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INTEGRATED ASSESSMENT AND PLANNING (IAP) FOR ORGANIC AGRICULTURE IN KENYA.

Draft Prepared for Bridge Africa by:

Clive J. Mutunga

Research Associate

Kenya Institute for Public Policy Research and Analysis (KIPPRA)

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1. Description of the Local Context

This chapter describes the local context in terms of agricultural trade and production in Kenya. It gives the overall picture and is not specific to organic agriculture.

1.0 Overall Economic and Trade Situations Regarding Agriculture

Like elsewhere in the developing world, agriculture is one of the most important sectors in the Kenyan economy. It is critical to Kenya's economic growth and development and has therefore ultimately remained the largest platform from which growth could be stimulated. The sector contributes approximately 24 per cent of the country's GDP and employs about 70 per cent of the national labour force. It is also important as a major foreign exchange earner, contributing approximately 60% of total export earnings and provides nearly all the food requirements for the country (Kenya, 2004). The sector has been identified as an important tool and vehicle for employment creation and poverty reduction (Kenya, 2004). Agriculture has also been shown to contribute a further 27% to the country's GDP through links with manufacturing, distribution, and the service sectors.

In addition, empirical evidence shows an extremely positive correlation between agriculture and non-agricultural activities. During the first two decades after independence, the country's economy grew at an average rate of 6% per year, largely attributed to the high growth registered in agriculture. In the last two decades however, the overall economy barely grew, manifested by a sharp decline in agricultural growth. Agricultural growth and development, therefore, is crucial to Kenya's overall economic and social development. Even though the sector remains the most important in the Kenyan economy, its contribution to overall GDP has been steadily declining over the years. Table 1.1 shows trend of the contribution of the sector to the Gross Domestic Product from independence.

Table 1.1: Agricultural GDP as a share of total GDP (1999-2003) Billion Kshs.

Year	Agricultural GDP (Billion Shillings)	Total GDP (Billion Shillings)	Agriculture's share in GDP (%)
1963-1969	2.6	7.6	34.2
1970-1979	7.5	22.5	32.0
1980-1989	22.6	88.0	30.4
1990-1999	98.9	380.0	25.6

2000	124.3	685.4	24.0
2001	131.3	767.4	27.2
2002	129.6	850.0	25.6
2003	136.9	968.4	25.3
2004	312.0	1,282.50	24.3
2005	342.37	1,415.16	24.2

Source: GoK, Statistical Abstracts, (Various years)

The average annual growth rate of GDP of the agricultural sector has been declining over the years as shown in Table 1.2. The growth rate fell from 4.6% p.a. in 1964-73 period to 1.1% per annum in 1996-2000 and, 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.

Table 1.2: Average Annual Growth of Real GDP (%) by Sector in Kenya

SECTOR	1964-1973	174-1979	1980-1989	1990-1995	1996-2000	2001-2005
Agriculture	4.6	3.9	3.3	0.4	1.1	3.4
GDP	6.6	5.2	4.1	2.5	2.2	3.5

Source: National Development Plan 2002-2008, CBS, and Ministry of Economic Planning and Development.

The stagnation in agricultural production in the 1990s and early 2000 was attributed to several factors such as unfavorable policies, weather variability (dependence on rainfall), liberalization, poor marketing infrastructure, high cost of inputs, limited access to credit and static technologies (Kenya, 2002). The sector has however registered a positive growth trend over the past few years, with a recorded growth rate of about 6.7% in 2005, and an average growth rate of about 3.4 for the periods 2001-2005.

As earlier indicated, the sector employs the majority of the country's labour force. It is particularly important in the rural areas where it is the main economic activity of the inhabitants. Available statistics indicate a steady rise in the proportion of the population who derive their livelihood from agriculture as indicated in Table 1.3.

Table 1.3: Population and agricultural labour force

Indicator	*Unit*	*1979-*	*1989-*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*

		1981	1991						
Population	1000	16,377	23,585	30,549	31,065	31,540	31,987	328,000	334,000
Population growth	Percent	3.8	3.3	1.8	1.7	1.5	1.4	2.1	2.1
Rural/total population	Percent	84	75	64	63	62	64		
Agricultural labour force	1000	6,367	8,929	11,910	12,097	12,266	12,422	246000	250500
Agricultural labour force/total labour force	Percent	82	80	75	75	75	74	75	75

Source: FAOSTAT; World Bank- World Bank Development indicators, 2005; Economic survey, 2006.

The Structure of Farming in Kenya

Kenya's agricultural sector is dichotomized into large and small scale production systems. However, the smallholder sector continues to dominate both in terms of numbers and the size of production. Small-scale farming is practiced in most areas of the country while large-scale farming is carried out mainly in the Rift Valley province and parts of Coast province (e.g. sisal plantations). Overall, the small-scale sector contributes about 75% of the country's total value of agricultural output and about 85% of the total employment in the agricultural sector.

There are about 3 million smallholder farms in Kenya, 80% of whom have less than 2 ha, with women providing the bulk of the labour and managing about a third of the households. Small-scale farms account for over 75% of the total agricultural production and their share of marketed production has been increasing since 1952, with the implementation of the Swynnerton Plan, which allowed Africans to engage in commercial agriculture. The increasing role of the smallholder farms is an indication of their growing importance in the total marketed production. For example, small holder farmers account for the production of about 70% of maize, 65% of coffee, 50% of tea, 80% of milk, 70% of beef and other meats, and over 80% of the production of pyrethrum and cotton (Argwings-Kodhek et al; 1998). Crops such as sugarcane and tobacco are, however, produced almost purely on small-scale farms in the country. Table 1.4 shows gross marketed production trend from large and small farms from1979-2005.

Table 1.4: Gross Marketed Production from Large and Small Farms, 1999-2003 (Kshs. Million)

Year	Large farms	Small farms	Total	% Share of small farms
1979-1983	3,934.36	4,297.52	8231.88	52.21
1984-1988	8,723.44	8262.36	16,985.80	48.64
1989-1993	11,064.72	16203.92	27,268.52	59.42
1994-1998	20,955.72	46,170.68	67,126.40	68.78
1999	22,104.00	51,209.00	73,312.40	69.85
2000	23,633.00	55,142.50	78,775.00	70.00
2001	23,879.30	57,067.49	80,946.80	70.50
2002	22,985.00	56,002.00	78,987.00	70.90
2003	22,615.00	56,700.00	79,315.00	71.50
2004	32,879.00	89,604.00	122,483	73.16
2005	34,572.00	97,568	132,139	73.84

Source: GoK, Statistical Abstract (Various issues)

Major Agricultural Commodities in Kenya

The major agricultural commodities produced in Kenya are food crops, industrial and export crops, horticultural products and livestock and livestock products. The main tradable food crops are maize, wheat and rice, while the non-tradables comprise sorghum and millets, pulses (beans and peas) and roots and tubers (cassava, sweet potatoes, Irish potatoes and yams). The most important industrial crops in Kenya are sugarcane, cotton, sisal and pyrethrum. Others are barley, tobacco, cashew nuts, wattle trees, and a wide range of oil crops. These are produced for use by industries in agro processing, although some are exported as raw materials.

