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KENYA HORTICULTURE COMPETITIVENESS PROJECT (KHCP)

KENYA'S COMPETITIVE POSITION IN HORTICULTURE

PROGRESS REPORT
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1.0 INTRODUCTION

The Kenya Horticulture Competitiveness Project (KHCP) is carrying out a long-term study to assess the competitiveness of selected horticultural crops. The study aims to identify, and quantify where possible, the comparative and competitive advantages, challenges and opportunities for specific export and domestic market crops and, in the process, identify cross-cutting factors that affect the industry as a whole. The analysis will include all aspects of horticultural crop production and supporting infrastructure to identify areas in need of change and will propose specific actionable activities that could improve the competitiveness of Kenyan-grown produce relative to alternative suppliers to the local market or Kenya's markets overseas.

This brief is a summary of preliminary findings, prepared for discussion with industry stakeholders in order to select priority crops and map the way forward for more detailed, crop-specific competitiveness analyses. The focus crops covered to date, for which some preliminary information is provided in this report, are fresh-cut vegetables (French beans as the proxy crop), Asian Vegetables (Chilli as the proxy crop), sweet potato and summer flowers. The crops were selected specifically because of their importance to smallholder growers and, in the case of summer flowers and sweet potato, because of the apparent potential for immediate growth in response to export market demand. Information on these crops and other cross-cutting issues was collected through literature review, discussions with industry players and official statistics. No domestic market crops were considered during this preliminary stage but many of the cross-cutting factors highlighted below also apply to the competitiveness of locally-grown crops for the domestic market, such as potato, relative to imports. Where possible, comparative data was collected from countries that compete directly with Kenya or have the potential to compete in the near future on both local and export markets.

2.0 HORTICULTURE INDUSTRY OVERVIEW

Kenyan horticulture has seen unprecedented growth since the early 80s. The horticulture business, according to official production figures, export statistics and recent data collected by KHCP on domestic market consumption, is worth in excess of US \$ 3 billion a year (one third of this is from exports). Over 80% of the production of horticultural produce in Kenya is from smallholder farmers, many of whom are not involved in the export business but supply the domestic markets. Nevertheless, production of vegetables for export is a significant source of income for hundreds of thousands of Kenyan small-scale farmers.

Although Kenya is the most successful producer and exporter of fresh produce and flowers in sub-Saharan Africa, other countries both in Africa and elsewhere, offer strong competition that could erode export market share in future. Ecuador has become a strong competitor in cut flowers, mainly roses. Egypt challenges Kenya's market share in fine beans and dominates the fast-growing EU market for sweet potato. Its sweet potato exports have increased by a staggering 588% from 2005 to 2010 while fine bean exports had a strong growth in 2006 and 2008 and then started to decline in 2009. Egypt's proximity to the European market is a major cost advantage over Kenya. Ethiopia's horticultural export volumes have increased annually over the past decade with the main contributor for this growth being cut roses. This is attributed to government subsidies introduced in 2006 facilitating private sector and FDI opportunities. Other countries neighboring Kenya have achieved insignificant growth of cut flowers, fine beans and other fresh produce in the 2005-2010 period. However, this trend could change in 2011 due to new investments in export crops in Tanzania including Kenyan companies starting farms and procurement operations for flowers and vegetables, mainly fine beans.

3.0 CREDIT AND FINANCE

Kenya's Central Bank base lending rates are currently at 18%, relatively high compared to most neighboring and competing countries (**Table 1**). However, the scale and global nature of the Kenyan industry means that larger exporters since liberalization of the banking sector have been able to access hard currency loans at international rates. Small-scale growers can access credit through local banks such as Equity Bank at competitive rates and micro-financing organizations offer loans that are tailored to services required and are customer driven. Rates vary from 10% - 25% at present.

Table 1: Central Bank Base Lending Rates as of February 2012

Kenya	Uganda	Tanzania	Ethiopia	Egypt	Ecuador
18%	22%	7.58%	10%	9.25%	8.17%

In Egypt, smallholders are able to finance crop production through institutional credit and many also receive inputs on credit from exporters. Uganda's finance and credit rates are high and pose constant challenges for agribusiness investors. Capital loans in Tanzania can be obtained from the Tanzania Investment bank (TIB) but farm closures have increased recently due to loan defaults and so new loans are hard to come by. Micro-finance is under developed and small scale growers rely heavily on local and regional exporters for assistance. Ethiopia's banking sector is not fully liberalized and interest rates are not always determined by the market forces since Government controls the lending policies of the Central Bank. This makes local borrowing difficult for new investors. However, the Ethiopian horticulture industry has benefitted over the last 8 years from Government-funded incentives offering new export projects 70% loans with a 12% interest rate. This has encouraged a surge of FDI, mainly for the establishment of rose flower farms, including some Kenyan horticulture firms who have set up satellite companies in Ethiopia.

