

Kenya's Cut-Flower Cluster



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Microeconomics of Competitiveness

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1. Introduction

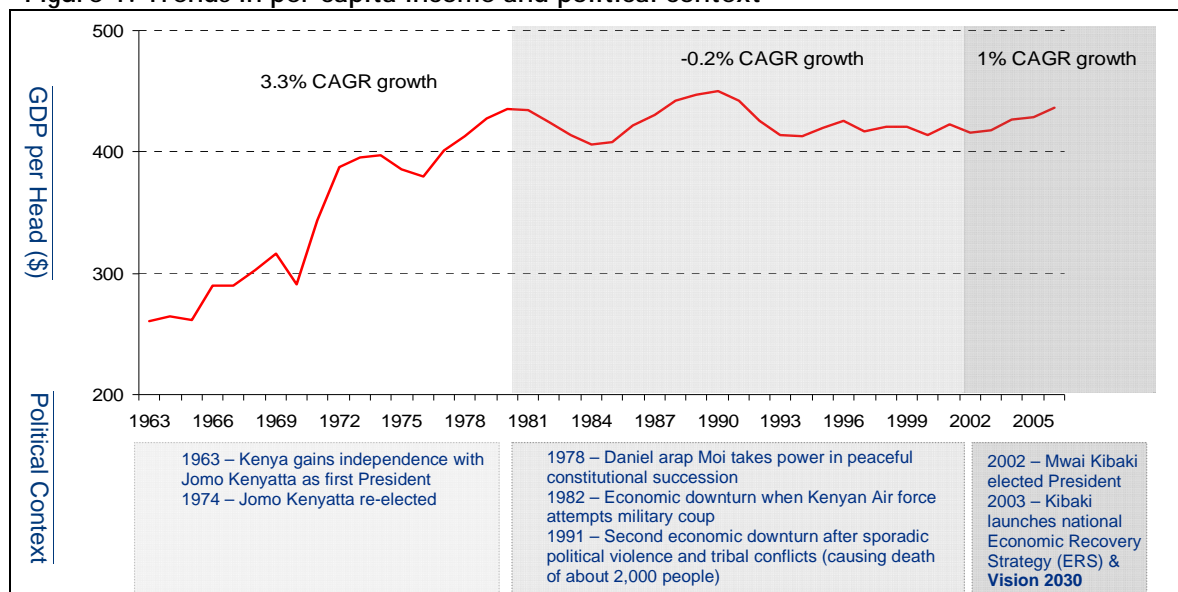
Kenya is located in East Africa and has a population of about 35 million people. The country has gained international prominence for its world class runners, breadth of tourism attractions and as a regional hub and gateway to eastern Africa. Kenya gained its independence in 1963 and has had three presidents: Jomo Kenyatta (1963 - 1978); Daniel arap Moi (1978 - 2002); and Mwai Kibaki (2002 - Present).

2. Overall Economic Performance

2.1 GDP Growth - Historical perspective & recent trends

The evolution of Kenyan real per capita income can generally be classified in to three presidential sub-periods since independence in 1963 (Figure 1). Soon after independence, Kenya gained a reputation as one of Africa's most stable and prosperous countries during the reign of President Kenyatta. President Moi's 24 year reign was marked by deterioration in the country's economic condition and sporadic political upheaval. In particular, sharp declines in per capita income were registered during 1982-84 following the 1982 coup attempt by the Kenyan Air Force, and during 1991-94 following the 1990-92 sporadic political violence and tribal conflict, which claimed the death of about 2,000 people. In December 2002, Mwai Kibaki won a landslide victory as the country's 3rd president ushering in a new hopeful era.

Figure 1: Trends in per capita income and political context



Source: World Development Indicators 2006

Thus far the Kibaki government has made significant progress towards economic growth and macroeconomic stability over the last 4 years. The real GDP annual growth jumped from 0.6% in 2002 to 6% in 2006; and growth of per capita income rose from minus 1.6% in 2002 to plus 3.8% in 2006. Progress has also been observed in macroeconomic policy stability and in investors' business confidence (Nyamunga, 2007).

2.2 *Income, Production, and FDI*

In 2005, Kenya's average annual real income per capita was \$442 dollars (in 2000 constant prices). This makes it the richest country in East Africa, but one of the poorest countries in the world even by Sub-Saharan African (SSA) standards (Table 1). In purchasing power parity (PPP) terms, Uganda's GDP per capita outpaces Kenya and Kenya's income stays well below the average for SSA. Table 1 also shows that Kenya's manufacturing sector is larger than that of its neighbors, though slightly lower compared to SSA's average. Kenya's service sector larger than its neighbors' and even by SSA's standards, whereas the agriculture sector is smaller, implying that Kenyan economy is more diversified.

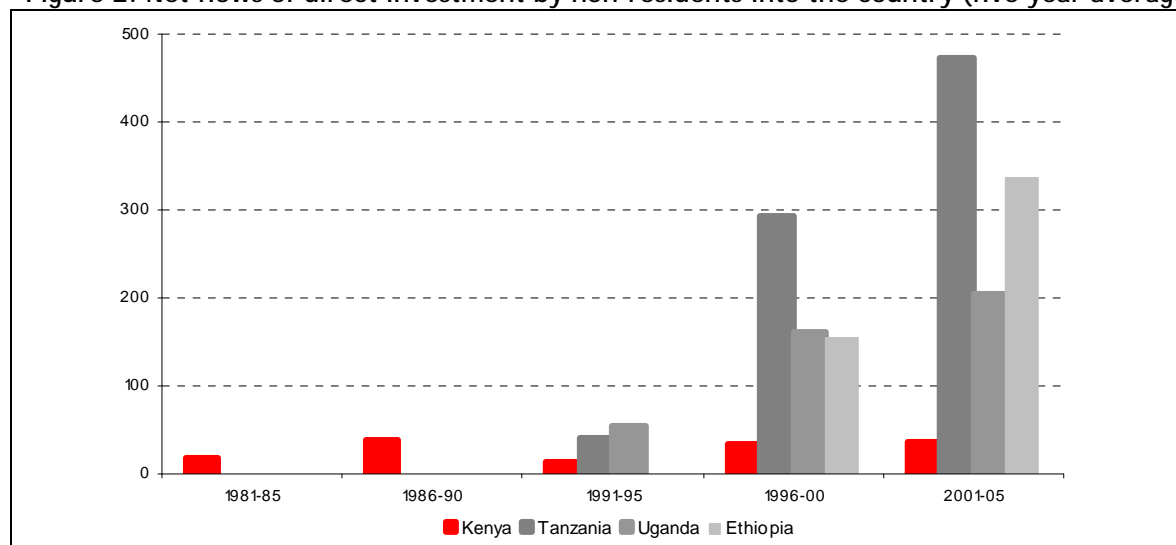
Table 1: Basic Economic Indicators

Indicator	Kenya	Ethiopia	Tanzania	Uganda	Sub-Saharan Africa
<i>Income (2005) and Average growth</i>					
GDP per capita, PPP (constant 2000 international \$)	1042	896	653	1363	1871
GDP per capita (constant 2000 US\$)	442	141	330	270	569
Growth in per capita GDP (2000-2005)	0.85	3.01	4.47	2.13	1.84
<i>Structure of production (% of GDP) (2000-2005)</i>					
Agriculture	29.7	45.6	45.0	33.7	17.8
Industry	17.6	13.5	16.5	21.5	31.1
Manufacture	11.3	5.6	7.3	9.5	13.6
Service	52.7	40.9	38.5	44.8	51.0
<i>Composition of Expenditure (% of Total Expenditure) (2000-2005)</i>					
Private consumption	71.6	77.7	79.6	78.7	65.2
Government consumption	16.9	15.5	10.9	14.4	16.8
Investment	17.2	22.6	18.1	20.0	17.8
Foreign direct investment, net inflows	0.3	3.9	4.6	3.0	3.0

Source: World Development Indicators 2006

The pattern of expenditure, however, reveals that the rate of foreign direct investment into Kenya is lower than its neighbors (Figure 2).

Figure 2: Net flows of direct investment by non-residents into the country (five year averages)



Source: Economist Intelligence Unit (EIU) (2005)

What is the reason for the low FDI?

The World Bank's business climate survey indicates that corruption, cost of finance, and crime are some of the major impediments to investment in Kenya (World Bank, 2004). According to the Transparency International's Corruption Perception Index, Kenya ranks poorly in comparison to its neighbors (Table 2). This is supported by the World Bank governance indicators where Kenya has the worst regional ratings for 'Rule of Law' and 'Control of Corruption', with a scores of -1.02 and -0.98 respectively both poorer than the regional averages of -0.73 and -0.83, suggesting that Kenya has not been able to completely expel its image of being corrupt even after a new anti-corruption minded administration came into power.