Exported agricultural commodities

Coffee, tea and horticultural crops are the main sources of foreign exchange, employment and income for many large and small-scale farmers in Kenya. The three commodities jointly contribute about 34% of the agricultural GDP, employ over 40% of the agricultural labor force and contribute over 60% of the foreign exchange earnings. Other agricultural and livestock commodities exported include dairy products, fisheries, hides and skins, live animals, sisal, among others. The quantities of agricultural exports for selected commodities from 1979 are indicated in Table 1.5.

Table 1.5: Quantity of Agricultural Exports (thousands of Metric tonnes) 1979-2005

Commodity/Year	*1979-1983*	*1984-1989*	*1990-1994*	*1995-1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*
Coffee	87.0	102.8	88.9	78.8	87.0	62.2	48.2	57.4	*50.07*	*50.95*
Tea	84.9	128.4	174.4	240.6	217.3	270.5	272.7	262.2	*275.31*	*338.81*
Canned pineapples	41.6	47.5	54.8	73.8	56.2	67.0	77.5	80.8		
Hides and skins, undressed	11.0	12.9	3.5	3.3	7.6	10.0	7.2	13.9	*18.54*	*15.68*
Sisal	36.4	33.8	28.5	19.3	16.8	17.9	19.5	21.7	*20.9*	*21.1*
Pyrethrum products	0.8	0.7	0.4	0.5	0.2	0.7	0.4	1.0	*1.3*	*1.2*
Meat Products	2.2	1.6	1.1	1.2	1.3	1.1	1.1	1.2		
Butter and Ghee	0.8	0.3	0.1	0.5	0.03	0.09	0.04	0.07		
Sugar and products	100.8	14.8	0.0	8.9	13.3	16.4	18.8	20.5	*23.9*	*31.1*
Cotton, raw	1.8	0.4	0.0	0.2	0.2	0.009	1.2	0.3		
Wool, raw	1.3	1.0	0.4	0.4	1.2	1.2	1.5	1.7		
Maize, unmilled	49.0	136.4	36.2	83.6	0.5	0.4	158.8	3.1	*24.1*	*10.9*
Animal feeds	15.7	12.0	16.5	3.1	0.6	0.06	0.7	0.9		
Live animals chiefly for food ('000)	94.7	141.7	383.0	1234.8	1250.0	2668.2	1988.4	3605.8		

Source: GoK, Statistical Abstracts, (various years)

The value of agricultural trade has been however observed to fluctuate due to the fluctuations in the world market prices for various primary commodities exported. Table

1.6 indicates the trend in value and share of agricultural imports, exports and the agricultural trade balance up to 2005.

Table 1.6: Value and share of agricultural trade (1979-2005)

Indicator	**Unit**	**1979-1881**	**1989-1991**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**
Value of agricultural Exports	MLN US$	667.8	665.7	1,021.5	1,049.8	563.1	1,291.3		
Agricultural exports as a proportion of total exports	Percent	54.0	61.1	57.6	55.9	26.6	53.6		
Value of agricultural imports	MLN US$	153.4	190.7	500.4	548.7	390.1	440.1		
Agricultural imports as a proportion of total imports	Percent	7.3	9.0	15.1	14.9	12.0	11.8		
Agriculture trade balance (Exports-Imports)	MLN US$	514.4	475.1	521.1	501.1	173.0	851.2		

Source: FAOSTAT; World Bank- World Bank Development indicators, 2005.

Agricultural land in Kenya

Kenya's most important natural resource is its land, which is used predominantly for agriculture. The land is classified broadly into categories: High, medium and low potential agricultural land based mainly on rainfall (Table 1.7). The high potential areas cover approximately 13% of the total land area and receive an average of more than 857mm of rainfall annually. The medium potential areas cover about 7% of the land area and have on average, 735-857 mm of rainfall annually. The low potential areas cover about 80% of the total land area and receive on average 612 mm of rainfall annually. The high and medium potential areas are suitable for rain - fed agriculture and are dominated by crop and dairy farming, occupying 31% and 30%, respectively.

Table 1.7: Agricultural land in Kenya ('000 ha)

Region	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)

The Rift Valley province has the largest area and high and medium potential land for agricultural production. Western and central provinces have the least area but have proportionately more high potential land for agriculture. The two are also the most densely populated in the country.

The low potential areas, which are commonly referred to as arid and semi arid lands (ASALS), are dominated by nomadic pastoralism, utilizing about 50% of their land area, and ranching and other livestock keeping, occupying about 31% of the area. The rest of the land is used for crops, including irrigated farming.

1.2 State of the Environment in Kenya

The contribution of environmental goods and services to the country's national economy is immense. Agriculture depends on environmental services such as soil productivity and protection, and it has been estimated that environmental loss and degradation may incur costs to agriculture crop yields and lead to declines in livestock productivity.

The country's population has however expanded at a considerable rate since independence, a situation that has placed the country's resources to considerable pressure. Some of the adverse effects of the high population growth rate include encroachment of marginal lands for agricultural and settlement purposes, over-consumption of wood fuel resources as well as generation of waste products. These factors have led to environmental degradation. Some of the environmental issues of concern have been identified to include; water pollution from urban and industrial wastes, degradation of water quality from increased use of pesticides and fertilizers, deforestation, soil erosion, desertification, and threats to wildlife population, among others.

A number of sectors and activities have been identified to contribute to environmental degradation in the country. These include the agriculture sector, industrial sector, tourism sector, human settlement, mining, and poverty among others. Current estimates indicate that over 70% of the economically active population depends on agriculture, which exerts considerable pressure on the natural resources leading to land degradation and poverty. It is further documented that the rural areas, which predominantly depend on agriculture, has the largest share of the country's poor.

In agriculture, considerable quantities of chemicals, comprising pesticides and fertilizers, are currently used in the country. Pesticides include insecticides, fungicides, herbicides, acaricides, nematicides, fumigants/soil sterilants, rodenticides, hormones and insect repellents and attractants. Fertilizers include nitrogenous, phosphates, potassic and compound fertilizers, trace elements, foliar feeds and soil improvers.

Kenya imports large quantities of these agrochemicals averaging 5796.3 metric tons, at a cost of about Kshs.2351.7 million per annum (NEMA, 2003). Agrochemicals have been extensively used for agricultural production without satisfactory management of their health and environmental impacts. Utilization of these chemicals results in emissions, improper dispersal and retention of poisonous substances in the air, water, soil and the human food chain. There is lack of adequate facilities and comprehensive guidelines and regulations for the management and disposal of the resulting wastes (NEMA, 2003).

1.3 Poverty and Income Distribution Issues in the Rural Areas

A number of surveys have been carried out to document the incidence and levels of poverty in Kenya. The first of these that were used to construct the baseline poverty profile was the 1981/82 Rural Household Budget Survey (RHBS), and the Welfare Monitoring Survey 1 (WMS1), conducted in 1992. A second national poverty profile was constructed in 1997 following the second Welfare Monitoring Survey of 1994 (WMS2). In the recent past (2003), an attempt has been made to construct a current national poverty profile using the 1999/map census data and 1997 poverty profiles. Analysts have concurred that even though these studies have had various shortcomings, they reveal the country's temporal and inter temporal poverty landscape.

The studies have indicated that the majority of Kenya's poor live in the rural areas. They have further observed a consistent rise in the number of those living in absolute poverty and increasing levels of inequality in expenditure and income over time. Table 1.8 shows the trend of poverty and gini coefficient of expenditure in rural Kenya.

