methods rely on artificial fertilizers to maintain fertility. Organic agriculture uses a range of techniques to maintain and improve soil

fertility including: organic fertilizers, mulching, cover crops, agro forestry, crop rotation and multiple cropping. These techniques help to increase the density and richness of indigenous invertebrates, specialized endangered soil species, beneficial arthropods, earthworms, symbionts and microbes. This soil biodiversity enhances soil forming and conditioning, recycles nutrients, stabilizes soils against erosion and floods, detoxifies ecosystems and contributes to the carbon sequestration potential of soils. Organic farming therefore helps conserve and improve the farmer's most precious resource – the topsoil. Organic farmers in Kenya use trees, shrubs and leguminous plants to stabilize and feed the soil. They use dung and compost to provide nutrients, and terracing or check-dams to prevent erosion and conserve groundwater.

Better and more sustainable pest control - Conventional farming uses chemical pesticides to control pests. These are expensive and often result in the emergence of new and resistance pests or the resurgence of the other pests they are trying to control. Organic agriculture instead uses integrated pest management approaches involving a combination of natural enemies, crop rotations and mixtures and biological control. These methods cost less than the pesticides, and do not result in pest resurgence.

- ***Controlling erosion*** - Sustainable agriculture includes a palette of techniques to conserve precious topsoil and prevent it from being washed or blown away. These include using contour bunds, contour planting, check dams, gully plugs, and maintaining cover crops or mulch to protect the soil from heavy rainfall. In Kenya some farmers use the zero-tillage approach of cultivation which ensures sufficient soil cover in the farms especially at the on-set of the long rains which are predominantly torrential and extremely erosive.

- ***Water conservation*** - Water is scarce in Kenya and as a dry land country, drought is never far away. Organic agriculture conserves water in the soil through a variety of methods. Fortunately, many of these are the same as those used to control soil erosion. Because it conserves water and uses a variety of crops instead of just one, organic agriculture is less risky than conventional mono-cropping and it is more likely to produce food for the farm family even during a drought.

- ***Climate Change*** - An empirical study commissioned by IFOAM revealed that as a result of organic practices that promote soil biodiversity, organic agriculture can lead to greenhouse gas emission reductions, and greater adaptive capacity to climate change variability through significant carbon and nitrogen sequestration potential. Similar studies report that conversion to organic fertilizers has led to increases in soil carbon by 15-28 percent, and in soil nitrogen by 7-15 percent.

2.3: Challenges and emerging opportunities

The developments in the organic agriculture provide a compelling case for policy makers to invest in taking appropriate actions to scale up the growth of the sector. Throughout this report, it has been demonstrated that organic agriculture holds potential to improve food security, increase household incomes among smallholder rural farmers, provide rural employment, addressing the worsening environmental crisis in the country while addressing gender-based income disparities. However, there are a number of challenges that have to be addressed if the potential for organic agriculture is to be realised.

2.3.1. Profiling the organic agriculture sub-sector: The Kenyan government did not recognize the value of organic agriculture until recently. Consequently, marginal efforts were made to promote the sector through the country's agriculture policies. Instead the government appears to embrace biotechnology as the answer to perennial food shortages. The elevated focus on agricultural biotechnology in the absence of clear policy directions on organic agriculture could undermine the later. The development of organic agriculture in Kenya is therefore still facing a lot of bottlenecks stemming from inadequate agricultural policies as well as production and marketing constraints. Regional policies and standardisation have become trade barriers as well. The new regional bureau of standard marks, established by the KEBS are manageable in Kenya, but are not affordable to the small producers in Tanzania and Uganda, thus making it difficult to promote regional trade. The Ugandans have to pay almost Ksh 100,000 per product. In this area organic produce marketers need assistance to help open the doors for the region.

2.3.2. Certification: It is clear from this and other previous studies that certification remains a major challenge to the growth of organic agriculture in the country. As already alluded to, certification is an essential pre-requisite for marketing agricultural produce as organic. Yet, organic certification is very expensive for smallholders which is keeping many farmers out of this emerging market or keeping Kenya's organic produce out of the international market for organics. Scaling up organic agriculture production and trade would require deliberate action on the part of stakeholders to address this challenge. It is tedious with a lot of paperwork and farmer training will require financial support.

2.3.3. Limited access to agricultural extension and financial services: Generally, there is limited access to a range of services especially agricultural extension and financial services. While this problem is pervasive in the agricultural sector as a whole, it is more pronounced in the organic agriculture sub-sector largely because of the policy bias towards conventional and other forms of agricultural technologies. Indeed, it has been shown throughout this report that NGOs and the private sector have played a key role in promoting organic agriculture production and trade. A key challenge therefore is how Government can exercise appropriate leadership without compromising the self-propelling nature of the organic enterprise.

2.3.4. Limited access to appropriate agricultural technologies: The Kenyan domestic organic industry's biggest risk is the fact that most small scale producers rely on rain fed irrigation. This method has only made it possible to rely on organic producers twice a year. Of the 20 local farmers that were interviewed, about 25% including their group members were out of production due to drought. A solution proposed to this problem is the use of drip irrigation. Drip irrigation minimizes the use of water and fertilizer by allowing water to drip slowly to the roots of plants, either onto the soil surface or directly onto the root zone, through a network of valves, pipes, tubing, and emitters. Significant agricultural production is undertaken in arid and semi-arid areas. Consequently, in all cases, there is need to invest significantly in researching and providing new technologies that can support the organic agriculture sub-sector. The current agricultural research system is heavily tilted in favour of conventional agriculture and genetically modified organisms. Yet, scaling up organic agriculture production will require new and appropriate technologies such as high yielding seed varieties, drought resistant varieties, new irrigations systems and other forms of organic agriculture inputs. The challenge for Government and stakeholders is to change the current mindset so that appropriate emphasis is put on addressing the current technology deficit in the organic agriculture sub-sector.

2.3.5. Factors limiting access to the domestic markets. Despite the growing demand for organic produce, farmers continue to have problems providing adequate supplies to the market place. In the markets, empty produce space is not tolerated, once a supplier fails to deliver organic produce it is close to impossible to make a come back. Problems of transportation and distribution of organic produce has been largely due to economies of scale. Farmers who recognise organic commercial production as a profitable business, are managing to get their products to the market. The challenge is getting the farmers to change from purely subsistent farmers to commercial. Education is required on the 'math and numbers' of organic production as well as the opportunities and appropriate cost effective methods of production.

2.3.6. Related to the above point, Kenya lacks a clear policy and strategy on tapping the huge amount of organic waste to provide organic manure for organic farming. For example, it is estimated that about 70% of Nairobi's solid waste is organic (Kibwange and Momanyi, 2007). In addition to enhancing organic agriculture, tapping this opportunity would also bring additional opportunities including reducing the amount of solid waste collected for disposal, improving community health and sanitation, mitigating environmental pollution, creating employment and other forms of income generating activities. However, there is still no indication that Government is ready to take on the challenge and address it to the benefit of the organic agriculture sub-sector.

In another study recently undertaken by Bett & Freyer (2007), they highlighted a number of challenges and opportunities in the sub-sector as summarized in Table 7.