Table 2: Corruption Perception Index and Country Ranks

Country	2005		2004		2003		2002	
	Rank	CPI Score	Rank	CPI Score	Rank	CPI Score	Rank	CPI Score
Ethiopia	137	2.2	114	2.3	92	2.5	59	3.5
Kenya	144	2.1	129	2.1	122	1.9	96	1.9
Tanzania	88	2.9	90	2.8	92	2.5	71	2.7
Uganda	117	2.5	102	2.6	113	2.2	93	2.1

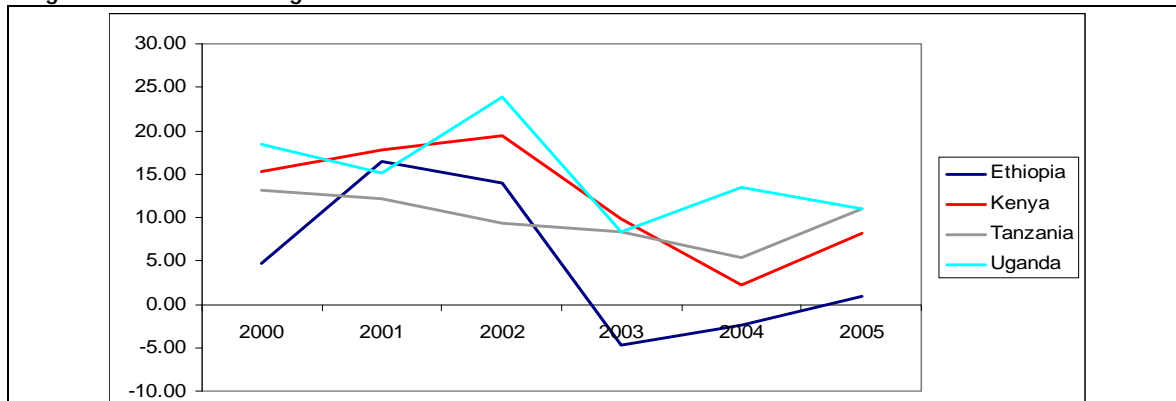
Source: Transparency International, Online Database

While the perception of corruption is one possible factor for the poor performance of Kenya in attracting FDI compared to its peers; the World Bank's rankings on ease of doing

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business in various countries ranked Kenya 3rd within SSA in the ease of access to credit, compared to Ethiopia (8), Tanzania (17) and Uganda (38). In addition, the cost of finance based on real lending rate shows that from 2000-2005; Kenya's average real interest rate is comparable to its neighboring countries (Figure 3). This indicates that finance is not a factor in the differences in investment between Kenya and its neighbors.

Figure 3: Real Lending Rates



Source: World Development Indicators 2006

An analysis of the FDI inflows by industry cluster and business function (Table 3) seems to suggest that an additional explanation for low FDI into Kenya in relation to its neighbors could be related to the nature of investment opportunities. Tanzania has attracted higher value but lower volume FDI projects mainly into its extraction industry (diamond and gold); while Uganda has attracted FDI projects mainly into food/beverages/tobacco industry cluster. On the other hand, FDI projects in Kenya have been lower value but higher volume and spread out more broadly by industry cluster into ICT, food/beverage/tobacco, & electronics.

Table 3: Analysis of FDI Projects (2003 - 2006)

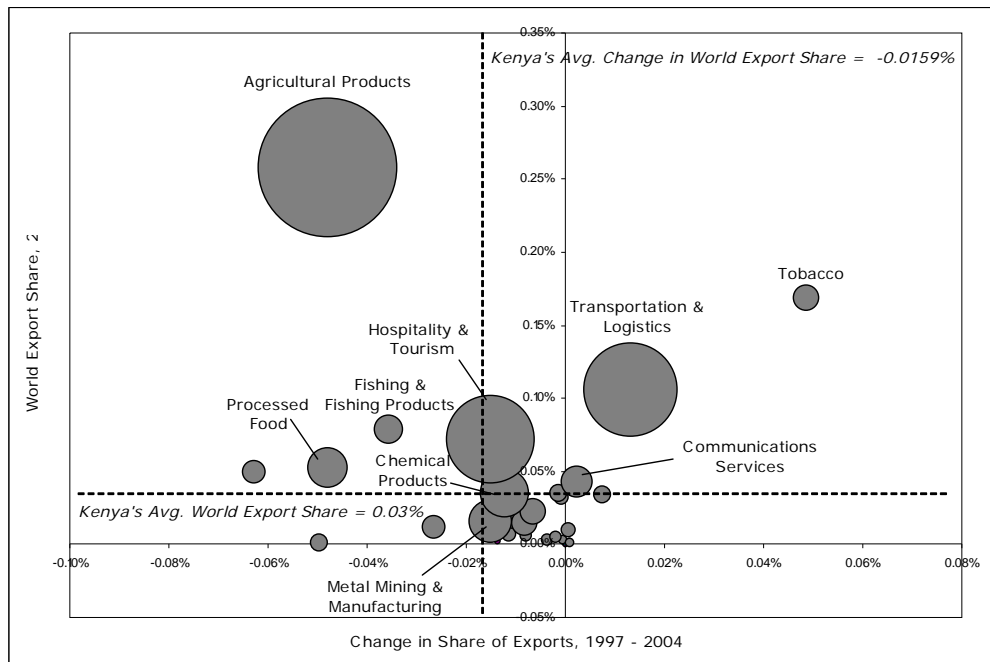
	Kenya	Tanzania	Uganda
<i>FDI Projects (2003 - 2006)</i>	53	31	35
<i>FDI Projects by Industry Cluster (%):</i>			
ICT	19%	6%	16%
Food/Beverages/Tobacco	18%	3%	30%
Electronics	18%	0%	5%
Business & Financial Services	11%	26%	11%
Heavy Industry	4%	41%	11%
Other	30%	24%	27%
<i>FDI Projects by Key Business Function (%)</i>			
Manufacturing	37%	15%	38%
Sales, Marketing & Support	33%	18%	19%
Business Services	9%	24%	11%
Logistics & Distribution	9%	0%	3%
Extraction	4%	32%	3%
Other	8%	11%	26%

Source: Foreign Direct Investment in Africa, LOCO Monitor (www.locomonitor.com)

2.3 Kenya's Economic Activity by Cluster

Kenya has a relatively small share of world exports (0.03%), and this share has been declining (-0.0159%) for the period from 1997 to 2004 (Figure 4). Kenya's largest cluster is the Agricultural Products cluster. However, this cluster which has about 0.26% market share has experienced a decline in market share (-0.05%) from 1997-2004. Transportation and Logistics is the second largest cluster and it showed positive growth. This reflects the attractiveness of Kenya's location as a region transportation conduit for its landlocked neighbors.

Figure 4: Kenya's Export Profile by Cluster, 1997 - 2004



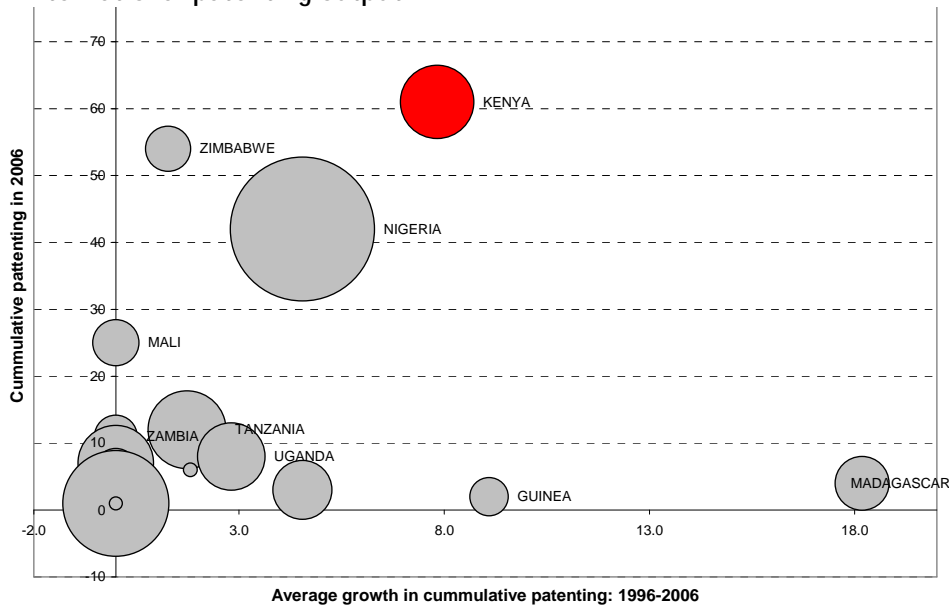
Note: Bubble size proportional to absolute export value
 Source: Institute for Strategy and Competitiveness, Harvard Business School

2.4 Innovation and Productivity

Kenya leads in international patenting output from Sub-Saharan Africa region excluding South Africa (Figure 5). Although relative to other regions in the world, patenting output from SSA is relatively low; Kenya's regional advantage largely stems from a long history of emphasis on education and research institutions. According to the Global Competitiveness Report in 2006, out of 125 countries, Kenya had the highest regional ranking on the 'quality of scientific research institutions' (31st), on

'company spending on research and development' (34th), and on 'capacity for innovation' (52nd).