Table 1.8: Poverty in Rural Kenya

Poverty Indicators	1982	1992	1994	1997	1999	2003
Percentage of the population below the absolute poverty line	47.89	46.33	46.75	52.9	na	56
Depth of poverty	30.0	40.0	na	na	na	na
Gini coefficient of expenditure	0.45	0.49	na	na	0.49	na

Source: World Bank, 1994, and GoK, Poverty in Kenya Report, June 1997, 1989/99 Integrated Labour Force Survey Data.

The current estimates of rural poverty incidence by province indicate that Nyanza province has the highest proportion of those living in absolute poverty, followed by Coast, Western, and Eastern provinces as illustrated in Table 1.9.

Table 1.9: Rural Absolute Poverty, 2003

Province/Indicator	Proportion living in absolute poverty	Depth of poverty
Central	31	9
Coast	61	24
Eastern	58	22
Nyanza	64	25
Rift Valley	48	17
Western	60	23

Source: GoK, 2003.

Trend of income source and levels

In rural Kenya, land could be said to be the most important factor of production. Land ownership and size owned therefore determine, to some extent, the level of income that a household earns.

Data from the Welfare Monitoring Survey I of 1992 (GoK, 1994), and II of 1994 (GoK, 1997) indicate that 74% of sampled households had farm sizes that were less than 4 ha in 1997. The majority of those with farms smaller than 2 ha were found to be in central, Nyanza, Western and eastern provinces, indicating scarcity of land in these regions. The 1997 data indicated a reduction in landlessness from the 1994 level, probably as a result of resettlement of people between 1994 and 1997 as illustrated in Table 1.10.

Table 1.10: Average land size

Region	Average farm holding (% of population)							
	1994				1997			
	Landless	0.01-1.99 ha	2-3.99 ha	4.0 + ha	Landless	0.01-1.99 ha	2-3.99 ha	4.0 + ha
Central	27.4	65.3	5.6	1.7	15.8	49.7	24.7	9.8
Coast	49.4	32.4	10.5	7.7	13.3	19.3	33.2	34.2
Eastern	11.5	55.6	17.4	15.5	11.4	26.3	28.5	33.8
Nyanza	10.6	64.0	15.9	9.5	9.9	32.4	35.9	21.8
Rift Valley	26.8	46.5	14.0	12.7	14.3	28.2	26.3	31.2
Western	7.5	69.1	16.1	7.3	6.0	45.2	26.2	22.6
Rural	13.6	60.9	14.8	10.7	11.5	33.2	29.4	25.9

Source: GoK, 1994, 1996, and 2000

Results further show that farm incomes from sale of crops and other produce dominated in five provinces in 1982, averaging about 75% of total household income for Rift Valley, 62% in Eastern, 55% for Western, 53% for Nyanza and 47% in Coast. The contribution of farm income to household income however declined in 1994 and 1997, for all regions except for Rift Valley province where farm income contributed about 72% of total household income in 1997. For the other provinces, farm incomes contributed less than 50% to total household income, indicating a shift/ a diminishing role of agriculture in these household's total income.

The sources and levels of household income for the six provinces from the welfare monitoring surveys are shown in Table 1.11. They include farm income derived from agricultural activities (crop and livestock sales and home consumption), as a percentage of their total income.

Table 1.11: Agricultural income for rural households by region (Ksh. per annum) (1996=100)

Province	1982		1994		1997	
	Agricultural Income	**% of total income**	**Agricultural Income**	**% of total income**	**Agricultural income**	**% of total income**
Central	6,410	38.5	8,310	34.6	2,394	38.7
Coast	4,876	37.4	5,790	22.6	1,801	24.9
Nyanza	4,142	35	6,149	35.2	1,266	21.9
Western	4,578	41.7	7,514	37.9	1,665	35.7
Rift Valley	10,112	67.3	15,853	50	12,727	71.5
Eastern	7,783	50	6,190	36.3	1,324	21.8
Total rural	**6744**	**48**	**10241**	**46.4**	**4312**	**49.9**

Source: GoK, 1982, 1994 and 1997.

The statistics used in the assessment of social indicator differentials are generalizations for all rural areas in Kenya. To get an idea of the differentials between the rich and poor, a provincial comparison has been adopted. The indicators for the provinces with a higher proportion of those living in absolute poverty have been compared to those with relatively fewer proportions living in absolute poverty.

Income distribution in rural areas

Various studies have shown that the gini coefficient is marginally higher in the urban areas than in the rural areas. Generally speaking, this implies that there is more inequality in urban areas than in rural areas in both incomes received and consumption expenditure. It is also significant that, at lower income decile levels, incomes are more unequal in the urban areas than in the rural areas. At higher levels of income however, inequality tends to be higher in rural areas.

Table 1.12 illustrates income distribution in rural areas (1999) based on the 1998/99 integrated labour force survey data.

Table 1.12: Income distribution in rural areas

Indicator	Income Distribution
Gini coefficient- Household income	0.540
Gini coefficient- Household expenditure	0.496
Distribution of household income by deciles, %	
Lowest	0.84
Second	1.89
Third	2.84
Fourth	4.12
Fifth	5.16
Sixth	6.94
Seventh	8.73
Eighth	11.72
Ninth	16.70
Highest	41.06

Source: SID, 2004.

A provincial analysis of income and expenditure differentials reveal that the distribution of incomes and expenditure is skewed in favour of the higher income groups. Rift Valley and Nyanza turn out to be the provinces with the most skewed income distribution in favor of the rich. North Eastern Province, with a gini coefficient of 0.439, is relatively more equal than the rest of the provinces. The distribution of expenditure by province is shown in Table 1.13. It is evident that expenditure is more unequal in Nyanza and Western Provinces compared to the rest of the provinces. In Nyanza Province which has the highest number of those living below the poverty line, the top 10% of the households account for over 42% of the total expenditure while the bottom 10% account for less than 1%. This indicates a very high degree of income and expenditure inequality between the rich and the poor.

Table 1.13: Income distribution by province (1999)

Province	Gini Coefficient (Income)	Proportion of income accruing to			
		Top 10%	Bottom 10%	Top 20%	Bottom 20%
Central	0.516	39.47	1.07	55.51	3.35
Coast	0.511	33.77	1.34	50.16	4.33
Eastern	0.571	42.34	0.94	58.86	3.04

North Eastern (Urban)	0.439	26.57	1.48	47.08	4.7
Nyanza	0.563	42.81	0.63	60.69	2.15
Rift Valley	0.575	42.58	0.79	59.76	2.46
Western	0.586	41.08	0.66	59.07	2.27

Source: *Computed from the 1998/99 Intergrated Labour Force Survey data*

Education

Living standards in rural areas generally lag behind the urban areas. In education, the proportion of the population above 15 years of age who are literate is higher in the urban areas. Likewise, the percentage of school going children already in primary school is higher in urban areas. Additional statistics are shown in Table 1.14.

Table 1.14: Social indicators in rural areas-Education, %

Indicator	Score
Gross Enrollment (Primary)	
Male	114.2
Female	107.2
Drop out rate	7.7
Net enrollment (Primary)	
Male	78.0
Female	78.1
Population (>15 years) that is literate	
Male	86.2
Female	75.2

Source: Demographic and health survey (2003); and Multiple Indicator Cluster Survey Report, 2000.