Table 7: A summary of the challenges and opportunities facing organic agriculture in Kenya

Development issue in organic agriculture	Challenges	Opportunities
Policy	<ul style="list-style-type: none"> • Overlooks equity issues, largely neglects the small farmer in prioritizing agricultural research and setting research and development agenda. • Policies focus on the development and commercialization of cash crops destined for export. 	<ul style="list-style-type: none"> • >85% of Kenyan farmers are small scale. • Presence of a large number NGOs and CBOs promoting organic farming.
Certification and marketing	<ul style="list-style-type: none"> • Importers wish to buy organically certified Produce • High cost of international certification coupled with too much paper work which local farmers are not familiar with. 	<ul style="list-style-type: none"> • Apart from export market the local market for organic produce is picking up. • Obtain certification from the domestic market (Encert) and take advantage of the domestic growth.



Case Study: Bridges Organic Health Restaurant

In the heartland of Nairobi, walking through Tubman road, opposite the City Market just before you join Koinange Street freshly established ornamental flower vases greet your eyes. You are already in front of one of Bridges Organic Health Restaurant. With the chain of restaurants being established in February 2006, it served as the first to be dedicated to offer organic foods in the country. Currently, the company has been opened another restaurant in Upper hill and preparations are being made for opening a restaurant in Mombasa.

The proprietor, Ann Mbugua says she developed a passion for healthy eating from a tender age. Her commitment and impetus to the course of serving residents of Nairobi with organic food is deep rooted to what she believes in. Her parents and grand parents succumbed to diabetes; a disease she believes is preventable. She also believes that most diseases are related to the food we eat and hence the saying we are what we eat. The restaurant is built on the foundation of ensuring consumer's continued health and happiness.

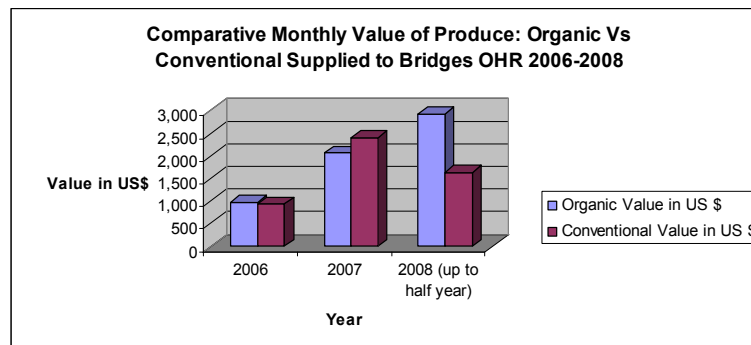
“Our vision is to create as much awareness as possible about the benefits of eating organic healthy food in the fight against diseases such as diabetes, hypertension, heart diseases and cancer. We are committed to the growth and strength of Kenya's organic movement because we believe that organic agriculture is one of the best ways to maintain good health and healthy lifestyles, clean up the environment, eradicate poverty and create food security.”

The restaurant did not come as a surprise to producers who had been longing to get a place to market their produce and consumers who had few if any places to choose healthy menus. The restaurant menu features local organic fruits, vegetable juices, salads, and food that is high in fibre and essential minerals and vitamins. They also offer detoxification programmes using fresh organic vegetable and fruit juices.

The restaurant supports more than 7 groups of producers composed of more than 300 smallholder producers who usually supply organic produce. The organic producers are well organized and supply directly to the restaurant. Compared to their conventional producers, organic producers get better prices. The table below illustrates results of a random survey carried out in 2007 comparing the prices organic farmers were getting with those of conventional producers.

The survey indicated that organic producers selling to the restaurant got an average premium of up to 90% over an above the normal conventional prices. This means that organic producers get more/better incomes hence enforcing the fact that organic agriculture contributes to poverty alleviation.

The company has also grown in terms of sales and volume/value of produce sourced from producers. After opening the first restaurant in February 2006, the company had grown by a remarkable 109% rate by the end of 2007! During the first half of 2008, the company recorded a 42% increase of value of produce sourced from producers. The graph below illustrates the tremendous growth since inception. It is worth noting that due to lack of some organic produce from farmers, the restaurant is forced to source products from conventional suppliers. The graph below differentiates organic from conventional.



The demand for organic foods is growing as Kenyans become conscious of their health. This is further pushed by a strong educated upcoming middle class who have an increased disposable income. The recent increase on the cost of synthetic inputs as a result of increased fuel costs have pushed farmers to look for alternatives, making more farmers adopt organic agriculture. The unprecedented growth of Bridges Organic Health Restaurant and other organic business in the country is being pushed by the consumer demand of organic produce. This growth as depicted above gives market opportunities and extra income for smallholder organic producers and therefore contributes positively to their incomes.



Case Study: Green Dreams-A Brief Case Study

Green Dreams Ltd started in 2000 on 10 beautiful acres in Tigoni operated by 30 wonderful staff. After an initial product range of fresh vegetables and fruit, we expanded to incorporate poultry and eggs. These products were distributed to the Nairobi consumers available at green grocers and supermarkets.

In 2004 we started a Box Scheme delivering produce directly to consumers homes and in 2005 Green Dreams was the first certified local farm for local markets in the country. It soon became apparent that more was needed to satisfy the growing consumer demand for quality organic products and therefore we started an Out Grower system. This involved teaching and assisting 3 other farmers on the process involved with organic production thus increasing volumes and diversity of products.

We also encouraged Brackenridge Jersey one of Kenya's oldest Jersey farms, to seek organic status. This stunning farm 40 acre farm, established in 1952, is home to approximately 38 lovingly cared for Jerseys and has now reached organic certification. Green Dreams constructed and manages the dairy processing facility on the farm, and produces the only certified organic dairy products in the country. These include Natures organics Probiotic Yoghurts amongst others.

Sept 2nd 2006 was the beginning of a new era for Green Dreams Ltd as we expanded our horizons, to opening the first Organic store in Gigiri Shopping Centre, Nairobi. We incorporate all local and regional genuinely organic products as well as encourage new and old producers to reach certification status thus guaranteeing our consumers a variety of genuinely safe, organic eating. In 2007 the Limuru Archdiocesan Farm, another outgrower reached organic certification status!

Aug 2007 was another milestone for Green Dreams as we opened our first Shop-in-shop in Nakumatt Westgate, the new flag ship of the supermarket leader in the country. This move has a lot of potential for the organic industry at large as the supermarkets chain has 19 outlets regionally.

In 2008 Green Dreams moved out of production and closed down the farm due to vandalism during the post electoral time. Energies were now turned to developing and strengthening the sales outlets now supplied by a wide diverse group of small scale organic producers in the country. Irrigation equipment from the farm was donated to Limuru Agri Youth Centre and the Kibera Youth Reform group a now very successful organic farm situated in one of Africa's largest slums, Kibera. (<http://greendreams.edublogs.org>)

With training and support, we hope that both these projects will impact on the younger generation of farmers in Kenya.

In July 2008 Green Dreams merged with Food Network East Africa, with the objective of further developing the local organic markets as well as the international markets for both local as well as regional organic producers. New offices were set up and a new management structure was put in place to set the foundations for this expansion. The new management included a quality assurance (QA) manager as well as a supply chain co-ordinator and a fleet of sales personnel.

The QA manager's responsibility is to issue all producers with spec guidelines on the products they will bring to market and to check these products both fresh and value added before dispatching to market. The supply chain coordinator is responsible for developing the supply chain by taking market requirement information changing this into planting programs and opportunities and taking this back down the chain to the producers.

The sales personnel are trained on all aspects of organic ranging from local and regional history of the organic movement, certification requirements and bodies, national organic bodies, value added products and producers of the same, fresh products and producers of the same, quality of produce, recipes, sales techniques etc. The sales persons have the responsibility of portraying the stories from the field, to the consumers. They are thus an integral part of the supply chain now.