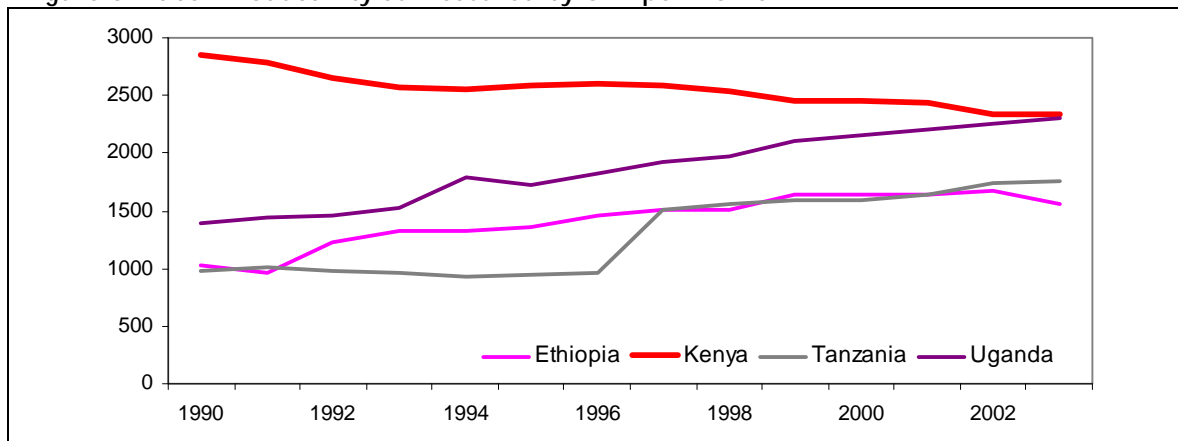
Figure 5: International patenting output



Source: U.S patenting office (2006), Team analysis

Though Kenya leads its neighbors in labor productivity, Kenya's productivity has been declining over time (Figure 6). The World Bank's Investment Climate assessment indicates that Kenyan workforce compares quite favorably in terms of education level with other African countries. However, despite the relatively high literacy levels of Kenya's workforce compared to its Sub-Saharan African neighbors, the level and quality of skills development and technical training in the economy is considered less than adequate.

Figure 6: Labor Productivity as measured by GDP per worker



Source: Penn World Tables 6.2, online database

2.5 Balance of Payments

2.5.1 Current Account

Kenya had a current account deficit of 2.6 percent of GDP in 2005, down from a surplus of 1 percent of GDP in 2003 (Table 5). The deterioration in trade balance contributed to Kenya's persistent current account deficit despite strongly positive service balance and increased net inflow of transfers including remittances and mainly transfers to NGOs and the government (foreign aid).

Table 4: Summary of Balance of Payments (% of GDP, unless otherwise indicated)

Description	2000	2001	2002	2003	2004	2005
<i>Current account balance</i>	-1.6	-2.5	-0.9	1.0	-2.2	-2.6
Net trade in goods and services	-7.8	-8.0	-5.0	-4.3	-6.2	-7.6
Net trade in goods	-9.9	-10.4	-7.7	-7.8	-10.1	-11.6
Merchandise exports	13.6	15.0	16.4	16.5	16.6	17.6
Merchandise imports	24.4	24.6	25.1	25.5	28.1	32.8
Net trade in services	2.2	2.4	2.7	3.5	3.8	4.0
Net current transfers	7.2	6.5	5.2	5.9	4.9	5.5
Remittances		0.4	0.4	0.4	1.0	1.1
Other*		6.1	4.8	5.5	3.9	4.4
<i>Net capital account</i>	5.9	5.9	9.5	16.7	13.4	3.9
FDI	0.9	0.0	0.2	0.5	0.3	0.1
Portfolio Investment	-0.1	-0.1	-0.1	-0.3	-0.5	-0.3
Other**	5.0	6.0	9.5	16.4	13.7	4.1
Net errors and omissions	-1.0	1.0	1.5	-2.0	1.0	0.0
<i>Overall Balance of Payments</i>	3.3	4.5	10.1	15.7	12.2	1.2

Source: World Development Indicators 2006

*Includes transfers to NGOs and grants to the government; **Includes mainly of debts

The trade balance deteriorated due to the unbalanced growth of imports and exports, where imports grew faster than exports. Two major import items: industrial supplies and machineries and other capital equipments constitute about a half of the total import bills. On the other hand, Kenya exports primary commodities such as tea, horticulture, and coffee; which constitute about 40 percent of the total exports. Kenya's export and import are also highly concentrated by markets. Asia (50%) and Europe (33%) are key origins of Kenya's imports while Africa (50%) and Europe (33%) are key export destinations.

2.5.2 Regional & Bilateral Trade Partners

The fact that half of Kenyan exports go to Africa seems to indicate that Kenya takes advantage of regional integrations, in particular the Eastern African Community (EAC). While

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it is a net importer of food products from EAC markets, Kenya is a net exporter of energy, petroleum, and manufactured goods (Table 6).

Table 5: Kenya's trade with East African Community by commodity (% of total)

	Exports to		Imports from	
	Uganda	Tanzania	Uganda	Tanzania
Food Products	8.4	18.8	79.8	21.8
Agricultural Materials	8.4	2.8	6.1	19.3
Energy	26.4	15.7	0.1	2.0
Petroleum and Petroleum products	26.1	15.7	0.0	2.0
Manufacturing	52.9	59.1	11.5	43.4

Source: McIntyre (2005)

Kenya-US trade is very small, but Kenya gained a strong surplus under the African Growth Opportunity Act (AGOA) provide by US (Table 7).

Table 6: Trade with US (millions of USD)

	2004	2005	2006
<i>Total trade</i>			
Exports to US	352.2	347.8	352.8
Imports from US	386.9	625.9	516.1
<i>Balance of Trade</i>	<i>-34.8</i>	<i>-278.2</i>	<i>-163.3</i>
<i>Of w/c under AGOA</i>			
Exports to US	279.9	272.1	265.1
Imports from US	6.8	6.1	7.9
<i>Balance of Trade</i>	<i>273.1</i>	<i>266.0</i>	<i>257.2</i>

Source: US Department of Commerce

2.5.3 Capital Account

Kenya's capital account has been strongly positive and a source of financing the current account deficit. Financing however comes mainly from debt and not investment flows. Kenya has a total debt of 33% of gross national income in 2005, of which about 80% is concessional (Table 8). During the same period, Kenya serviced 4.4% of its exports down from 21% in 2000.

Table 7: Profile of external debt

	2000	2001	2002	2003	2004	2005
Total debt (EDT)/GNI (%)	48.9	43.0	47.9	47.6	43.2	33.1
Concessional debt/Total debt (EDT) (%)	66.7	74.2	75.7	74.1	77.6	79.4
Debt service (TDS)/Exports of goods and services (XGS) (%)	20.9	15.6	16.0	15.5	7.6	4.4

Source: Global Development Finance, online database

2.6 Inequality, Poverty, and Human Development Indicators

Kenya's Gini coefficient¹ is one of the highest in East Africa indicating a widening gap between the rich and the poor (Table 4). However, Kenya has lower poverty levels in

¹ Gini coefficient is an indicator of inequality. A coefficient of 0 means perfect equality, while 1 means perfect inequality

comparison to its neighbors. Kenya also outperforms most of its regional peers in health, education, and overall human development indicators.

Table 8: Inequality, Poverty, and Human Development Indicators

Indicators	Kenya	Ethiopia	Tanzania	Uganda	Sub-Saharan Africa
<i>Inequality and Poverty</i>					
GINI index	43	30	35	46	na
Poverty headcount ratio at \$2 a day (PPP) (% of population)	58	78	90	69	72
Health Indicators					
Health expenditure, total (% of GDP) (2004)	4.1	5.3	4.0	7.6	6.3
Physicians (per 1,000 people)	0.14	0.03	0.02	0.08	na
Mortality rate, infant (per 1,000 live births)	77.0	92.4	88.0	85.0	96.3
Education Indicators					
Public spending on education, total (% of GDP)	6.7	5.0	na	5.2	3.9
Primary completion rate, total (% of relevant age group)	95.0	55.0	54.2	57.1	57.9
School enrollment, secondary (% net)	42.1	27.9	na	13.0	24.5
Overall Human Development Indicators					
Life expectancy at birth, total (years)	49	43	46	50	47
Human development index rank	152	170	162	145	na

Source: World Development Indicators 2006; Key Indicators of the Labor Market (KILM) database, ILO

3. Assessment of the National Business Environment

3.1 Kenya's Global Competitiveness

Kenya's competitiveness is weak by global standards, but relatively strong compared to its neighbors and has improved considerably since President Kibaki came into power in 2002. The Global Competitiveness Index ranked Kenya 94th out of 125 countries in 2006. This ranking is low but higher than expected given Kenya's level of prosperity with an annual income per capita adjusted for purchasing power of \$1,042 (EIU, 2006), as compared to Benin (105th), Burkina Faso (116th) and Nigeria (103rd) - all countries which have similar levels of prosperity but much lower competitiveness rankings. In comparison to its neighbors, Kenya has the best competitiveness ranking on all indicators and stands out particularly in the quality of business sophistication (Table 9).