A provincial comparison shows wide disparities in respect of access to education across the provinces. In Central Province the gross enrolment rates in primary school in 2000 was 106% compared to only 17.8% in North Eastern Province. The corresponding figures for secondary school for the two regions are 37.7% and 4.5%, respectively. It is notable that the regions differ also in terms of school drop-out rates with the highest being in North Eastern Province as illustrated in Table 1.15.

Table 1.15: Access to education (2002)

Province	Drop out rates	Gross enrollment rate, %	
		Primary	Secondary
Central	7.1	106.0	37.7
Coast	11.8	71.0	14.4
Eastern	8.8	96.9	23.3
North Eastern (Urban)	12.6	17.8	4.5
Nyanza	6.8	94.0	23.5
Rift Valley	8.2	88.3	18.3
Western	6.9	93.3	25.1

Source: Ministry of Education, Statistics Division

Health

Statistics indicate wide disparity in health indicators between the urban and rural areas. The rural areas have higher HIV/AIDS prevalence rates than the urban areas, while the probability of neonatal and infant mortality rates are also higher than in urban areas. Table 1.16 shows the statistics for health indicators for rural areas.

Table 1.16: Social indicators in rural areas-Health

Indicator	Score
Neonatal mortality (2003)	34
Infant mortality (2003)	117
HIV/AIDS Prevalence, %	10

Source: Demographic and heath survey; Multiple indicator Cluster survey, 2000.

Provincial data again show wide disparities in the health outcomes indicated above. Nyanza Province performs very poorly both in terms of childhood mortality and the proportion of people infected with the HIV/AIDs virus. Nyanza reports 206 deaths per 1000 live births before their fifth birthday. Nyanza also has the highest HIV/AIDs prevalence rates in the entire country as shown in Table 1.17.

Table 1.17: Disparities in selected health outcomes

District	Early childhood mortality		HIV prevalence rate, %		
	Infant	Under five	Men	Women	Total

Central	44	54	2.0	7.6	4.9
Coast	78	116	4.8	6.6	5.8
Eastern	56	84	1.5	6.1	4.0
North Eastern	91	163	0.0	0.0	0.0
Nyanza	133	206	11.6	18.3	15.1
Rift Valley	61	77	3.6	6.9	5.3
Western	80	144	3.8	5.8	4.9

Source: 2003 Kenya Demographic and Health Survey

The statistics show a wide disparity between the rich and the poor in the rural areas. While Central Province, which is the richest province in the country (Gok, 2003) fares favorably in all indicators (income levels, expenditure and income distribution, education, and health indicators), Nyanza, which is the poorest district scores dismally in all the indicators.

2. Key issues in organic agriculture[1]

2.1 Definition

According to the Organic Agriculture Stakeholders steering Committee of the Kenyan IAP project (NSC), organic Farming is a farming system that respects the biological relationships that exist in nature thereby fostering natural resource and environmental conservation. Organically grown produce is therefore healthy as it is grown without use of any (or limited) chemical fertilizers and synthetic pesticides, additives and preservatives and without genetic manipulation of living organisms as happens with genetically modified foods.

This definition has been derived in cognizance of the organic sector in Kenya and relating this organic farming system and practice to other internationally accepted definitions developed by such organisations like IFOAM.

2.2 Organic development in Kenya

Formal organic agriculture in Kenya dates back to the early 1980s when the first pioneer organic training institutions were established. At the same time, a few horticultural companies started growing organic vegetables for export. Initial efforts to promote

[1] This section borrows heavily from Alistair (2004) and Kimemia and Oyare (2006)

organic agriculture in Kenya were made by rural development non-governmental organizations (NGOs), faith-based organizations, individuals and community-based organizations (CBOs), who sought to help rural farmers address the issues of declining agricultural productivity (especially the degradation of soils and the natural resource base), high poverty levels, food insecurity and low incomes, which prevented farmers accessing high cost inputs. Organic farming was seen as a low cost approach to mitigate the above situations. This "poor man" image of the organic sector, especially among NGOs, continues to this day and may have contributed to the low level of commercialization of the organic sector at the smallholder level.

The organic sector is relatively small but fast growing and led mainly by civil society organizations (CSOs) and the private sector (companies growing organic produce for export). Organic products, mainly vegetables and fruits produced on large-scale farms, have been exported from Kenya over the past two decades. Over the years, exports have developed 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 or collected by smallholders. Most smallholders are organized into groups and some of these are registered. Some small-scale organic farmers formed a national representative organization, the Kenya Organic Farmers Association (KOFA). Larger companies and commercial farmers who are already in the export market have organized themselves into the Kenya Organic Producers Association (KOPA). Last year, organic agriculture stakeholders in Kenya, including KOPA and KOFA, formed the umbrella network KOAN to support the successful growth of the sector.

There are five international certifiers operating in Kenya, they are: the Soil Association (SA), EcoCert International; IMO (Institute for Marketecology); USDA's (United States Department of Agriculture) National Organic Programme (NOP); and Bio Suisse. There are currently over 180,000 hectares of land under organic certification for export markets, plus another 853 hectares in conversion. There is also a significant area soon to be in conversion for wild harvested products.

Table 2.1. Organic products produced in Kenya

Regions	Non-certified organic products	Certified Organic Products

Nairobi	Processing of dried fruits	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	
Nyanza	Bananas, fruits, ground nuts, sesame, sugar cane, chilies, sorghum, millet	Birdseye chilies
Rift Valley	Honey, tea, fruits	Honey, black and herbal tea, dried culinary herbs and spices, essential oils, cold pressed oils, nutraceuticals, vegetables (baby veg. and salad veg)
Eastern	Vegetables, fruits (mangoes, pawpaws and oranges), cassava, millet, sorghum, amaranth, medicinal plant products	
North Eastern		Essential oils
Western	Indigenous vegetables: amaranth, spider plant, saghert	Pineapples
Coast	Cashew nuts, ground nuts, tumeric, ginger	Natural craft products as certified NTFP' by FSC

Source: Kimemia and Oyare, (2006)

Gender

In Kenya over 70 per cent of agricultural activities are undertaken by women, especially in the small-scale producer sector. Exporting companies have tended to hire more women labourers for fieldwork and more men for packaging and processing operations. On a small scale, women mainly undertake the production, sometimes primary processing, and the marketing of organic produce/products at the national level. Men usually take charge of larger scale cash crop production and sale to informal and organized markets at both local and national levels.

Employment

It is difficult to determine how many people are directly employed by organic agriculture, especially small-scale farmers, as the sector is extensive, largely informal and has been evolving over a long period of time. Even information about the employment levels of large-scale producers, who export both certified and non-certified products, is difficult to establish.

Poverty and Land Tenure

Land units of small-scale producers range between 1 and 3 hectares on average, whereas for medium-scale producers land units range between 3 to 15 hectares. Large-scale producers may cultivate from 15 hectares of land for intensive production to 100,000 hectares for extensive production – mainly grazing. Most small-scale farmers are faced with food insecurity and their main objective is to set food on the table every day. Informal indications show that compared to other families, organic producers are more food secure and are able to sell excess produce, enabling them to educate and clothe their children better than other farmers.

The contribution of organic agriculture to GDP is also difficult to ascertain, as the Export Promotion Council makes no distinction between organic exports and non-organic exports.