Following the same Shop-in-shop idea of Nakumatt supermarket, Green Dreams (now the brand) has already expanded into 4 new outlets. Zuchinni ABC and Zuchinni Junction- one of Nairobi's largest vegetable shops, Chandarana Yaya- a supermarket chain, Karen Provision Store- a grocery store. All of these outlets now have dedicated space branded by Green Dreams where organic fresh and value added products are available. This brings the Green Dreams total of outlets to 6.

Future plans involve Nakumatt Junction and Village, Chandarana Mobil Plaza as well as Sarit Centre bringing a total of 10 outlets by January 2009.

This expansion will require a ten fold production of organic produce for Green Dreams alone!!!!

3.0: POLICY ASSESSMENT

The organic agriculture sub sector in Kenya has developed without any official government policy support although the sector has benefited indirectly from two main government policies. There have been past attempts by ABLH, KIOF and other interested parties to get the government to act, but were unsuccessful. However, the NGO Coordinating Act (1990) which recognizes the work of NGOs as co-workers in rural development, and the economic liberalization policies of the late 1980s and early 1990s, which created an environment for free enterprise, created a favourable environment for the development of the organic industry. As a result, the sector has been able to establish and prove itself as an important catalyst in Kenya's development.

The Kenya IAP project confirmed that there are no official policies for organic agriculture in Kenya, even though there is increasing public interest and recognition of organic agriculture. However, the government is slowly recognizing the role of the sector (MOA 2005 cited in Bett & Freyer, 2007).

On the other hand, the government seems to embrace the biotechnology option as the answer to the perennial food problems and poverty suffered by rural farming communities. This is evidenced by the biotechnology research complex recently established and commissioned by the government in Nairobi. According to Bett and Freyer (2007), this may have come about due to a strong influence by industrialized countries. This orientation appears to set a grim picture towards Kenyan policy on organic agriculture. Since organic agriculture in Kenya is small and led by civil society organizations who work with poor and marginalized smallholder farmers, its adoption may be constrained by lack of technological support, extension services and big funding associated with the government.

In recent years some policy makers and donors have started to recognize the potential of export oriented organic agriculture as a means of generating foreign exchange and increasing incomes. Yet the broader benefits of organic farming and agro-ecology, in terms of enhancing food security, environmental sustainability and social inclusion and reducing exposure to toxic pesticides often go unrecognized or are simply underestimated.

3.1: Country Goals and Targets

The future of organic agriculture in Kenya and its impact in the social, economic and environmental sectors cannot be considered in isolation from the future SEE development goals and targets for the country. These goals are outlined in several key national and international guidelines especially the following:

- The Poverty Reduction Strategy Paper (PRSP), 2000-2003;
- The Economic Recovery Strategy (ERS), 2003;
- Sessional Paper No.6 on Environment and Development 1999;
- Vision 2030 (2007);
- Millennium Development Goals (MDGs).

a) The Poverty Reduction Strategy Paper (PRSP), 2000-2003

The PRSP has five basic components and policy objectives as follows:- to facilitate sustained and rapid economic growth; to improve governance and security; to increase the ability of the poor

to raise their incomes; to improve the quality of life of the poor; and to improve equity and participation.

The PRSP was developed as a result of countrywide consultations up to grass root level which were also sector based. The PRSP attempts to highlight the development priorities for each development sector including the social, economic and environment sectors with a common goal of poverty minimization. The PRSP recognizes the importance of poverty minimization for the uplifting standards in all development sectors in the country.

b) The Economic Recovery Strategy (ERS) for Employment and Wealth Creation, 2003

In December 2002 the government launched the ERS as a vehicle for fast tracking development in Kenya. The strategy was designed to serve as a framework for employment and wealth creation. All sectors in government including the organic sector are expected to peg their development plans on the provisions of ERS. For example, in agriculture sector, the Strategy for Revitalizing Agriculture (SRA) is the implementing vehicle for ERS.

Some of the tangible gains made through the ERS with relevance to the Kenya IAP process include:

- Revenue growth from about 100bn in 2001-2002 to over 340bn in 2005-2006;
- Tourism growth by over 1.3 million visitors by 2005;
- Primary school enrolment by 7.6 million by 2005;
- Health facilities increase from 4,557 in 2003 to 4,912 in 2005;
- Introduction of the Constituency Development Fund (CDF) & Local Authority Transfer Fund (LATF);
- Percentage of roads in poor state reduced to 32% in 2005.

c) Sessional Paper No.6 on Environment and Development

The overall goal of the Sessional Paper is to integrate environmental concerns into the national planning and management processes and provide guidelines for environmentally sustainable development. The specific goals are (a) to promote maintenance of ecosystems and ecological processes essential for the functioning of the biosphere and to (b) promote the protection of biodiversity including genetic resources.

d) Vision 2030 (2007)

Kenya has in the past had two long-term policies and several 5-year development plans that have guided planning and investment. The first was Sessional Paper No. 10 of 1965 on African Socialism and its application to Kenya. The second was Sessional Paper No.1 of 1986 on Economic Management for Renewed Growth. These plans attempted to confront the country's most entrenched problems by charting a vision of how development would tackle them. Whereas the country grew by an average of 6% over the 1964-1980 period and 4.1% over 1980-1990 period, the period 1990-2002 was a period of declining per capita income with GDP growth of 1.9 % against a population growth of 2.9%.

Since 2003, Kenya has made tremendous effort to get the economy back on track through the Economic Recovery Strategy (ERS) with the GDP growth rate shooting back to 5.8 % by 2005. While Kenya fares well when compared to other parts of Sub-Saharan Africa (SSA), it does

poorly compared to the middle-income countries, and especially the second-generation newly industrializing countries, such as Malaysia, Indonesia and Thailand that 35 years ago were at the same stage of development as Kenya. To remain relevant and competitive regionally and globally, Kenya must plan for the future. It must chart a new road map, informed by past failures, build on strengths and confront the realities of poverty, unemployment and globalization. The Kenya vision 2030 lays the foundation for an economic revolution for the present and future leadership. The organic agriculture sector provides a window through which the socio-economic and environmental goals of vision 2030 can be achieved.

e) Millennium Development Goals (MDGs)

Since the introduction of the UN-MDG concept the government of Kenya brought on board all stakeholders and created awareness on the MDGs. Consequently various arms of Government have come up with programmes to specifically meet the targets of the MDGs. Different levels of achievements have so far been recorded for various MDGs especially MDG1 and MDG7 which are highly relevant to organic agriculture. In 2002, the Office of the UN Secretary-General identified Kenya as one of the eight countries in the world that are front-runners in the implementation of recommended steps for the achievement of MDGs.

Government ministries in the agriculture sector in collaboration with development partners developed “Njaa Marufuku” Kenya Programme for implementing MDG 1 to upscale poverty reduction and food security initiatives in the country. The goal of the programme is to contribute towards reduction of poverty, hunger, and food insecurity especially among poor communities in Kenya. The objectives of the programme are: - to increase food security initiatives through support to resource poor communities; to support health and nutrition interventions that target the poor and vulnerable; and to strengthen and support private sector participation in food security and livelihoods innovations.

The target beneficiaries of the programme are the extremely poor and vulnerable members from both rural and urban areas. The goal is to have them actively involved in agricultural production, through organized groups registered by relevant government authorities, mainly the Community Development Officers (CDOs). The programme has three components as follows: community driven food security improvement initiatives; community nutrition and school meals programme; and private sector food security innovations. The key areas of support by this programme are:- extension service delivery; water harvesting technology transfer; capacity building; crop and animal husbandry; small scale irrigation technology transfer; and environmental conservation. The programme is expected to give poor members of the community an opportunity to upscale their initiatives thus enabling them to meet their needs for food and also generate incomes.