Table 9: Kenya's Global Competitiveness Ranking in Relation to Neighbors

Global Competitiveness Ranking	2006
Kenya (out of 125 countries)	94
Ethiopia (out of 125 countries)	120
Tanzania (out of 125 countries)	104
Uganda (out of 125 countries)	113

Source: World Economic Forum, Global Competitiveness Report 2006-2007

Since 2003, Kenya's ranking has improved considerably across all three dimensions of the Competitiveness index particularly in National Business Environment Ranking (Table 10).

Table 10: Kenya's Global Competitiveness Ranking, Historical Perspective

	2003	2006
Business Competitiveness Ranking (out of 94 countries)	67	62
National Business Environment Ranking (out of 94 countries)	71	65
Company Operations & Strategy Ranking (out of 94 countries)	59	55

Source: World Economic Forum, Global Competitiveness Report 2006-2007

The story is consistent with the World Bank's Doing Business survey, where Kenya was ranked 83rd out of 177 countries in the survey in 2006 (Table 11) suggesting a relatively low global position, yet regionally competitive. Kenya was particularly strong in dealing with licenses (it takes an average of 11 procedures to gain a license while the OECD average is 14 procedures); and on getting access to credit which indicates that Kenya has a relatively well-developed financial sector (World Bank DoingBusiness, 2006).

Table 11: Doing Business Regional Ranking Comparison

	Kenya	Ethiopia	Tanzania	Uganda
Doing Business	83	97	142	107
Starting a Business	111	95	127	107
Dealing with Licenses	24	59	172	110
Employing Workers	68	79	143	8
Registering Property	115	146	157	166
Getting Credit	33	83	117	159
Protecting Investors	60	118	99	60
Paying Taxes	127	31	113	43
Trading Across Borders	145	149	67	160
Enforcing Contracts	67	82	65	71
Closing a Business	128	55	105	44

Source: World Bank Doing Business Database (2006)

However there are concerns which could impact the business environment, particularly in the ability to register property where it takes an average of 72 days in Kenya compared to the OECD average of just 32. Also the World Bank rankings suggest trading across borders is more difficult than it should be; as in Kenya the cost to export is 33 percent higher than the regional average and more than twice the cost for OECD countries.

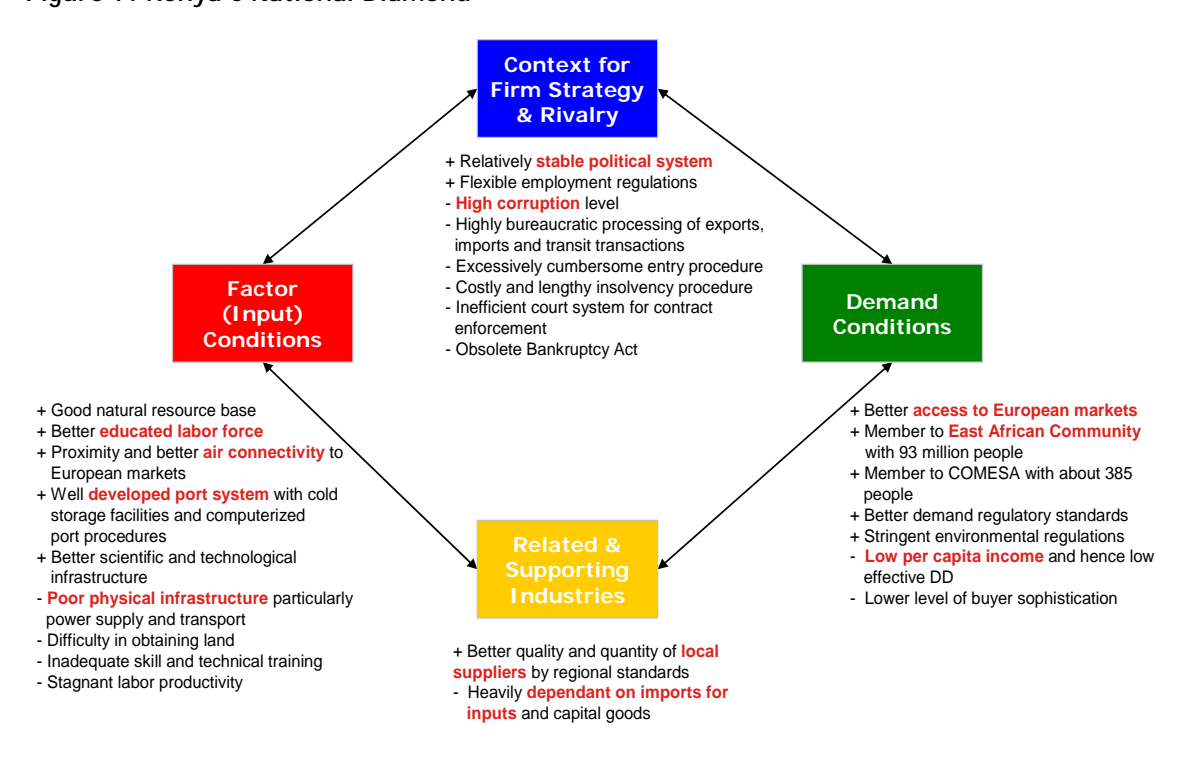
Kenya also has some troubling governance indicators. While governance overall has been extremely stable and regulatory quality is relatively efficient other concerns persist. Corruption is one of most significant barriers facing firms in Kenya, especially foreign firms, as discussed earlier. According to an enterprise survey conducted by the World Bank in 2004

corruption was rated as a severe or major obstacle by three quarters of the sample firms, and respondents reported that “unofficial payments” to “get things done” are required 57 per cent of the time (Kenya ICA, 2004).

3.2 Assessment of Kenya's National Diamond

Kenya's business environment was assessed using a country diamond framework (Porter, 1998) that along the dimensions of factor or input conditions; demand conditions; context for firm strategy and rivalry; and related and supporting industries (Figure 7).

Figure 7: Kenya's National Diamond



Source: Team Analysis

Assessment of *factor (input) conditions* indicates that the Kenyan workforce is relatively well-educated, with high returns to education (Kenya ICA, 2004). This stems from a strong historical emphasis on education by the government and recent introduction of free primary education. In addition, Kenya has a strong transport infrastructure for example Mombasa's port and Nairobi's Jomo Kenyatta International Airport. However problems linger in other forms of infrastructure such as extremely poor roads and an insufficient supply of electricity. The Global Competitiveness Report Ranks Kenya 106th out of 125 countries on 'overall infrastructure quality' and in an enterprise survey done by the World Bank in 2004,

many firms identified high levels of dissatisfaction with transport infrastructure, especially roads and rail. Domestic and international investment is also hindered by power difficulties. Manufacturing firms in 2004 lost nearly 10 per cent of sales to power outages, and two-thirds lost capital equipment to surges (Kenya ICA, 2004).

On *demand conditions*, membership in AGOA, COMESA and the EAC trading blocks creates large sources of demand as shown by increasing exports, but the low income levels in these countries means that demand is relatively unsophisticated. The *context for firm strategy and rivalry* has improved considerably (see below) since Kibaki came into power in 2002, as political stability combined with emphasis on improving business enabling environment has resulted in considerable improvements. But a serious weakness remains for many Kenyan businesses as *related and supporting industries* remain dependant on imports for inputs and capital goods to perform normal business operations.

In summary the national business environment has improved considerably since 2002 but the chief barriers to firm competitiveness today are corruption and infrastructure.

Identified Cluster Challenge # 1: General Domestic Constraints

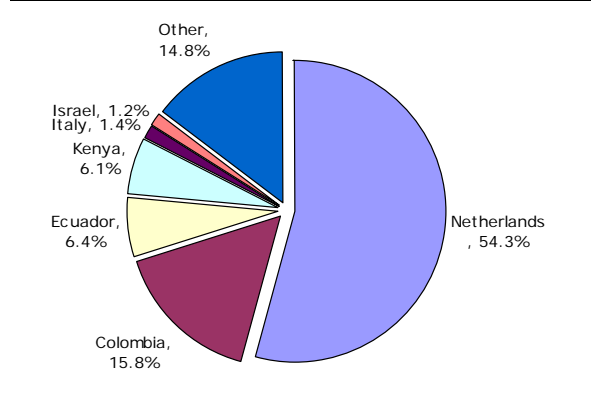
4. World Cut-Flower Market

4.1 World Market Share

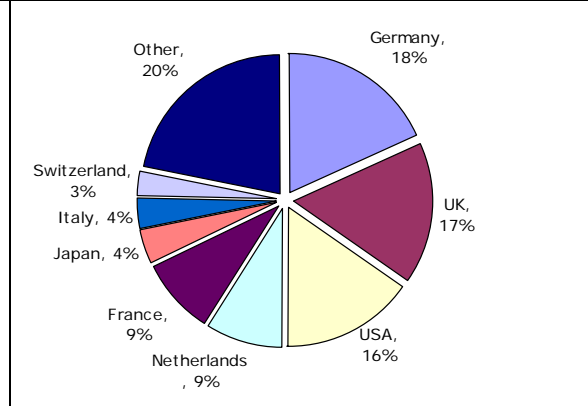
The cut flowers world market is a \$5.7 billion market dominated by Netherlands which accounts for about 54% of exports in 2005. The other top exporters are Colombia (16%), Ecuador (6%) and Kenya (6%). The main import destinations for cut flower exports are to EU countries. The largest country destination is Germany (18%) followed by UK (17%) and the USA (16%). (Figure 8).