Trade in organic agriculture

The export sector is dominated by larger companies, both local and international, who have entered into organic trade to supplement their existing trade in conventional products. Most provide bulk raw materials to developed markets, although some carry out primary processing before export. The exceptions are fresh fruit exporters, dried fruit exporters and companies dealing in essential oils and aromatic plants, where end market products are being exported.

Marketing initiatives

Several marketing initiatives are aimed at supporting the development of the organic industry; the main focal initiative is the Organic Marketing Assistance Programme (OMAP), a facility developed within KOAN. The Sustainable Agriculture Community Development Programme (SACDEP) and the Resource Oriented Development Initiative (RODI) have added a market development component to their core organic projects. The Catholic Diocese of Nakuru is currently setting up an Organic and Natural Products Unit to support the development of organic marketing within their project activities. The Centre for Development Enterprises (CDE) is also providing small amounts of market development support for organic operators, while the International

Trade Centre (ITC) has developed a website facility for eastern and southern Africa. CBI is also supporting trade farm participation.

Organic standards

Almost all certified organic production is certified according to the EU regulation 2092/9. 2 Increasingly, as producers target more distant markets, production is also certified according to the US National Organic Program (NOP), or the organic standards of Japan Agriculture Standards (JAS). The direct use of these standards is problematic to apply locally.

Standards Development

There have been many attempts to develop organic standards in Kenya, most of which have been driven by organizations. The first standard developed in Kenya was by The Association of Better Land Husbandry in 1998 (Conservation Supreme Standards). However, the organization is no longer operational in Kenya and hence the standard.

Kenya Organic Farmers Association and KIOF developed KOFA standard for organic production and processing in 2002.

Kenya Organic Agriculture Network started developing national organic standards in 2005 through its membership and stakeholders. However, the process was taken over by Kenya Bureau of Standards (KEBS) as the lead national institution charged with the development of national standard. KEBS has thus produced organic guidelines titled "Guidelines for production, processing and labelling of organic products". The guidelines, which were gazetted in April 2006, provide a frame for the national standards. This was the first initiative that the government through its agency fully participated in towards development of organic agriculture sector in Kenya.

KOAN's original standard, from which the national guidelines were developed, has been amended to conform to the guidelines. The KOAN standard is a voluntary standard, which can be used by certification bodies accredited by KOAN. Moreover, the standard is intended to be used in developing national organic market through Participatory Guarantee System, a non third party guarantee system, where the organic integrity is assured through the stakeholders in the national marketing system.

Encert, a private certification body, produced their private organic standard in 2005 which they have been using for certification for national market.

Development of an East Africa organic standard started in 2005 and is ongoing. This is an IFOAM funded project being implemented by East Africa Organic Agriculture National Movements. The standard aims at enhancing trade on organic products within the East Africa States and export market through its accreditation by IFOAM.

Certification development

Certified organic production has existed in Kenya for many years. The most active certification organizations in Kenya are the Soil Association and EcoCert. In 1997 the Association for Better Land Husbandry (ABLH), a local NGO, in collaboration with the 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. ABLH is no longer involved in certification.

Through the initiative of the research institute at the International Centre for Insects Physiology and Ecology (ICIPE), a company, AfriCert Ltd, was formed in 2003 to carry out certification services mainly for agricultural production and processing systems. The immediate task for AfriCert was to address certification needs for organic production and processing, and EUREPGAP standards for fruits and vegetables. To date, AfriCert has mainly carried out EUREPGAP certification. AfriCert has two full-time members of staff and has received training in EUREPGAP certification and participated in organic inspection trainings organized within the EPOPA framework. AfriCert has achieved ISO 65 accreditation, which is one step towards getting international recognition for its organic certification.

Policy development

There are no official policies for organic agriculture in Kenya, even though there is increasing public interest and recognition of organic agriculture.

The organic sector has developed without any official government policy support. 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 created a favourable environment for the development of the organic industry, and the sector has been able to exploit these policy opportunities.

2.3 Problem Analysis of Organic Agriculture

The OA sector in Kenya is faced with a myriad of problems. However, interviews with the various stakeholders reveal that the key problems facing the sector are the same. The key problems faced by the sector are presented below:

1. High cost of conversion. The process of converting into organic production is an involving and costly process.
2. High cost of certification. Very high costs are charged for certification by the existing certifiers.
3. Poor prices. The prices of organic produce are not sufficiently high (premium) so as to compensate farmers and producers for the extra cost of organic production.
4. Poor marketing. Undeveloped national markets for organic produce.
5. Low levels of research and extension. Extension services for organic production are lacking leading to among other things poor organic crop husbandry.
6. Low levels of awareness. This low level of awareness manifests itself in various dimension but key among is the ignorance by farmers on the benefits of organic agriculture and low level of consumers awareness on organic produce.

Any policy intervention(s) to deal with identified problems must address the root causes of the problem. Table 2.2 shows an analysis of the root causes of the identified problems.

Table 2.2: Root causes of identified problems

Problem	**Root causes**		
	Institutional/ political	Economic	Socio-cultural
High cost of conversion	- Lack of favourable policy for organic agriculture	- High cost of factors of production - Lack of appropriate	- Negative attitudes towards organic agriculture

Problem	Root causes		
	Institutional/ political	Economic	Socio-cultural
	- Lack of incentives for conversion	technology	
High cost of certification	- Limited number of local certifying bodies	- Lack of effective competition by the certifying bodies leading to increased costs	
Poor prices for organic produce	- Lack of favourable macro-economic environment	- High cost of factors of production (inputs) - Low demand for organic produce	- Negative attitudes towards organic agricultural produce
Poor marketing	- Undeveloped national markets	- Lack of premium prices for organic produce - High presence of middlemen and brokers	- Negative attitudes towards organic agricultural produce
Low levels of research and extension	- Lack of a policy on research and extension		
Low levels of awareness	- Lack of a policy on information and awareness on organic agriculture		- Negative attitudes towards organic agricultural produce - Low levels of literacy

Source: Field Interviews

3. Policy Assessment

A key reason for policy interest in organic agriculture lies in the increasing coincidence of organic farming goals and policy goals with respect to the environment, resource use sustainability, food safety, nutrition and human health, financial viability and social justice. However, a commitment to these goals, and the specification of particular practices and technologies to achieve them in production standards, does not necessarily guarantee their achievement in practice. It is necessary to consider the available research evidence and in many cases to identify specific standards, policy measures and further research that could lead to improved performance with respect to these goals.

Environment

There is strong evidence from research, field trials and farm experience that organic farming compares favourably to conventional and integrated production with respect to environmental performance, particular with respect to lower pesticide residues, richer biodiversity, lower nutrient run-off, reduced fossil energy consumption and reduced greenhouse gas emissions. This positive picture is certainly true on a per unit land area scale, and often, but not always, on per unit food produced basis, since organic farming uses more land area to produce the same amount of product. Also within organic farming the picture is not always uniform with respect to environmental performance, due to the wide range of organic farming systems as well as skills, experience and management ability of individual producers, and scope exists for further improvements, e.g. through specific research programmes.