3.2: Mainstreaming organic agriculture in policy, planning and development - A problem analysis

The choice, design, development and implementation of a policy encompasses four main phases which the Kenya IAP project took cognizance. These include data acquisition, development of initial policy, stakeholder consultation and policy implementation and evaluation. The initial organic agriculture policy proposals presented here are mainly based on the review of available documents as well as consultations with stakeholders during the IAP process. It is expected that

the actual development of policies by the government will borrow from this experience. However it is important to note that although the Kenya IAP report was engaged in quite a bit of stakeholder consultation and participation (SCP) with regard to the possible policy scenarios for the Kenya organic agriculture sector, it is expected that the process of actual design and development of policies by the government will undertake more intensive consultations.

From the analysis of Kenya IAP project findings, it was possible to distinguish between the low-input, traditional (near organic) farming practices and the high input, modern farming sectors in agriculture. The IAP project focused more on the low-input, traditional farming which is mostly practiced by smallholders. The medium and large scale production is predominantly modern and is characterized by conversion from high-input and modern farming to organic farming, mainly for export markets. This distinction is important since the kind of challenges faced, and the intervention measures to be taken in the two sectors, could be quite different. However, the latter appears more capable of moving forward without great support than the former.

The organic agriculture sector in Kenya is characterized by special circumstances due to the following challenges among the producers: financing the shift to organic production, adoption of organic methods of production, marketing of organic products, lack of a well developed domestic market, and lack of sufficient certification infrastructure. The challenges mean that Kenyan policies should be different to those developed in countries with a longer history of organic farming. Any policy intervention(s) to promote production and trade of organic agriculture must address the main problems facing the sector. The Kenya IAP project findings identified five thematic areas in the organic agriculture sector where policy intervention are urgently required to meet the challenges facing the sector, the four thematic areas are as follows:

1. Financing the shift to organic production.
2. Adoption of organic production methods: Research, information, education and public awareness.
3. Promoting and Marketing of organic products.
4. Strengthening the role of NGOs in organic agriculture.

3.2.1: Financing the shift to organic production

Small farmers in Kenya are facing major problems in terms of introducing new crops and technologies because they frequently require credit to cover investments, such as irrigation, and off-farm costs related, among others, to the processing and packing of organic produce. Evidence from the IAP process showed that the most important period in the shift to organic production is the transitional period, especially; the first three years after farmers start to produce organically. During that period, most farmers produce organically before certification. This stage therefore is associated with critical certification costs together with additional costs for production investments including equipment and training. These transitional period costs can be viewed as an investment that will eventually yield returns after the transitional period and can be distinguished in terms of both on-farm and off-farm costs.

On-farm costs: Shifting to certified organic agriculture requires a wide range of production costs. There is a cost shift as the producers have to introduce several new tasks, such as soil-conservation, more careful management practices, and control of weeds and pests using labor-intensive technology. Some of these measures are required in order to obtain products of higher

quality. In contrast to conventional farming, organic farms will have higher labour costs and subsequently have higher production costs per hectare. However, the change in production costs related to organic production can be balanced with the savings realized from not having to purchase expensive synthetic inputs such as industrial fertilizers and pesticides.

Apart from production costs the shift is liable for certification costs as well. Certification is one of the most important cost-items faced by organic farmers, especially during the transitional period. This is because farmers have most often to meet the certification fee in order to access the market. Normally, the certification cost varies depending on the certification firm. In most cases, the costs include payment for inspection which is calculated on the basis of the daily fees and the travel and living expenses of the inspectors and the certification fees. The costs will vary depending on whether the inspectors are based in the country, but with an average level of USD 500 per day for UK inspector. Table 8 gives a general picture and characterization of certification fees in Kenya. Despite these costs, once certified, organic producers have access to markets that produce as much as a 90 percent premium on organic products as compared to conventional produce (see Table 6).

Off-farm costs: The Kenya IAP project established that one of the most important off-farm costs incurred by small farmers who convert to organic production emanate from the establishment of a good monitoring system. Such a system is required by the regulation agencies as part of the certification process. The establishment of a monitoring system can involve substantial costs in terms of setting up the infrastructure. This may require the acquisition of expensive physical equipment like ICT as well as engagement of specialized human resources. In addition, a successful monitoring system is often accompanied by intensive training and awareness creation. Such training activities impose extra costs. The marketing of most of the organic products also requires facilities where such products can be sorted, classified, partially processed and packaged before being sent to the market. In most cases individual small scale farmers are unable to produce sufficient output to keep the facilities working at full capacity. Such facilities have to also be certified by certification firms.

Table 8: A summary of certification fees for producers in Kenya

	Annual/ Application fee (USDs)	Inspection fee (USDs)	Other expenses
Holdings less than 50 ha	620	500 per day for UK inspector	Transport, travel time, and subsistence allowance
		Local fee rate for local inspector	
1-100 members (e.g. growers, collectors)	2300	500 per day for UK inspector	Transport, travel time, and subsistence allowance
Each additional band of 100 members upto 1000 members	100	Local fee rate for local inspector	

Source: Author's compilation

Innovative financing of organic production

The IAP process established that small farmers are faced by difficulties in gaining access to formal credit, since they do not have the requisite collateral to obtain credit and also due to the fact that the financial institutions do not recognize the differences between organic and conventional agriculture. The IAP process further established that farmers will be required to put in place important investments when shifting to organic production. The transitional period was identified as the most difficult one for organic producers in terms of financial needs.

The government therefore needs to come up with innovative financing mechanisms to enable small farmers to benefit greatly from the availability of short-term credit to meet the investment costs. This type of credit will especially be necessary for women producers who are frequently alone and have fewer resources of their own to meet the labour costs. A policy window for this challenge exists within the recently enacted Micro Finance Act which is expected to address the financial needs of the small scale producers. Micro finance institutions should therefore be encouraged to tailor special lending facilities to organic producers. Additionally, financial support for organic farming could be harnessed from some of the existing decentralized kitties, for example the Constituency Development Fund (CDF). With the right information and awareness, the constituency committees could set aside some funds to support organic farming in the constituencies.

3.2.2: Adoption of organic production methods: Research, information, education and public awareness

The successful adoption of organic production methods will depend on a number of important considerations including; technology options; access to extension services; and efficiency of the monitoring system. Many advocates of organic agriculture have emphasized that the values behind the concern over the environment are key in explaining the adoption of organic methods of production. In contrast, analysts relying on a more conventional micro economic framework argue that farmers will adopt organic technologies if the returns are higher than those obtained using conventional technologies. Interviews with stakeholders during the Kenya IAP process revealed that the attitudes of farmers towards organic production corresponded to the expectation of higher returns as the main driving force for small farmers to shift to organic agriculture.

One of the factors that may influence the adoption of new organic technologies by small farmers relates to the complexity of such technologies. If new technologies are difficult to adopt, farmers may resist applying them and may continue using the ones they already know. One of the potential problems that small farmers face in producing organically is the limited supply of technologies that are effective in solving technical problems like the control of weeds, pests and disease and that are appropriate in terms of the particular characteristics of the farmers, such as their limited access to credit.

It is important to note the fact that small farmers find organic technologies relatively easy does not mean that they do not face some important technology problems. The most significant has to do with the need to obtain a product of good quality. Exporters and marketing firms have learned that buyers of organic products have become increasingly more demanding in terms of quality.