² Cluster challenges are identified throughout the document and will be discussed in detail at the conclusion of the document.

Figure 8: Cut Flowers World Market, 2005 by Value (\$5.7 Billion Market)
Cut Flower Exporters



Cut Flower Importers

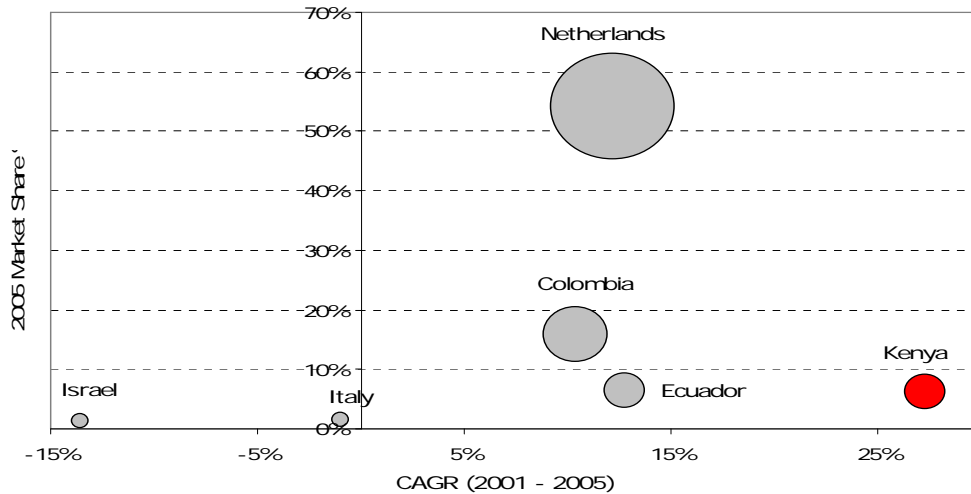


Source: Trade Competitiveness Map - International Trade Centre (UNCTAD/WTO); Team Analysis

4.2 Kenya's Competitiveness in World Cut Flowers Market

Although Kenya currently accounts for only 6% of world market share, it has exhibited the fastest growth among the top cut flower exporters. From 2001-2005, Kenya's cut flower exports grew at a compounded annual growth rate (CAGR) of 27%. (Figure 9).

Figure 9: Cut Flowers World Market Share and Growth (2001 - 2005)



Note: Bubble size proportional to absolute export value. Total cut flowers export market = \$5.7 billion.

Source: Trade Competitiveness Map - International Trade Centre (UNCTAD/WTO); Team Analysis

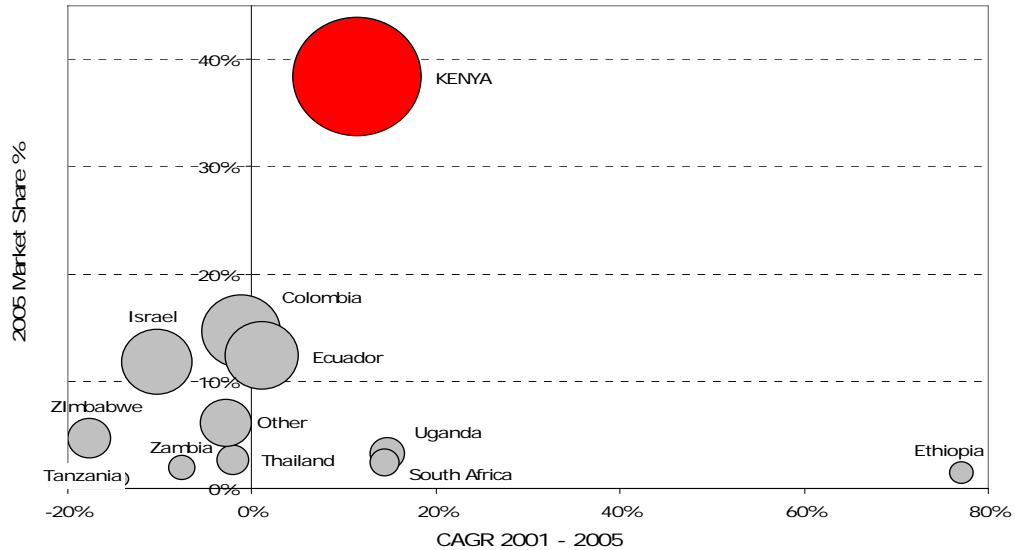
4.3 Kenya's Competitiveness in EU Cut Flowers Market

The EU accounts for about 70% of world cut flowers imports (EUROSTAT database, 2007). This market is dominated by Netherlands which has a significant re-export market driven by the Dutch flower auction market (Rutger Spreij, 2007). Excluding intra EU trade, this market is

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about EURO 695 Million, which accounts for about 15% of the world market share. Kenya dominates flower exports within this segment of exporters into the EU market and has a 38% market share (Figure 10).

Figure 10: Cut Flower Exports into EU Market (excluding Intra EU Trade)



Note: Bubble size proportional to absolute export value
 Source: Trade Competitiveness Map - International Trade Centre (UNCTAD/WTO); Team Analysis

4.4 Kenya's Regional Competitiveness

Kenya's cut flowers cluster is dominant among other sub-Saharan Africa flower exporters (Table 12). In 2005, Kenya's flower exports were about 267 EUR Millions which was over 2.6 times greater than the combined exports of its next 6 competitors in sub-Saharan Africa.

Table 12: Major Sub-Saharan Africa Flower Exporters

Country	2005 Value (EURO Millions)	2005 EU25 Market Share	CAGR 2001 - 2005
Kenya	267	38%	11%
Zimbabwe	32	5%	-18%
Uganda	22	3%	15%
South Africa	16	2%	14%
Zambia	13	2%	-8%
Ethiopia	10	1%	77%
Tanzania	5	1%	-14%

Note: EU25 Market Share excludes Intra-EU Trade
 Source: EUROSTAT database (2007)

However, Ethiopia's flower exports have exhibited the fastest growth from 2001-2005, growing at about 77% CAGR indicating potential threats to Kenya's regional dominance. This has been as a result of the Ethiopian government's focus on the cut flower sector. The Ethiopian government estimates that the country will be one of Africa's leading flower

growers with more than 3,000 hectares under production and generating over \$600 million in 3 to 5 years (Henshaw, 2006 & SudanTribune, 2007).

Identified Cluster Challenge # 2: Regional Competition

5. Kenya's Cut-Flower Market

5.1 Cluster History

Kenya's flower cluster emerged in the 1970s alongside the horticultural sub-sector which also includes fruits and vegetables (Jensen, 2005). Cut flowers, fruits and vegetables share some similar characteristics in terms of growing conditions and perishable nature of product.

Growth of cut flower cluster started to pick up in the 1980's when the leading exporters started commercial rose cultivation. However, the industry was characterized by low value and simple open field flowers with limited assortment in the 1980's. In the 1990's the industry shifted to higher-value flowers grown in greenhouses. There was a marked increase in production with growers increasing their planting area by about 250%. By 1999, Kenya was exporting about 100,000 tons of horticultural produce, a 10x increase from 1975 with cut flowers accounting for about 37% of this volume (Jensen, 2005).

In recent years, the sector has benefited from surge in new foreign investment particularly from Israel and Holland and many of the dominant flower producers are owned and managed by expatriates. According to a World Bank estimate, the total investment into the flower industry from 2002 to 2004 was \$200 - \$300 million (World Bank Report No. 31387-KE, 2005). The continued investment in the sector has further upgraded the cluster's technology, production skills and market know-how.