Food safety, nutrition and health

The risk of contamination of food with pesticide and antibiotic residues has been found to be lower for organic than for conventional food. Equally, there is no evidence that organic foods are more risky with respect to microbial and natural toxin contamination. However, research on these topics is still limited. The same holds true for the nutritional value of organic foodstuffs – contents of dry matter, minerals and flavour-providing substances have been found to be higher for organic food in some studies while other studies were unable to confirm this result. The contradictory evidence means that it is not possible to make a conclusive case for the improved nutritional and food safety value of organic foods in the way that it is possible to make an environmental case, but there is sufficient evidence of potential benefits, particularly in the context of the precautionary principle, to justify significant additional research investment and further consideration of this issue.

Financial viability

One of the main concerns of agricultural policy is to preserve the economic viability of farming in general and ensure a sufficiently high income so that farming families will continue farming. This is also an important consideration for agricultural sustainability. The economic viability of organic farming depends strongly on the relative production cost (compared to conventional), the existence of an organic market where farmers can receive premium prices and the availability of specific agri-environmental support for organic farming. In addition, the profitability of organic farming is also influenced by the general market situation and policy development. A comparative review of the economic situation of organic and conventional farms in the EU shows that average profits of organic farms are similar to those of comparable conventional farms, but the income effect of conversion to organic production depends on farm type, location and country.

Social issues

Organic farming is also concerned with social issues and there are many examples of community supported agriculture and similar initiatives. However, these initiatives remain a minority within the organic sector and in comparison to the other issues mentioned, in general social issues have been much less developed. This is being addressed by new initiatives by IFOAM and others in the organic movement to include social issues in organic standards, but it may be some time before these initiatives are reflected in official regulations.

Rural development

Rural development is a key issue of agricultural policy and an array of policies has been implemented to enhance economic development in rural areas, with the main objective of increasing income of rural households and reducing unemployment rates. Organic farming needs in most cases more labour per unit. In situations where the labour force in agriculture is still high and where it is desirable to have only a gradual decrease, measurable positive effects of organic farming on the number of jobs can be expected if organic markets are accessible for these farms. Indirect positive effects such as increased employment in tourism due to a positive "ecological" image of a region can also be of importance.

3.1 The case for policy intervention

Policy makers in Kenya need to support the production and trade in organic agriculture for two main reasons. First, organic farming is recognised as delivering environmental and other benefits to society that society wants. These benefits are public goods, which would not be delivered in sufficient quantities without government intervention. Organic farming support can also be seen as one way to address the issue of negative environmental externalities in modern farming. Of course there are other policies needed and some already in place that deal with decreasing these negative impacts of conventional farming. The key advantage of organic farming support compared to other more specific agri-environmental policy instruments is that a broad range of environmental and other benefits can be obtained, partly supported by the market, and organic farming support is comparatively easy and inexpensive to administer because of the existence of control/inspection systems. In general terms, the more targeted agri-environmental instruments may be more effective at achieving specific targets, but are likely to yield fewer benefits in related areas, and may be associated with much higher transaction and monitoring costs. In these circumstances, support for environmentally friendly farming systems such as organic farming, with more general benefits and lower transaction costs, might actually be a superior policy.

The second argument rests on the following observation: overall, the organic sector is still too small to benefit from economies of scale, especially in the chain between farm gate and point of sale to consumers, which leads to comparatively high costs. These in turn necessitate high premium prices and are one reason why only a relatively small number of products are available in supermarkets. These factors deter the potential "new organic consumer" from actually buying the products. With low levels of demand, the situation stays unchanged. This analysis forms the basis to argue that organic farming can be regarded as an "infant" industry, support for which can be justified in terms of expanding consumer choice and allowing the industry to develop to a point at which it is able to be independent and compete in established markets and make a positive contribution to rural development.

The challenge for policy makers is to develop a mix of policies that can make effective use of the market base which the organic community has developed, while at the same time allowing organic agriculture to remain true to its original aims, thus maximising the broader benefits to society as a whole.

3.2 Examples of policy measures for organic agriculture

The European Union

The positive perceptions of the potential of organic farming led to the introduction of support programmes in various countries starting in the late 1980s.

In the European Union, the two most important policy measures, in terms of their impact on the organic farming sector, were:

- The agri-environmental policies, with specific provisions for organic farming, implemented as a consequence of the 1992 MacSharry Reform of EU agriculture policies, and continued as part of the rural development programme under Agenda 2000;

- The EU-wide common certification system for organic farming, which came into effect in 1993 and was extended to the animal production sector in 2000.

Similar policies were implemented in the EFTA states, so that by 1998, all western European states had implemented regulations to certify organic products and to provide direct financial support to producers converting to or (in nearly all cases) continuing with organic production.

In financial terms, the agri-environmental support programmes are the most important western European policies applicable to organic farming, with several hundred millions spent on organic farming support in the EU annually.

Lately, because of the impacts of supply increases on the markets for organic food, there has been increased interest in some countries in a more diversified approach to the selection of organic farming support policies, with particular interest in demand pull rather than supply push initiatives. Thus a wide range of policies can be found in different countries, some of which are not necessarily specific to the organic sector, but may be targeted at organics as a priority sector. Examples of such policies include:

3.2.1 Producer-focused support

- direct payments to support conversion to and continued organic production
- support for certification costs
- capital investment support (grants, low interest loans etc.)
- special exemptions to mitigate the impacts of mainstream commodity measures, e.g.:
    - more flexible application of set-aside and arable area eligibility rules
    - favourable access to national quota reserves
    - EU-wide provision since 2001 for organic producers to utilise set-aside land for feeding livestock
- information initiatives (research and development, advice, training, benchmarking, pilot/demonstration farms, discussion groups, mentor farmer networks)
- producer groups

- taxes/levies on pesticides and fertilisers with resources redirected to organic farming

3.2.2 Supply chain-focused support

- marketing and processing grants
- supply chain agreements (Netherlands)
- infrastructure/institutional capacity building (information centres, certification, auditing and traceability systems)
- nformation initiatives (research, product development, consultancy and training, statistical and benchmarking data, market intelligence)
- tax credits/rebates on investments in organic businesses

3.2.3 Consumer-focused support

- regulations and certifications systems
- national/European logos/symbols for organic food
- public/consumer information campaigns
- public procurement initiatives40
- organic agri-tourism initiatives
- reduced/zero rate VAT on organic products.

3.3 Experience in the use of policy instruments

From the list of instruments that have been applied to promote production and trade of organic agriculture, two areas emerge as deserving attention at all levels. Firstly, a wide variety of information initiatives in all areas of the food chain are needed to ensure both effective communication of existing knowledge and to improve the performance of organic farming with respect to policy goals. Secondly, appropriate partnerships are needed at all levels, in particular between stakeholders and government, as well as the development of appropriate infrastructures, to ensure the effective development of the organic sector.

Organic farming may have a role in improving productivity in regions where access to external inputs is limited by financial or other constraints and maximising outputs in a self-sufficiency, subsistence context is important. For this reason, Cuba has adopted organic farming methods as a major part of its agricultural policy, and the FAO has identified the contribution that organic farming can make to food security outside the normally perceived context of premium price markets for organic produce.

3.4 Assessment of Policy Options for Kenya

The specific circumstances of Kenya, in particular low labour payments; small farm structures; high proportions of the population deriving incomes from agriculture; the lack of developed domestic organic markets; and the lack of information (research, training etc.) and certification infrastructures needed to support a developing organic sector all mean that specific policies are needed that will be different to those developed in European countries with a longer history of organic farming.