The Kenya IAP process established that small organic farmers often have difficulties introducing new technologies because they do not have access to technical assistance of good

quality. Most of them have limited or no capacity to pay for technical assistance and have to rely on public extension services that are often under-funded and of low quality. Public extension services in Kenya are usually running on a limited capacity with a limited coverage and operational problems related to budget constraints.

One of the major issues for small scale organic producers especially within associations revolves around the need to ensure that all members properly apply organic methods of production. Because visits to every association member would make the certification process too expensive, the international norms that regulate the certification of organic products allow certification firms to carry out inspections among only a sample of farmers (usually about 20%), on condition that the association sets up “internal control system” or ICS. This system is intended to control the compliance of all farmers with the proper methods of applying organic technologies. It involves unscheduled visits in addition to the annual visits of the certification agencies and the collection of detailed information about the association and its members. The capacity of organic produce associations in Kenya to organize efficient and reliable ICS is likely to be key to success as organic producers.

Although many resource-conserving organic production technologies and practices are currently being used in Kenya, the total number of farmers using them is still relatively small. Lack of knowledge and poor public awareness of organic and sustainable agricultural techniques is often a limiting factor in the spread of organic production. In addition, lack of knowledge and information about organic agriculture among consumers, government bureaucrats and other influential actors in educational and research institutions, also leads to poor appreciation of the potential for organic agriculture. During the transition period, farmers must experiment more, and so incur the costs of making mistakes as well as those of acquiring new knowledge and information. Targeted education, information and public awareness campaigns should be launched at all levels. Information on marketing opportunities should be availed to producers via affordable and accessible communication media.

3.2.3: Promoting and Marketing of organic products

The Kenya IAP process established that small scale farmers often face great difficulties in selling their products because they lack marketing skills and the right connections. Many of them depend on middlemen who pay them lower prices. In most cases the buyers of organic products in both international and domestic markets do not want to deal with a large number of individual small scale farmers, an alternative that would be too costly and time consuming. Thus, they prefer to negotiate with an agent who has organized the small farmers and coordinated the production and deliveries of a reasonable number of producers. In this way, small farmers have a relatively weak position in negotiations with firms because they have limited information and poor organization. Thus, small producers selling to marketing firms end up receiving relatively low prices and accepted contract terms that are not advantageous for them. Consultations with stakeholders during the Kenya IAP project indicated that all the market challenges can be easily removed using the right policy intervention.

The policy of organic agriculture should be designed to enable the strengthening of organic farmer associations so that they will play a major role in the marketing of organic produce, and the dissemination of organic technologies among the small scale producers. Such associations can contribute to monitoring of their members’ compliance with organic methods of

production. Such associations should also be strengthened to provide solid support during the transition period for the certification of production, including temporary and partial subsidies to cover certification costs. The support should also include training for the members. Such associations can also be used to access extension services.

The marketing of organic products through farmer associations having direct contacts with buyers has so far been key in helping small farmers obtain better prices in Kenya. Long-term contracts have been the better ones because they have provided a safe market and more stable prices. The Kenya IAP project findings indicated that small scale farmers have a relatively weak negotiation capacity with market firms because they have limited information and are generally poorly organized. Consequently they have ended up receiving relatively low prices and accepting contract terms that are not convenient for them. In addition, out grower schemes with small scale farmers may have severe limitations, including the high costs of monitoring the contracts with small scale farmers and the difficulties in appropriating the benefits of investment in the schemes due to the diversion of output to other buyers who may be paying prices that are higher than the ones agreed in the contracts. Development of an organic agriculture policy should therefore identify mechanisms for protection of small scale producers.

The domestic market for organic products in Kenya shows good growth prospects and is likely to be an attractive alternative for small scale farmers because they are easier and usually less demanding in terms of quality. Thus, awareness needs to be created about the domestic market, especially when there are good possibilities for selling to supermarkets and food chains. In addition the supply chains need to be established and strengthened probably through private-public initiatives. Organic produce could also receive support in public procurement. The government as the maker of policies should therefore be the number one buyer of organic produce. The Public Procurement Act could be utilized for this purpose.

3.2.4: Strengthening the role of organic agriculture NGOs

NGOs have played the most influential role in the emergence of organic agriculture, usually by promoting alternative models of production among indigenous farmers. They have also played a major role in supporting small farmer associations in the adoption of organic methods of production and in selling organic products. NGOs with know-how and experience in organic production should be considered preferential government partners for future organic agriculture projects, and thus targeted for financing.

NGOs should be targeted and strengthened to help small organic producers in the following ways:

- (a) The promotion of technologies which are based on local inputs and avoid the purchase of chemical inputs, thereby favoring an eventual shift to organic production;
- (b) The promotion of the organization of small farmers through the creation and strengthening of farmer associations, which have become key in the marketing of organic products and the establishment of effective monitoring systems;
- (c) The establishment of contacts with buyers in both the domestic and foreign markets. In the domestic market, NGOs should be facilitated to help farmers negotiate with supermarket chains and open local fairs specializing in organic products. In foreign markets, some NGOs could help farmers enter the fair trade market, which is increasingly demanding organic products, and
- (d) Action as a mediator between small farmer groups and government agencies.

There are several model NGOs and CBOs in Kenya from which good lessons can be learned. A good case of this is the SACDEP initiative in Thika (*Box 1*). The other case is the MOOF initiative in Mount Kenya area (*Box 2*)

Box 1: SACDEP, Thika, Kenya

SACDEP Kenya is an indigenous NGO that has worked for the 13 years with over 30,000 smallholder farmers. Based in Thika in Central Kenya, SACDEP facilitates training programmes for farmers in sustainable agriculture and community development with a focus on production, processing, agro-marketing, savings and credit schemes and is currently working with 4,500 smallholder farmers in Eastern and Central provinces of Kenya. SACDEP mainly works on a weekly basis with farmers in organized community groups of about 30 families. SACDEP operates under the 4 principles of sustainable agriculture i) Ecological feasibility, ii) Environmentally friendly, iii) Social justness and iv) Culturally acceptability. Topics covered in the SACDEP training programme include natural soil fertility management; integrated environmentally friendly weed, pest and disease protection; on-farm soil and water conservation techniques and farm level seed conservation. Farmer groups are trained by SACDEP for 3-4 years in which time productivity has been reported to increase by 50% giving the farmers food security and surplus produce to sell. SACDEP also facilitates the development of Smallholder Farmers Organization (SFOs), that together address common issues such as value adding for produce, marketing, savings and credit. SFOs in this development stage also agree on sustainable and organic norms for all the producers in the group to use. Incomes have increased as a result, up 40%, enabling farmers to meet basic needs such as paying school fees and medical expenses.

Source: Hine and Pretty (2006)

Box 2: Mount Kenya Organic Farm (MOOF)

Mount Kenya Organic Farm (MOOF) is a registered NGO which was established in 1999 with a remit for facilitate smallholder producer groups in the production and marketing of high value certified organic products. The primary objective is to improve and help to raise the living standards of Kenya's smallholder farmers by having an assured food security for themselves and their communities, to tackle poverty and to empower the local community through the production of specialty high value organic crops for local and export markets main goal is to "Tackle Poverty among Smallholder Farmers through Organic Trade.

MOOF has formed links with the soil Science department of Nairobi University , The International Centre for Insect Physiology and Entomology-ICIPE, International tree Foundation-ITF, The University of Essex , The University of Coventry, and other groups promoting sustainable agriculture in Kenya such as Kenya Organic Oil Farmers Organization (KOOF) and overseas.