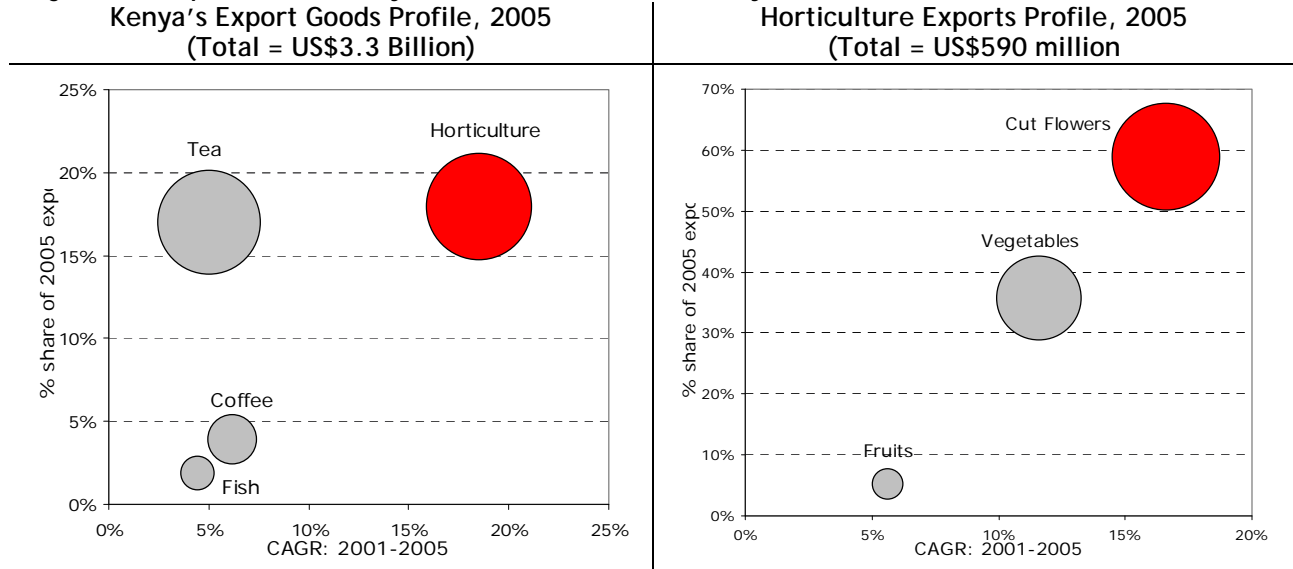
5.2 The Cluster Today

Today, Horticulture is Kenya's largest and fastest growing export goods cluster and cut flower exports have increasingly gained a strong footing as one of Kenya's main source of foreign exchange earnings. In 2005, the horticulture exports were worth \$590 million and accounted for about 18% of Kenya's total goods exports (Figure 11). Within this horticulture category,

Kenya's Cut Flower Cluster

cut flowers earned US\$304 million and accounted for about 60% of horticulture exports; with roses accounting for 63% of total cut flower exports.

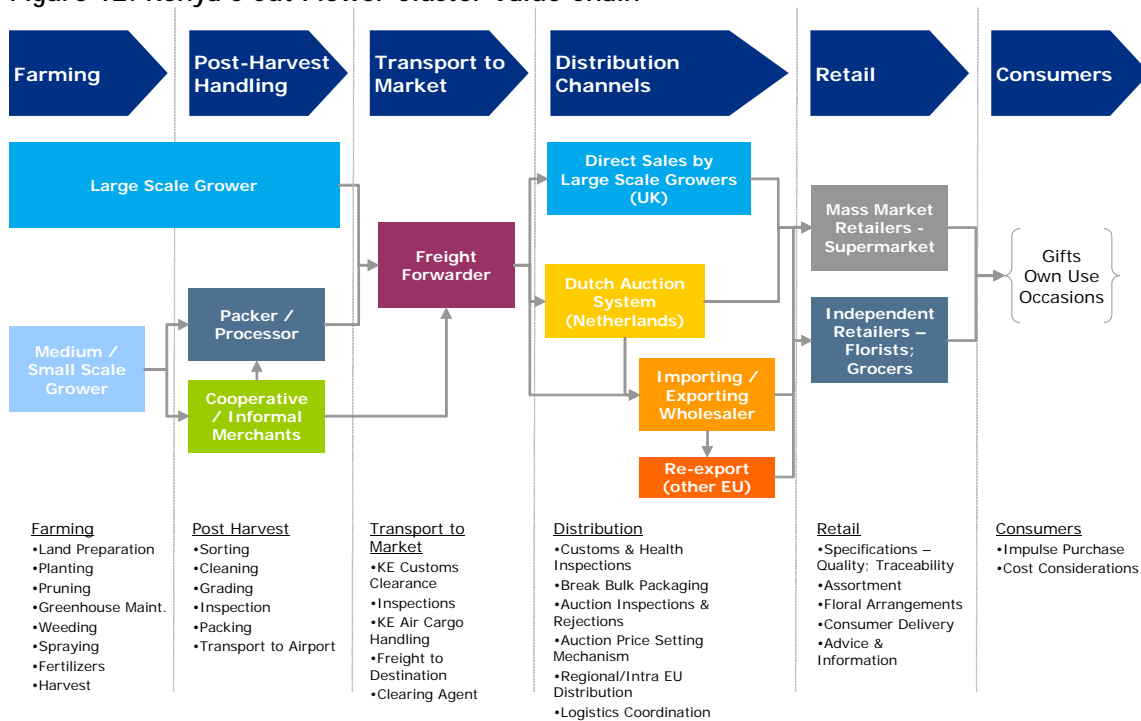
Figure 11: Importance of Kenya's Cut Flower Cluster Today



Source: The Economist Intelligence Unit, Kenya's Horticultural Crops Development Authority (HCDA)

5.3 Cluster Value Chain

Figure 12: Kenya's Cut Flower Cluster Value Chain



Source: Team Analysis

The value chain (Figure 12) can be viewed from two perspectives: large scale flower producers and small scale flower growers. The large scale flower producers are vertically

integrated across the entire value chain with some large scale growers that breed their own plant stock. Large scale estates also leverage their size and economies of scale to invest in sophisticated post-harvest cold-supply chain infrastructure including refrigerated trucks for transportation to airport. More than 90% of Kenya's flowers are handled by four specialized air freight forwarders (three of which are owned or linked to top flower producers) that aggregate all horticultural produce and in turn are able to secure better air freight purchasing power. After export, the large scale exporters have a logistic infrastructure for direct distribution to the mass market retailers.

Identified Cluster Challenge # 3: Shift to Integrated Supply Chain Model

On the other hand, small scale growers have an ad-hoc value chain which relies heavily on the Dutch auction system in Holland. Cooperative and informal merchants sometimes act as middlemen aggregating volume for transport to market. They use the same four leading freight forwarders and for many of them, this is their last touch point. These flowers are then exported to Holland where wholesalers and some retailers purchase the cut flower at the Dutch auction.

Over 69% of Kenya's exports are to Holland (HCDA trade statistics, 2005). This distribution channel however has the lowest value per volume exported (Holland = 209 Ksh/Kg; Germany=282; France/Belgium = 303; UK = 325; Sweden=437).

Identified Cluster Challenge # 4: Destination Diversification

5.4 Cluster Map

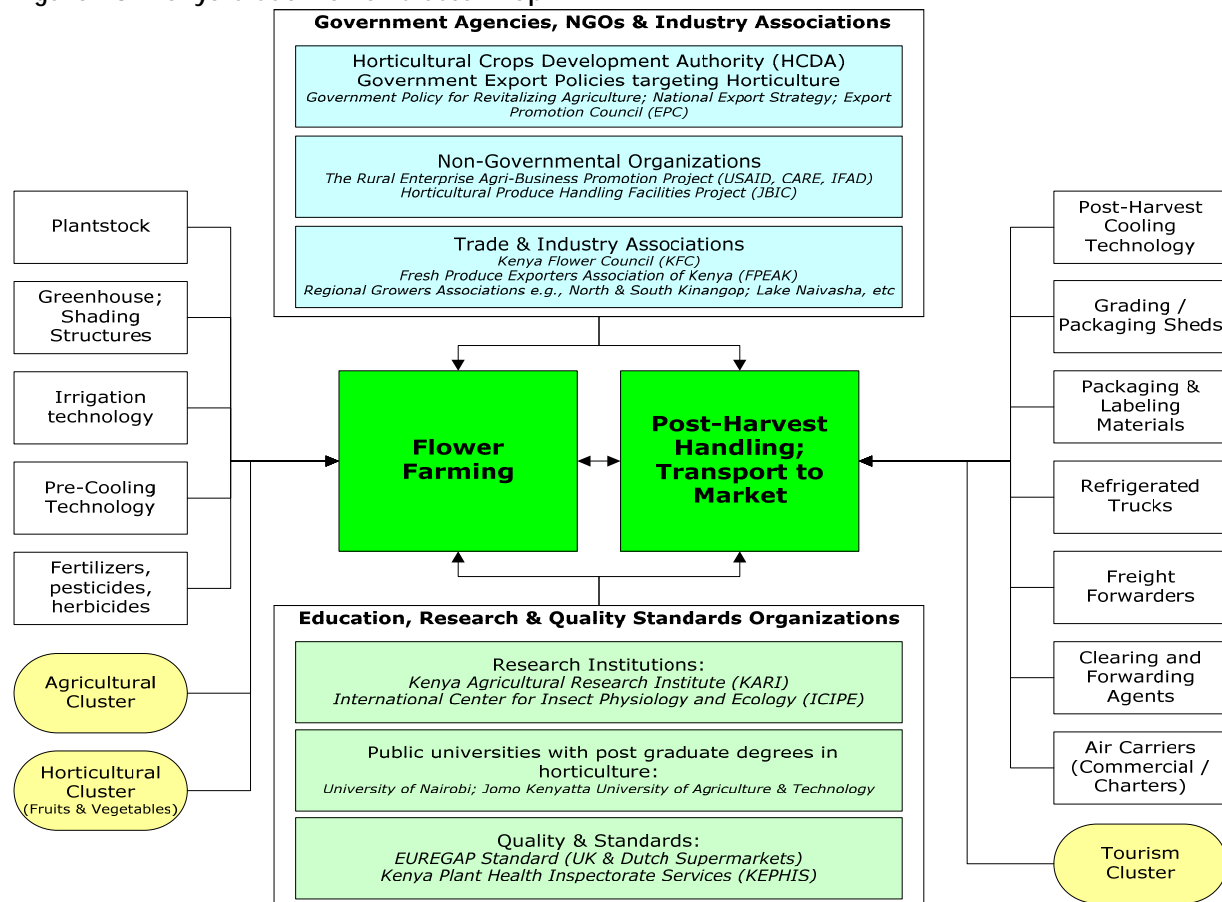
Kenya's cut flower cluster has a relatively developed and full cluster map (Figure 13). There are a number of inputs into flower farming that are provided by local suppliers (left-hand side). This includes greenhouse & shading structures, irrigation & pre-cooling as well fertilizers and herbicides. While most of the plant stock comes from overseas breeders, there are some large scale growers who are developing their own plant stock. On the inputs into

Kenya's Cut Flower Cluster

the post-harvest handling and transportation to market (right-hand side), local suppliers provide post-harvest cooling technology, packaging materials etc.