However, international best practice suggests that an organic policy package for Kenya should, among other things:

(i) Recognise the potential contribution of organic farming to agricultural policy reform and rural development by:

- giving specific consideration to organic farming at all levels of policy formulation;
- removing production constraints from organic farming;
- investigating the potential for tax credits and other means to support organic farming via the tax laws (e.g. pesticides tax, organic investment tax credits, reduced or zero VAT on organic foods);
- building as much consensus as possible on the long term objectives for organic farming.

(ii) Strengthen the performance of organic farming with respect to environmental, social and other public goods by:

- ensuring the compatibility of organic farming and other measures, including strengthening the links with other, more targeted agri-environment measures and integrating organic farming within general agri-environment schemes;
- promoting organic farming as a preferred management option in regions of high nature value;
- encouraging targeted research and information dissemination to improve the environmental and social impacts of organic farming;
- developing organic regulations and production standards to include specific environmental and social provisions.

(iii) Empower the consumer to actively support the changing direction of agricultural policy, and in particular the contribution of organic farming, by:

- informing consumers how organic products can be recognised, what practices and technologies are acceptable in organic farming, and what benefits can be expected;
- involving consumers in standards setting and dialogue on the development of organic farming;
- improving understanding of consumer characteristics, needs and motives;
- developing a unified approach to a widely recognised common logo;
- increasing market transparency, including improved communication and avoiding confusion from intermediate and pseudo-organic standards;
- supporting the development of domestic (local, regional) markets in order to reduce dependence on exports;
- •improving access of low income groups to organic products, including through public procurement for schools and hospitals;
- strengthening consumer-producer links;
- recognising and working with gender issues;

(iv) Support organic producers directly and indirectly, by:

- financial remuneration for the production of public goods within the framework of agri-environmental and rural development programmes – organic farming should be supported in accordance with its potential to achieve a broad array of environmental and other objectives, and in this context should have a financial advantage over other approaches in this area, such as integrated crop management, related to its actual environmental benefits;
- supporting advisory and extension services for organic producers, particularly during the conversion period which represents a significant learning process; and by
- enhancing technical, financial and public good performance through targeted research and information dissemination – the level of funding for research in organic farming does not yet correspond to the vision of the future role of organic farming – it should not be restricted to levels

equivalent to the current share of organic land as part of a forward looking strategy;

- encouraging risk-sharing approaches with other parts of the supply chain that do not require the full risk of conversion to and continued organic production to be borne by the producer, and to assist the producer in obtaining a fair price.

(v) Strengthen and develop regulatory systems in particular by:

- developing a national organic standard which should include non-food agricultural products such as fibres, wood, flowers and personal care products;
- increasing stakeholder involvement in standards setting and the development of regulations;
- improving links with researchers to provide a stronger scientific basis for standards;
- developing effective risk-based inspection, auditing and traceability systems through the whole supply chain to minimise the potential for fraud and food safety risks;
- examining the role of private sector accreditation systems in achieving this objective, with the potential fruitful involvement of non-government actors;
- increasing regional and international collaboration in standards development, inspection and control.

(vi) Develop organic supply chains (covering inputs, production, processing, trade, distribution, retailing and catering), by:

- developing comprehensive information on the sector with respect to standards, policies, production, trade and consumption statistics and market intelligence;
- improving information flows through education, technology development, research and extension;
- developing standards with respect to quality, safety, processing and criteria for the use of additives;
- establishing guidelines for sustainable and fair trade;

- increasing confidence and trust through supply chain transparency, chain agreements, risk sharing and effective control systems;
- providing financial support for the development of marketing and processing initiatives;
- addressing barriers to small-scale/on-farm processing, including reducing the negative impacts of regulations;
- targeting resources for sector development at actors with a long-term involvement in and commitment to the sector;
- supporting human capacity building and infrastructure development initiatives.

(vii) Develop specific national policy programmes organic agriculture. Organic farming has been identified as an interesting option for overcoming a number of problems faced by conventional agriculture. Kenya should not repeat the environmental mistakes caused by high-input agriculture and could rely instead on improving the environmental and economic performance of dominant low-input agriculture, "greening" the remaining high-input agriculture and stimulating a wider spread of organic agriculture, by:

- strengthening environmental regulations related to agriculture, including enforcement and control;
- reforming current subsidy, tax and investment aids to shift support towards organic farming and away from adverse measures;
- introducing or improving existing organic farming support measures, including ensuring appropriate budgetary reservations;
- supporting institutional and human capacity building, by increasing research and education funding, developing indigenous research facilities, extension services etc. and supporting stakeholder co-operation, platform building and strengthening of organic agriculture networks, including existing international networks dealing with organic agriculture;
- encouraging development of domestic (local and regional) markets;
- developing new initiatives to meet the specific technical, financial and other needs of small producers, including the development of producer group initiatives;

(viii) Adopt an integrated, action plan approach which takes the dynamic nature of the organic sector into account, balances supply-push and demand-pull measures and reflects the specific circumstances of individual countries or regions. Such action plans should include:

- goals (vision) for the development of the organic sector;
- detailed analyses of the situation of organic farming in the specific regions and the identification of the key barriers to development;
- evaluation of and learning from experiences with similar policies in other regions;
- stakeholder participation in development and implementation of the plans through representative bodies/partnership structures with appropriate administrative support;
- realistic funding of the development process and subsequent actions;
- mechanisms to permit periodic evaluations and revisions;
- support for the development of such action plans.
-

Specific Policy Options

Based on nature of the organic sector in the country and borrowing from international best practice, this assessment proposes two policy options for the promotion of production and trade in organic agriculture. The effects of these options on the economy, society and environment will be individually assessed, based on a set of indicators for each of the category. The indicators, agreed upon by stakeholders during the 1st national stakeholder workshop, are as follows:

- **Economic Indicators**
  - Level of household income
  - Contribution of sector to national output
- **Social Indicators**
  - Poverty reduction
  - Food security
- **Environmental Indicators**
  - Pollution of water sources
  - Level of biodiversity.

The assessment of the effects is qualitative and relies on expert opinions largely because of lack of quantitative data. The national statistics do not distinguish between conventional food and organic food because the market share of organic food is too small. The statistics about sales and prices that supermarkets and other retail outlets have for their internal turn-over in profit and loss calculations are not disaggregated by organic or conventional foods.

The assessment looks at the policy options that can be applied to tackle the key problems limiting the production and trade of OA as identified in section 2, and the effects of these instruments on the economy, society and the environment, through the selected indicators.

Two policy options are chosen for the assessment, both of which contain a regulatory instrument, a national organic standard, and awareness campaigns on organic agriculture and organic labelling (Information based instruments). However, the options differ in the choice of economic instruments, which are discussed in greater detail.

3.4.1 Option One (Zero rating VAT on organic production)

This option has four instruments to tackle the problems, the main one being Zero rating VAT on organic production in Kenya.

Table 3.1: Policy Options 1

Problem	Policy Instruments		
	Regulatory	Economic	Voluntary Information – based instruments
High cost of conversion	-	- Zero rating organic production	-
High cost of certification	-	- Zero rating organic production	-
Poor prices for organic produce	-	- Zero rating organic production	- Awareness Campaigns
Poor marketing	- National standard	- Zero rating organic production	- Awareness Campaigns - (Eco) Labelling
Low levels of research and extension		- Zero rating organic production	- Awareness campaigns
Low levels of awareness	-	-	- Awareness campaigns

A VAT reduction implies for consumers that they have to pay a lower price for organic products and for farmers that they receive a higher price for their products.