The MOOF farm demonstration garden consists of 0.25 acres and is made up of a number of raised beds growing 14 vegetable types. During the 2000-2002 drought, vegetables in the demonstration garden fared well compared to others in surrounding gardens. Pest control included the use of natural predators, and plant extracts, neem and garlic sprays. MOOF has already developed a local network of Self-Help smallholder groups which it services with training and advice on certified organic farming technologies. Farmers trained by MOOF and adopting some organic methods like soil management practices (which help to retain moisture)

had a greater success story for their crops. As a result 925 farmers visited MOOF organic gardens and 300 farmers adopted at least one organic technique in food production.

MOOF has recently started the organic borage for export project, which is currently supported by USAID Development Agency through FINTRAC – Horticulture Development Centre and Earthoil. The Project targets production of certified organic Borage seeds for cold pressing into nutraceutical oil for export to Europe and the United States of America. This has contributed immensely in building up the rural economy in the project area. This organic agriculture is labour intensive and has contributed to large number of people getting employed in the sub-sector. Borage seeds fetch good farm gate price at US\$ 4.00 per Kilogram which has been negotiated and agreed upon by the buyer Earthoil Kenya Limited and Farmers Self-Help groups . Borage yields are estimated at 500-750 kg per acre and the cost of production is very minimal as compared to conventional agricultural technologies. Income generated from the 30 acres of borage of this project in 2006 estimated Kshs. 4.5 Million (US\$ 64,000) coming into the Nanyuki community (80 smallholder farmers) over a period of 7 months.

It is hoped that income generated from this project will enable people to have access to better health facilities, afford a family bicycle and have access to more protein foods from stocking Tilapia fish for their diets. Income generated from sale of organic oil crops is also hoped to provide for the money needed for the household basic needs and hence reduce encroachment to Mt. Kenya forest for charcoal burning and the felling of indigenous trees for timber and fencing posts. Borage attracts bees in large numbers and this is hoped that farmers will engage in production of organic honey , which , when marketing is well organized, will fetch good income market and help people to further add to their Borage income.

Source: Hine and Pretty (2006)

3.3: Policy development and Implementation plan

The formulation of a Kenya policy on organic agriculture should be undertaken by the government in partnership with the sector stakeholders. This may require the formation of a National Organic Committee (NOAC) chaired by KOAN with representation from relevant stakeholders. NOAC will require funding from the government and/or donors. A key task for the NOAC would be to explore spearhead the prospecting and development of a policy on organic agriculture. NOAC should also be involved in the formulation of good mechanisms for implementation of such policy in the country. One of the proposals to be considered is the creation of a department within the Ministry of Agriculture to deal with organic agriculture.

Some of the existing policy windows to anchor organic agriculture policies are in the Vision 2030 which is a new and ambitious economic blueprint to turn country round by the year 2030. Other relevant policies include programmes and projects aimed at mainstreaming MDGs in to national development and planning. Sectoral policies under review and others under preparation such as the national food and nutrition policy also offer suitable resting places.

4.0: LESSONS, CONCLUSIONS AND RECOMMENDATIONS

This section presents the key lessons learnt during the Kenya IAP project together with the conclusions and recommendations made from the project findings.

4.1: Lessons

The following key lessons were learnt from the Kenya IAP process:

- The performance of the agriculture sector in Kenya, which remains the backbone of the economy slackened dramatically during the 1980s, 1990s and early 2000s culminating in a negative growth rate of -2.4% in 2000. As a sector that engages upto 75% of the country's labour force, such a decline implies lower levels of employment, incomes and more importantly, food insecurity for a vast majority of rural Kenyans. A decline in agriculture has thus far reaching implications in terms of employment and income inequality as well as food security for the country.
- Kenya has had two decades of a formal organic farming history although the national organic sector is still relatively small but growing very fast. The government especially the ministry of agriculture did not pioneer the development the sector in Kenya but rather the farmers, NGOs, faith-based organizations and the private sector. At the beginning, the government appeared to view the development of organic agriculture in Kenya as a contradiction of the Green Revolution being promoted in many parts of the developing world mainly with donor support.
- The organic agriculture sector in Kenya has therefore mainly developed without any formal government policy support. The sector has consequently encountered a wide range of challenges during the last two decades, especially in the areas of regulation and marketing. Despite these challenges, the sector is considered to have a good potential of catalyzing the socio-economic and environment sectors especially through rural employment creation and incoming generation as well as combating food security and ensuring long-term environmental security.
- The small scale organic farmers in Kenya are faced by difficulties in gaining access to formal credit, since they do not have the requisite collateral to obtain credit and also due to the fact that the financial institutions do not recognize the differences between organic and conventional agriculture. The farmers often face great difficult in selling their products because they lack marketing skills and the right connections. Many of them depend on middlemen who pay them lower prices. The small scale farmers have a relatively weak negotiation capacity with market firms because they have limited information and are generally poorly organized
- Certification of organic products in the past has been mainly for export market. This was due to lack of local standards for the same and also due to lack of awareness on the part of the local consumers. There are a lot of future prospects in this direction given that Kenya organic product standards were gazetted in early 2006 and the East African Organic Standards launched in May 2007.

- The government through the ministry of agriculture has over the years put in place a number of policies to guide development in the agriculture sector. These policies range from general policies on service delivery to commodity based policies. However, a policy on organic agriculture is yet to be formulated.
- Very few policies in Kenya have made meaningful provisions for organic agriculture as an option for food security, employment creation, poverty reduction and environmental security and sustainability. The ministry of agriculture has in the recent years made a lot of progress towards formulation of commodity-specific policies such as the Potato Policy (2005); Pyrethrum Policy (2005); Cotton Policy (2006); Sugar Policy (2006); Oil Crop Policy (2006); and the Nuts and Cassava Policy. However, none has made any provisions for organic production although a number of these crops are grown without use of any external inputs because farmer cannot afford the inputs.
- The aim of the draft National Food and Nutrition Policy to re-roll out the Green Revolution by strengthening the use of hybrid seed, fertilizers, pesticides, irrigation and mechanization in order to improve food production is contrary to the concept of organic agriculture because organic agriculture was largely prompted by the negative effect of the Green Revolution.
- The National Agriculture Sector Extension Policy (NASEP) and the Livestock Extension Programme Implementation Framework (NALEP-IF) do not make any specific provisions for organic agriculture. The lead organizations in organic agriculture in the country are not cited among the extension providers. These are organizations such as Kenya Institute of Organic Farming (KIOF) and the Kenya Organic Agriculture Network (KOA).
- The Strategic Plan on the agriculture sector in Kenya does not, however, explicitly make any provisions in support for organic agriculture despite the fact that it has provisions for environmental conservation and sustainable land use.
- The country previously lacked a clearly articulated land policy with the result that issues like land use, management, tenure reforms and environmental protection are inadequately addressed through the existing systems. However, the government has recently developed a land policy which will hopefully address these issues in the future, Land is an important resource in agriculture in Kenya and lack of access to or ownership of land is considered one of the major causes of poverty. The scarcity of agricultural land makes the issue of land use policy a critical one.

4.2: Conclusions

This study set out to assess the status of the organic agriculture sub-sector in Kenya, the potential benefits, challenges and opportunities for scaling up organic agriculture production and trade. The report has outline the major challenges facing the organic agriculture sub-sector and the key policy gaps that need to be addressed. While a number of critical issues have been raised, at least four specific conclusions can be made from this study.