The cut flower cluster also benefits from the presence of three related clusters (yellow circles). The *agriculture and horticulture* clusters provide critical mass for training and research institutions in agri-business. In addition, the horticulture cluster is particularly important as most flower farmers also farm fruits and vegetables for export. This provides critical export volume mass as fruits and vegetables are exported through the same distribution channel. The *tourism* cluster initially helped in freight. Nairobi's Jomo Kenyatta International airport receives numerous daily flights with tourists coming in from various European destinations and the flights had spare capacity on the northbound flights back from Kenya which provided cargo capacity for cut flower exports to Europe. Later as the industry has matured, the freight forwarders have been able to aggregate volume and secured chartered carriers replacing commercial airline flights.

Figure 13: Kenya's Cut Flower Cluster Map



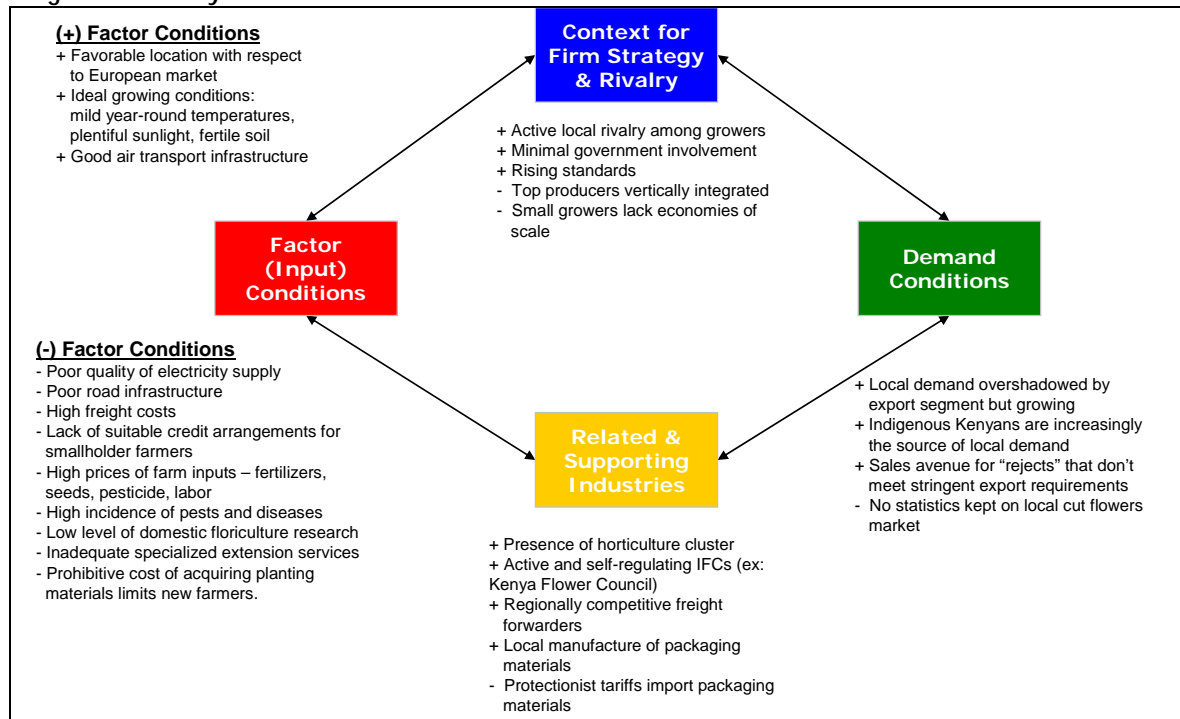
Source: Team Analysis

Further, the cut flower cluster has numerous institutions for collaboration (IFCs) that include NGOs, research institutions, trade associations and government agencies (top). The Kenya Agricultural Research Institute (KARI) has productivity research programs in horticultural and industrial crops as well as other food crops, livestock, land and water management; while ICIPE develops methods for managing horticultural crops pests as well as other tropical pests and diseases that affect human and animal health. Higher education also contributes to the cluster; two leading public universities have post-graduate degree programs in horticulture whose graduates are often employed by the leading flower growers. Finally and notable the Kenya Flower Council (KFC) is the dominant trade association working in collaboration with other regional growers associations. Notably the KFC has three quality certifications (silver, gold and platinum) which are benchmarked to European import standards. A more detailed discussion of government agencies is discussed in section 6 below.

5.5 Role of the Government

5.5 Cluster Diamond

Figure 14: Kenya Cut-Flower Cluster Diamond



Source: Team Analysis

5.5.1 Factor Conditions

Much like Colombia in Latin America, Kenya has ideal growing conditions for flowers in Africa (Fairbanks & Lindsay, 1997), with temperatures and rainfall at ideal levels³ year round and proximity to the equator providing 12 hours of sunlight year round (Kenya Ministry of Agriculture, 2007). Kenya's principal cut-flower growing regions; Naivasha, Laimuru and Thika are close to water sources and to Nairobi International Airport (the chief export channel). In addition Kenya's geographical location relative to the EU markets compare favorably with regional and global competitors. Supporting the relatively good proximity, are air freight rate (\$1.60 per kg) to Europe which is on par with competitors and very good air transport infrastructure. Kenya ranks 50th out of 125 countries in the quality of air transport infrastructure (GCR, 2006).

However there are weaknesses, despite a relatively well educated labor force in comparison to its competitors, labor costs remain high and productivity lower than it should be. The World Bank estimated wages of Kenya's unskilled workers as \$101 per month which is considerably higher than regional and even global export competitors such as Zambia with unskilled labor wages of roughly \$48 a month (World Bank, 2004). In addition basic infrastructure such as paved roads and electricity continue to be inhibitive for cut-flower exporters. Less than 20 percent of all roads are paved in Kenya (the worst among all regional and global competitors) and electricity production is extremely poor (CIA World Factbook, 2006).

5.5.2 Demand Conditions

There are no statistics kept on local demand for cut flowers, but anecdotal evidence suggest that local demand for cut flowers in Kenya is minimal but growing. Local Kenyans are increasingly a source of local demand, and local offices, hotels and other establishments provide a sales avenue for cut flower that don't meet the stringent requirements for the export market.

³ Ideal temperature for flower growing should be 22-27 degrees Celsius during the daytime and 10-15 degrees Celsius during the nighttime. Both of which Kenya's principal flower growing regions satisfy.

5.5.3 Context for Firm Strategy & Rivalry

Kenya has active local rivalry among growers with approximately 45 growers accounting for 75% of export value. In addition, there are 4,000 to 5,000 smaller scale growers. The cluster has also benefited from minimal government involvement. The government and its main floriculture regulatory body (HCDA) have restricted themselves to facilitative roles rather than as active market participants. This is unlike other sectors such as coffee sector where the Kenya government has a central coffee purchasing and marketing body. On the negative side, the small growers lack critical export volume and scale to compete with larger exporters in areas such as logistics infrastructure and food & safety standards.

5.5.4 Related & Supporting Industries

As discussed earlier, Kenya's flower cluster has benefited from the presence of the horticulture cluster. Many large flower growers are also exporters of fruits and vegetables and they can aggregate the export volume to leverage economies of scale (e.g., in capital investments in cold-supply chain; freight forwarders, etc) as well leverage existing relationships with supermarkets who prefer single or few supplier sourcing for multiple products. The institutions for collaboration (IFCs) are mainly Kenya Flower Council which has helped establish self-regulatory industry standards. There is also presence of several local manufacturers in supplies such as packaging materials and greenhouses. One negative element is protectionist tariffs imposed on imported packing materials

6. Government's Role in the Cluster

The Kenya government has limited their role to facilitative functions as opposed to being a market or economic actor in the cluster. This minimalist role contrasts sharply with the active role that the government played historically in coffee sector, where marketing boards and centralized cooperatives run by the government limited the competitiveness of the coffee industry in the late 70s and early 80s (Bates, 1984).

6.1 Regulatory Bodies:

There are two key regulatory bodies: Horticultural Crops Development Authority (HCDA); Kenya Plant Health Inspectorate Service (KEPHIS). The HCDA was created in 1966 to facilitate production and marketing of horticultural products. In its early existence the HCDA played an active role, going as far as creating companies focused on export packaging and processing and identifying early markets. With liberalization, the HCDA's role was reduced to regulation and simulative policy (HCDA, 2006). The most important function of the HCDA is licensing. All farmers wishing to engage in horticultural exports must be licensed with the HCDA.