Consumers and producers benefit from a VAT reduction. Due to lower prices consumption of organic products is expected to grow. Assuming there was market equilibrium before the VAT reduction, the price reduction introduces a shortage of supply. Additional supply will be available if higher prices are paid. This implies that organic producers also benefit from a VAT reduction on consumer products. This will also motivate more farmers into organic production and hence increased conversion. Increased conversion implies higher incomes to the farmers, higher output of the sector and better health for the environment. Consumers are likely to respond to lower prices by buying more organic products.

Table 3.2 : Effects of Option 1 on organic production and trade

Effects	Direction	Magnitude
Economic		
• Level of household income.	Positive [+]	Significant
• Contribution of sector to national output	Positive [+]	Significant
Social		
• Poverty reduction	Positive [+]	Significant
• Food security	Positive [+]	Significant
Environmental		
• Pollution of water sources	Positive [+]	Significant
• Level of biodiversity	Positive [+]	Significant

The demand for a product is closely related to the price. A price increase is usually followed by a decrease in demand and a price decrease by an increase in demand. If a good has many close substitutes, the effect of a price change will be than if no substitutes are available. If the demand curve is known the effect of a price reduction on the demanded volume can be calculated. However, since data on exact organic produce production and trade in Kenya is not available, this task is not feasible. The relation between the demand for a certain product and its price is characterised by the price elasticity of a product. As there are many close substitutes for organic products, we can expect those products to have a high price elasticity. A price decrease for organic products might for this reason be an interesting way to stimulate consumption and production of these products.

Sensitivity of consumers to changes in prices of organic products varies per commodity group and it even varies per product. Moreover the price level at which different consumer groups start to be interested in organic products is different. Innovators are the least sensitive to price changes, early adopters are more sensitive and the early majority is again more sensitive to price changes.

The differences in reactions between consumer groups explain why demand will increase faster if organic prices get closer to conventional prices, and why a certain demand for organic products will be maintained if price differences increase between organic and conventional products. In other words, there is a group of heavy users that does not care about the price of organic products. They keep buying it even at very high price differences. At the other extreme there is a group of consumers that will not buy organic products even if it is cheaper than conventional products.

3.4.2 Option Two (Direct payments to organic production)

This option has four instruments, the main one being direct payments to organic production, as shown in Table 3.3.

Table 3.3: Policy Options 2

Problem	**Policy Instruments**		
	Regulatory	Economic	Voluntary Information – based instruments
High cost of conversion	-	Direct payments --Conversion subsidies	-
High cost of certification	-	Direct payments --Certification subsidies	-
Poor prices for organic produce	-	Direct payments --Conversion subsidies - Maintenance payments	- Awareness Campaigns
Poor marketing	- National standard	Direct payments --Conversion subsidies - Maintenance payments	- Awareness Campaigns - (Eco) Labelling
Low levels of research and extension	-	- -	- Awareness campaigns
Low levels of awareness	-	-	- Awareness campaigns

Support for organic farming is one of the accepted activities for promoting production and trade in organic agriculture Growth of the organically farmed area would be spurred significantly if the budget for organic farming (through agri-environment payments) would be established.

A feasible option would be direct income payments with a certain percentage and use the revenues for certain specific measures under a conversion programme.

Table 3.4 : Effects of Option 2 on organic production and trade

Effects	Direction	Magnitude
Economic		
• Level of household income.	Positive [+]	Significant
• Contribution of sector to national output	Positive [+]	Significant
Social		
• Poverty reduction	Positive [+]	Significant
• Food security.	Positive [+]	Significant
Environmental		
• Pollution of water sources	Positive [+]	Significant
• Level of biodiversity.	Positive [+]	Significant

Budgetary allocations for organic farming involving direct payments to farmers for organic production is a policy option to be considered in Kenya since direct payments will undoubtedly require funding. However, relying on already constrained national budget may not be feasible for Kenya. We therefore look at some of the instruments which could be used to provide the funding while at the same time promoting production of organic agriculture. These are the introduction of a pesticides and/ or fertilizer levy.

Introduction of a pesticides levy

The introduction of a pesticides tax in Kenya will have different effects on organic agricultural production. The price elasticity is an 'objective' indicator for the change in purchase behaviour of farmers when prices of pesticides increase. The higher the elasticity the more responsive farmers are to changes in pesticide prices. The price elasticity for pesticides is always negative because a higher pesticide prices lead to reduced sales and reduced use of pesticides.

A levy on pesticides has a direct effect on organic farming because it reduces the comparative economic advantage of conventional farming compared to organic farming. A levy on herbicides could imply that conventional farmers start to apply organic weed control measures complementary to or instead of conventional methods, without converting their farm into organic. Although this has no immediate effect on the organically farmed area, it has positive effects on the environment and it may positively change the attitude of conventional farmers towards organic farming, leading to more organically farmed area over time. A levy on herbicides would stimulate farmers to adopt organic methods. Weed control is considered as one of the major obstacles for converting to organic farming. Control of plant diseases and insects in an organic way requires more radical changes to conventional farming systems than weed control. A key issue is the level of the tax because weed control in organic farming is relatively costly. A levy on herbicides would need to make organic weed control measures economically attractive for conventional farmers.

The revenue of a pesticide levy could be used to stimulate organic farming. An increase in organic farming area would in turn reduce the sales of pesticides.

Introduction of a fertilizer levy

For this instrument, (some) environmental effects of a fertiliser tax as well as effects on organic production will be assessed. The fertiliser tax refers to chemical Nitrogen fertilisers only since no literature sources were found referring to a levy on phosphate.

Levies on fertilisers reduce the nitrogen fertiliser consumption or lead to decreasing nitrogen leaching to surface and groundwater. The literature review reveals that fertiliser levies below 75% give a 0-44% reduction in fertiliser input. A 'moderate' levy on fertilisers between 76 and 170% gives a 0-81% reduction and a higher levy of 171-300% gives a 10-96% reduction in fertiliser use (van Zeijts 1999).

Although no literature sources were found on the direct effects of a levy on fertilisers on the organically farmed area, a direct effect might be expected because a levy would reduce the comparative economic advantage of conventional farming compared to organic farming.

A key issue is how the revenues of the nitrogen levy are used. The effect on the organically farmed area will be relatively big if the revenues are used to stimulate organic farming through conversion or maintenance subsidies.

3.4.2 Comparison of policy options

The main advantages of a VAT tariff of 0% compared to direct payments that it impacts primarily on the demand side, while the latter impact on the supply side, at the risk of creating an oversupply of organic products. Secondly, the instrument explicitly targets organic agriculture, while it remains to be seen if and what percentage of the revenues of for direct payments will be used for organic farming.

The main disadvantages of a VAT tariff of 0% compared to direct payments are that its effect on the organic area may be relatively small and unevenly distributed within the country. Secondly, the price decrease for consumers can be eroded by farmers, food processors or retailers, for example in case of shortages of organic products, or when processors or retailers use the VAT reduction to increase their profit margin on organic products.