First, it is evident that the organic agriculture sector in the country can play an important role in addressing some of the outstanding social, economic and environmental challenges facing the country. Scaling up the growth in organic agriculture production and trade provides a

tremendous opportunity for government to address key problems such as deepening environmental degradation, food insecurity and unemployment as well declining incomes among smallholder rural farming households. As shown throughout this study, the ecological resilience of organic agricultural crops may also provide a tremendous opportunity to increase the productivity of Kenya's arid and semi-arid lands and other fragile farming ecosystems.

Secondly, government has set itself a number of development targets through a series of policy development processes and international development commitments. Promoting organic agriculture production and trade holds potential to accelerate the achievement of those targets. Some of the key targets such as poverty eradication, gender equity, reducing rural unemployment and increasing overall agricultural production will benefit significantly from policies and actions that promote organic agricultural production and trade.

Third, organic agriculture has been practiced in Kenya for a long time and has increasingly become an important feature of Kenya's agriculture economy since the mid-1980s. However, non-governmental organizations and private companies have been the dominant actors in the sub-sector. These actors have largely been responsible for promoting organic agricultural production, marketing, certification, training and other related critical services. The sub-sector has therefore been developing in spite of, and not because of any deliberate government action. It is apparent that these actors will continue to play a dominant role in the sub-sector and Government should seek to build on these private initiatives.

Fourth, the diversity of the range of stakeholders in the organic agriculture sub-sector represents one of the most diverse stakeholder groups organized around a shared agricultural production system. In this case, there is evidence of individual farmers, farmers' groups and community-based organizations working in mutual partnership with national NGOs, church groups, academia and training institutions, as well as the private sector and international donors. In many ways, the sub-sector represents the most practical public-private partnership whose lessons can be easily scaled up not only within the sub-sector but also within and outside the agriculture sector as a whole.

Finally, although Government has for quite some time remained on sidelines of organic sub-sector development, there is evidence that the various government agencies are taking kin interest in working with the other stakeholders. In particular, the Kenya Bureau of Standards, the Ministry of Agriculture and the Ministry of Environment, and other key agencies have demonstrated unwavering commitment to take support the further growth of the sub-sector. In addition to the range of ongoing policy and other reforms, this provides a huge opportunity for the effective integration of organic agriculture in Kenya's overall socio-economic and environmental policy framework.

4.3: Recommendations

The following recommendations were made from the findings in the Kenya IAP process:

4.3.1: Policy and regulation

- a) The government of Kenya (GoK) should formulate clear policies on organic agriculture. Such policies should identify mechanisms for protection of small scale producers because these are the ones facing more serious challenges compared to the large scale producers. The

policies should also be designed to enable the strengthening of organic farmer associations and NGOs so that they will play a major role in the marketing of organic produce, and the dissemination of organic technologies among the small scale producers;

- b) The GoK through Ministry of Agriculture and Organic Agriculture sector stakeholders should revise the existing policies which have relevance in organic agriculture to ensure that they effectively consider the vision and mission of organic agriculture in Kenya;
- c) The GoK and OA sector stakeholders through consultations to formulate Legislation that will promote and enable a National Organic Agriculture Regulatory System. This will help the efforts around regional cooperation in standards development and implementation and establish easier entry to international markets.
- d) National Organic Agriculture Movement in consultation with Agriculture sector ministries and parastatals like Kenya Bureau of Standards to establish a National Organic Committee (NOAC) with cross-cutting representation of government and all stakeholders in the sector. A key task for the NOAC would be to explore and spearhead the prospecting, development and eventual implementation of policies to enable and promote organic agriculture.

4.3.2: Market development

- a) Expansion and broadening of the domestic market is necessary in Kenya, especially within the existing supermarkets and food chains. The promotion of organic produce should be strengthened by the relevant agencies such as the Export Promotion Council, KOAN and OA marketers through field days and trade fairs like the Nairobi Trade Fare;
- b) Promote the use of organic produce by supporting public procurement of such products whereby the government should be the number one buyer of organic produce. The Public Procurement Act which could be utilized for this purpose;
- c) Develop, enhance and promote the domestic markets for organic products through sensitization of consumers and publicity campaigns especially through the media. The National Organic Agriculture Committee should have this as one of its responsibilities.
- d) The GoK and development partners like UNEP, UNCTAD, FAO, IFOAM should support and strengthen the NGO's, CBOs and private businesses which are currently involved in organic farming and by offering institutional, technical and financial resources and encourage them to build linkages between producers, traders and consumers.
- e) NOAC once established should support the establishment of local mechanisms for the regulation of the organic agriculture sector through affordable and transparent inspection and certification;
- f) Government ministries involved in agriculture and trade like MoA and MoT&I and related parastatals like HCDA and EPC should document the contribution of organic products to the total volume of export agriculture produce in Kenya. This will help place organic products in the position they deserve;

4.3.3: Adoption of organic production methods: Research, information, education and public awareness

- a) Strengthening of research on organic farming through research institutions such as KARI and public universities by the GoK;
- b) Targeted education, information and public awareness campaigns should be launched at all levels by KOAN, OA NGOs and stakeholders;
- c) Information on marketing opportunities should be availed to producers via affordable and accessible communication media by KOAN in liaison with MoT&I;

d) The GoK to develop and expand organic curriculum at all levels of education system.

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Annexes:

Table 1: Summary of key stakeholders in Kenyan organic agriculture

Stakeholder Category	Activity	Description
1. Private Sector		
i) Self Help Groups/ Producer associations	Mostly involved in production of organic crops either for national and local markets or for subsistence.	<p>These include: Small Farmers Organisations, (SFOs) Community Based Organisations, (CBOs) Faith Based Organisations, (FBOs) and Farmer Groups, (FGs).</p> <p>Most of the training organizations mobilize farmers from the same area into groups commonly known as Farmer Groups (FGs) or Organic Farmer Groups (OFGs).</p> <p>Membership per group ranges between 20 to 30 farmers.</p> <p>Conservative estimates put 35,000 groups of farmers spread countrywide.</p> <p>Some groups of farmers have organized themselves into marketing units.</p>
ii) Commercial Farmers	There are a growing number of organic certified companies/ operators who produce for both the national and international markets. Some companies are growing organic vegetables, fresh and dried fruits, dried herbs and spices and some have ventured into wild harvest products.	<p>These are mainly business companies, large scale companies, certified organic and producing for export with certified outgrowers. There are certified organic medium scale companies producing for exports, some share overheads and management of exporting consignments together, i.e KOPA (Kenya Organic Producers Association). There are also a few certified organic farmer groups who have formed companies and are now exporting. There are a number of small companies who are not currently certified and are producing for local consumption.</p> <p>There are 12 certified producer companies and 4 undergoing conversion, 15 small companies producing for the local market.</p>
iii) Processors	There are organic certified companies extracting essential oils from herbs, spices and cold pressed oils from high value crops and tree seeds oils, drying and semi-processing herbs and nutraceutical plant products. Other certified organic companies are exporting retail packed	<p>In most cases, for certified organic operators, the same companies that produce the raw materials carried out their own processing to accord with their buyers requirements. However there are companies, certified organic operators, that buy raw materials directly from small-scale producers/outgrowers and carry out the processing prior to export.</p> <p>Non-certified organic operations, supplying national and local markets, are</p>