KEPHIS was created in 1996 to regulate quality control of agricultural inputs and plant exports. As such it plays the role of domestic authority on phytosanitary issues. KEPHIS regulations extend to all plant exports and imports including seeds, cuttings, fresh fruits and flowers. This notwithstanding, KEPHIS has not been accredited by internationally recognized certification authorities. For instance, EurepGAP certification, required for all horticultural sales into EU groceries, cannot be accorded by KEPHIS. The result of this is that exporters often must undergo a double inspection, increasing time in the value chain and increasing cost.

6.2 Intellectual Property

Kenya also protects the proprietary rights of plant breeders with regard to breeding and discovery of new plant varieties. Plant Breeders' Rights (PBRs) are granted for flower plant-stock varieties to both produce and/or propagate the protected variety for commercial production. The holder of a grant of Plant Breeders' Rights may license others to produce for sale and to sell propagating material of the protected variety. Holders of rights commonly collect royalties from commercialization of their protected varieties. In Kenya, however, a number of the flower growers import their plant stock and pay royalties to the breeders.

6.3 Trade Agreements

Kenya is a party to several regional and bilateral trade agreements, most prominently including the Common Market for Eastern and Southern Africa (COMESA), the East African Community (EAC), the African Growth and Opportunity Act (AGOA) and the ACP/EU Cotonou Partnership Agreement Generalized System of Preferences. Of particular importance for Kenya's floriculture is the ACP/EU agreement which established new guidelines for inter-regional trade between the EU and the group of African Caribbean and Pacific (ACP) nations. Under the agreement, the EU offers duty free access to ACP countries for products including flowers and vegetables from the ESA region. This trade preference was the driving force behind the development and growth of the horticulture sector in ESA countries (PwC, 2006). Kenya is a signatory to the Cotonou agreement and Kenya's cut-flowers are currently exempt from EU tariffs. This preferential treatment is due to expire by 2008, after which, Kenya as a non-LDC will be subject to the Generalized System of Preferences which specifies a 5% tariff. Competing nations in floriculture such as Ecuador and Columbia and regionally, Ethiopia and Zambia are exempt from the tariffs and will have advantageous tax treatment for exports to the EU (PwC, 2006).

Identified Cluster Challenge # 5: Trade & Environmental Issues

6.4 Investment Promotion

Kenya competes with almost all of its neighbors as a destination for investment in floriculture. Tanzania, Ethiopia and Uganda have all put in place aggressive tax favorable export regimes including grants of ten year tax holidays for new investment (All Africa, 2007). Kenya has responded with several initiatives to maintain attractiveness that apply to new investments in floriculture as well. These include (i) incentives to allow manufacturers to import plant, machinery, equipment and raw materials tax free, for exclusive use in the manufacture of goods for export; (ii) Export Processing Zones (EPZ) grants ten year tax holidays, VAT exemption, and ten year withholding tax holidays on repatriated dividends; (iii) EA Customs management Act and the Tax Remissions for Exports Office (TREO) (EPZ & KRA,

2007). Notwithstanding various investment incentives, the New Investment Promotion Act requires an investment of at least \$500,000 for foreign investors, which may be an unnecessary impediment to FDI.

6.5 Role of International Donors

Multilateral donors such as the World Bank Group are omni-present in Kenyan governmental affairs. In 2005 inbound FDI was just 2.7 percent of the flow foreign aid (WDI, 2006). As of November 2006, the World Bank group had 13 active projects in Kenya with a total commitment of US \$675 million (World Bank, 2006). Of the 13 active projects The Kenya Agricultural Productivity Project ostensibly is relevant to the flower cluster. The project aims to vitalize the agricultural sector at large but makes a clear distinction between horticulture/floriculture and traditional agriculture. The goal of the program is to professionalize the sector, ostensibly similar to the progress shown in horticulture/floriculture.

7. Cluster Challenges & Policy Recommendations

7.1 Trends in Global Cut Flower Industry

There are some key trends in the global cut-flower industry which will impact Kenya's cut-flower cluster moving forward. First, the cut-flower value chain is increasingly being dominated by large and sophisticated European mass-market retailers such as Tesco, Sainsbury and Marks & Spencer; resulting in a gradual shift of purchasing power away from wholesalers and the Dutch auction system to mass-market retailers. This means that the supermarkets are increasingly dictating quality standards for production which in some cases are more stringent than current industry standards. Secondly, the concentration of importers is precipitating a consolidation of producers as the supermarkets move towards single-sourcing purchasing decisions based less on price (as in Dutch auction system) and more on quality, delivery reliability and traceability of produce. Thirdly, in this shifting dynamic, small scale and medium scale growers are threatened by the cost of implementing EUREGAP and supermarket's standards as well the cost of developing a logistics infrastructure to sell direct

to the mass-market retailers. Finally, Kenya's cut flower cluster is being threatened by non-tariff protectionist measures such as the food-miles program that seeks to limit market access based on the carbon emissions attributed to fleets of aircraft importing fresh produce into EU markets.

7.2 Cluster Challenges

Based on the cluster analysis and emerging trends, Kenya's flower cluster faces the following key challenges:

Challenge # 1: General Domestic Constraints

The cluster faces a poor road infrastructure and In addition, the perceptions of corruption affect the assessment of the national business environment.

Challenge # 2: Regional Competition

New producers like Ethiopia and Uganda, have successfully broken into the European flower market, albeit they still have a significantly lower market share.

Challenge # 3: Shift to Integrated Supply Chain Model

Small-medium scale growers who fail to adapt to changing landscape will be unable to compete in an industry where large supermarkets are shifting to direct sourcing from vertically-integrated producers.

Challenge # 4: Destination Diversification

Dutch auction system accounts for over two thirds of Kenya's exports, yet Dutch prices are lower compared to other European destinations. This threatens competitiveness of small-medium scale growers without a clear opportunity to diversify export destination or ability to sell direct.

Challenge # 5: Trade & Environmental Issues

Increased demand by importing countries for higher quality production and food miles program exposes threat of environmental concerns creating non-tariff protectionist barriers to EU markets.

7.3 Recommendations

To address these challenges, we have developed a set of recommendations aimed at the *government* and the *cut-flower growers* (Figure 15). For the government, our overriding

Kenya's Cut Flower Cluster

recommendation is that they should continue their facilitative (and not interventionist) role but take steps to address the national business environment. The government should also move quickly to renew the EU-ACP concessional tariff regime for cut-flowers before 2008 or risk losing competitive edge. For cut flower growers, our major recommendations revolve around identifying ways to integrate small-medium scale growers into large scale producers supply chains and to continuing to integrate technology and tougher environmental standards into production practices. Cut-flower producers should also attempt gain direct access cut-flower consumers outside of traditional auction systems into new markets such as Eastern Europe, where cut-flower consumption has increased by 30 percent over the last two years (TechnoServe, 2006).

Figure 15: Recommendations

		Domestic Constraints	Regional Competition	Shift to Integrated Supply Chain Model	Destination Diversification	Trade & Environmental Issues
Recommendations	For Flower Growers	<ul style="list-style-type: none"> Intensify lobbying efforts for govt to allocate funds for road infrastructure Top firms should consider efforts to hedge currency risk 	<ul style="list-style-type: none"> Promote strong brand recognition for Kenyan cut-flowers Exploit direct-to-retailers channel where Kenya has advantage over regional competitors Increase value-add activities such as bouquet, mixed floral arrangements Further develop diversification of varieties through domestic R&D 	<ul style="list-style-type: none"> Small scale growers can provide fillers and additional varieties to large scale producers Incentives to encourage integration of small growers into large scale producers' supply chain networks 	<ul style="list-style-type: none"> Intensify lobbying effort for direct sales to emerging markets Increase direct sales to supermarkets, florists, etc; avoiding the intermediaries Expand direct sales to markets outside traditional European markets (Eastern Europe, South Asia and Middle East) 	<ul style="list-style-type: none"> Prepare farms to meet tougher standards both domestic and international (KFC Silver Gap and EUREGAP) ahead of time Advance product positioning through international lobbying by industry associations:
	For Government	<ul style="list-style-type: none"> Allocate funds for road infrastructure Enhance security services to farmers and facilities Consider development of commodity insurance markets 	<ul style="list-style-type: none"> Negotiate renewal of EU-ACP tariff regime Continued investments in education Co-investments with private sector on R&D institutions to address increase local breeding of plant stock 	<ul style="list-style-type: none"> Resist attempts to intervene with subsidies for small growers, but encourage larger growers to integrate them into supply chains 	<ul style="list-style-type: none"> Provide information through export promotion agencies on new markets outside traditional European markets 	<ul style="list-style-type: none"> Assist in joint lobbying with industry associations against potential UK supermarket bans for Kenya's produce Negotiate new trade agreements Facilitate preferential treatment for growers that meet tougher environmental standards

Source: Team Analysis

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