Stakeholder Category	Activity	Description
	vegetable (high-care), retail packed macadamia, coffee and tea. Non-certified organic producer organizations are drying fruits and processing dried fruit, juices, jams and chutney for national & regional markets.	mainly processing their own products on a smaller scale.
iv) Traders and Retailers	Trade in both the local and export arenas others in trading of raw and semi-processed products from primary operators. There are also those who deal with input supplies.	Some national supermarkets have recently designated organic sections in their stores, (i.e Uchumi Hyper and Nakkumatt supermarkets). All of these products carry organic labeling but not all certified. Some green grocers also stock organic products, Healthy U, Green Corner Shop, ABC Place, among others. Natures Organics together with a group of farmers have started Box Schemes in Nairobi and outskirts. Organic Marketers Ltd, Natural Food Marketers and Find us In Africa, buy and sell organic products. EM (Effective Micro- organisms) supply EM products, BIOP Ltd is a company that supplies Organic fertilizers and pest and disease control products, as does Saroneem Products. Minjingu Phosphate supply rock phosphate, other pesticide manufactures produce biological controls. Some of these food and non-food products carry organic labeling, although most are not certified.
v) Certifiers and inspection agencies	Certification of organic products for regulated export markets. There is currently no certification facility for the national market – this is expected to develop over the latter part of 2005 .	There are five international certifiers that are operating in Kenya; IMO, BioSwiss, Ecocert, USDA N.O.P – (National Organic Programme) and the Soil Association, mostly using nationally based inspectors. Africert and Encert are two national companies that have been formed to start organic certification for the national market. Both partner with international accredited certified companies. They are developing their services to offer multiple certification (Encert - organic, fair-trade, sustainable wild harvest. Africert is already providing Europgap inspections

Stakeholder Category	Activity	Description
		and developing organic inspection services). Both companies are in early stages of development.
2. Civil Society Organisations		
i) Training and research Institutions	<p>Training in organic agriculture techniques.</p> <p>Research for organic pest and disease controls.</p>	<p>There are 30 organisations offering organic agriculture training; two offering diploma courses, four offering certificate courses, the rest offer short courses. The diploma course takes two years, diploma one and a half years and short courses between one week to two weeks.</p> <p>ICIPE (International Center for Insects Physiology and Ecology) carries research on organic pest and disease remedies and, through BIOP Ltd, has developed a range of organic fertilizers and pesticides.</p>
ii) Other Promoters	These promote organic agriculture in community mobilization, capacity building and networking.	These comprise of NGOs, CBOs that have a component of organic/sustainable agriculture in their programmes. The Environment Liaison Centre International (ELCI) is hosting KOAN over its incubation period and is an advocate of organic farming and natural products development. It produces a quarterly periodical, Eco-forum, which promotes environmental (and organic) issues..
3) Government		
i) Kenya Bureau of Standards (KBS)	Development of the Kenya Guidelines for Organic Production, Processing and Packaging.	The standard has reached the public review stage where the public has been given a chance to comments. It is planned that it will be operational by August, 2005.
ii) Ministry of Agriculture	Very little contribution to the development of the organic sector to-date.	Due to the lack of exposure to the benefits of Organic Agriculture and the commercial aspects of organic farming, government reception to the movement and the growing industry is currently luke warm, as far as the ministry heads are concerned. However, the interest from the government extension service is over whelming. At the district level there are increasing requests for KOAN and organic training organisations to provide

Stakeholder Category	Activity	Description
		training in organic techniques certification & marketing to extension officers.
iii) Public research institutions and Universities	Training and Research on organic agriculture.	Egerton University has recently included an organic agriculture module in their agriculture diploma course curricula. Jomo Kenyatta University of Agriculture and Technology (JKUAT), in collaboration with KIOF and a university in the UK, is developing curricula for a diploma and a degree courses in organic agriculture. Kenya Agricultural Research Institute (KARI) has carried out research on green manure and compost analysis. The Kenya Tea Foundation and the Kenya Coffee Foundation have established field trial for both organic coffee and tea. The Kenya Pyrethrum Board, has received orders for organic pyrethrum and intend to begin conversion to organic certified status this year.
4. Development Partners	Facilitate implementation of projects.	Development partners who have recently or are currently operating in Kenya include; Hivos, Miserio, Sida, FAO, DFID, GTZ, Biovision, Rockfeller, UNDP, CDE, CBI and HDRA among others.

Table 2: Certified organic production in Kenya

Company Name	Products	Acreage (certified)	Acreage (Conversion)	Certifiers	Main Markets	Employees	Out growers
Mr Pineapple	Pineapples	80 Ha	121 Ha	IMO	Germany	Approx 120	60 (2-15 acres each)
Three palm Garden	Chilies	171 Ha		BioSwiss	USA	3	40 outgrowers
Sunripe	Beans, Peas, Sweet corn, chillies, Avocados, Passion fruits, Raspberries	190 Ha		Soil Association and Ecocert	UK and Europe	1800	3 commercial farms, 45 outgrowers.

Company Name	Products	Acreeg e (certified)	Acreeg e (Conversion)	Certifiers	Main Markets	Employees	Out growers
Vitacress	Salad and baby vegetables	42 Ha		Soil Association	UK	Over 700	None
Mt Kenya Herb	Ashgwanda , Astragalus, calendula, Catnip, Red clover, Valerian.	8 Ha		Eco-cert	EU	40	
Meru Herbs	Chamomile, Carcade, Lemon Grass, (Pawpaws, mangoes, guava, sweet bananas, (not for export))	62 ha	120 Ha	Soil Association	Belgium, Japan, Austria, Italy, Germany	64 workers	43 Certified, 123 (conversion)
Cinnabar Green	Essential Oils and dried herbs) Geranium oil, Borage seeds, Lemon grass, Rosemary, Corriander, cumin Pink pepper,	40 ha	12 Ha	Ecocert	Germany England	37 permanent 20 contracted 60-80 casual employees Harvesters - 60-80	Outgrowers - 55+
Africa Botanica	Leleshwa, (<i>Tachonanthus camphorates</i>) , Aloe secundra, pepper tree oil, lippia javanica	100,000 Ha for wild harvest .		Ecocert	Europe/ US	23 full time 70 part time	8-10 technicians 35 full time staff, 70 additional women harvesters
Finlay	Tea	64 Ha		Soil Association	UK	Approx 1,400	None

Company Name	Products	Acreeg e (certified)	Acreeg e (Conversion)	Certifiers	Main Markets	Employees	Out growers
				tion			
Kisima (other KOPA certified members)	Fresh Vegetables, dried herbs and spices (Paprika, Birds eye chillies, taetes, Echinecea purpea, coriander, calendula, borage, safflower	80,070 has (42 ha in intensive production, rest is for honey production)		Ecocert	UK	70 permanent, 30 temporary	150 wild honey harvesters.
Kenya Nut	Ground nuts, Macademia nuts, cashew nuts, tea, coffee	818 Ha		Soil Association, USDA N.O.P - National Organic Programme,		2500	10,000 out-growers
Kigwa	Coffee	36		Soil Association			None
Arbor Oils	Gums and resins, tree seed oils, cold pressed		Conversion starts by end of 2005 of over 1,500 km2.	Ecocert	Europe and the US	5 full time	Over 5,000
MOOF	Borage		400 ha (plus 200 ha is 6 months)	Ceres			400, plus another 200 in 6 months
Earthoils - Kenya Ltd	Cold pressed oils	4 ha		Ecocert	Europe and the US	28 full time	Over 2,000

Company Name	Products	Acreage (certified)	Acreage (Conversion)	Certifiers	Main Markets	Employees	Out growers
Total Acreage		101,515 Ha	853 Ha				

Source: KOAN, 2005

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