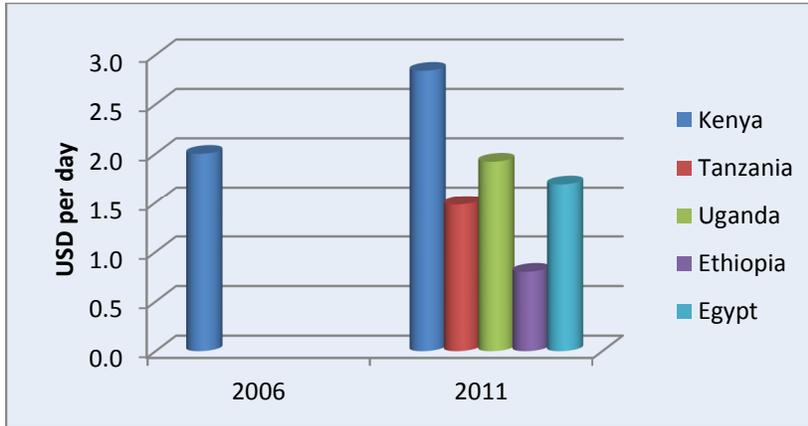
4.0 LABOUR

Horticulture is generally a labour-intensive industry with high demand for unskilled labour, trained supervisors and professional managers. As such its competitiveness is highly sensitive to changes in labour costs. The daily rates for unskilled labour have tripled over the last 10 years in Kenya from an average \$1.2 per day in 2001 to more than \$3 per day in 2011. To some extent, this has already motivated advancement of mechanization and lean manufacturing to decrease labour costs but this trend is likely to accelerate in future. Currently Kenya has the highest remuneration of unskilled labour compared to neighboring and competing countries, by almost double (**figure 1**).

However it is acknowledged by managers questioned in other countries in the region that general skill and knowledge levels within the Kenyan horticulture sector are higher, to the extent that farms in Tanzania and Ethiopia often recruit their key staff from Kenya. All the regional countries are importing Kenyan horticulture management with key technical and management know-how. Kenya's education system allows students to gain strong theoretical skills required in horticulture, which lead to a firm base for the private sector to advance with practical skills. The horticulture sector and institutions have recognized the importance of providing additional training in practical-skills and, to address this, the Fresh Produce and Exporters Association of Kenya (FPEAK) recently opened the Practical Training Centre for Horticulture in Thika. This will further strengthen Kenya's comparative advantage.

Net labour costs reported by Kenyan export companies vary and require further analysis to compare costs and efficiencies of labour relative to other countries. However, some larger companies estimate labour to account for 35- 45 percent of operating costs which is high by any standard and a significant determinant of profitability.

Figure 1: Labour costs comparison in USD per day



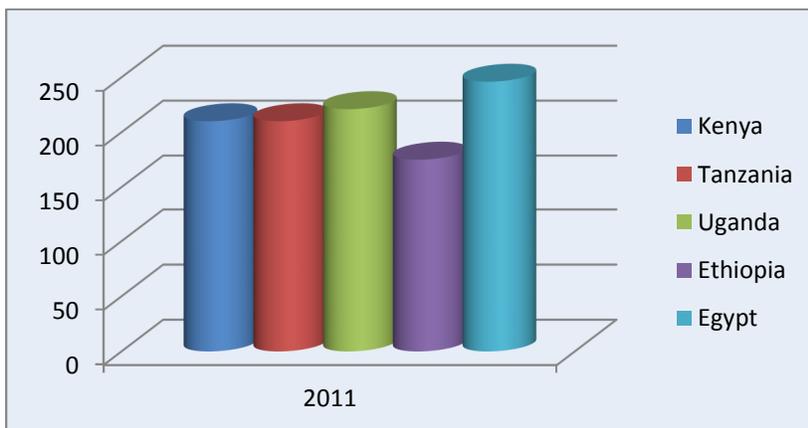
Source data: Kenya Exporters, TAHA, HEIA, Melaku, NAADS.

5.0 AGROCHEMICAL INPUTS AND PACKAGING

5.1 Seeds

Seed prices vary through the regional countries but Kenya is one of the relatively cheapest sources (**figure 2**). Tanzanian seed is being purchased through Kenya and delivered by road transport on return trucks. In Uganda, growers generally regenerate seed with yields reportedly decreasing every year due to the lack of availability of hybrid seed.

Figure 2: Fine Bean Seed Prices 2011 in USD Per 100,000 seeds



Source: Seed houses, NAADS, HEIA

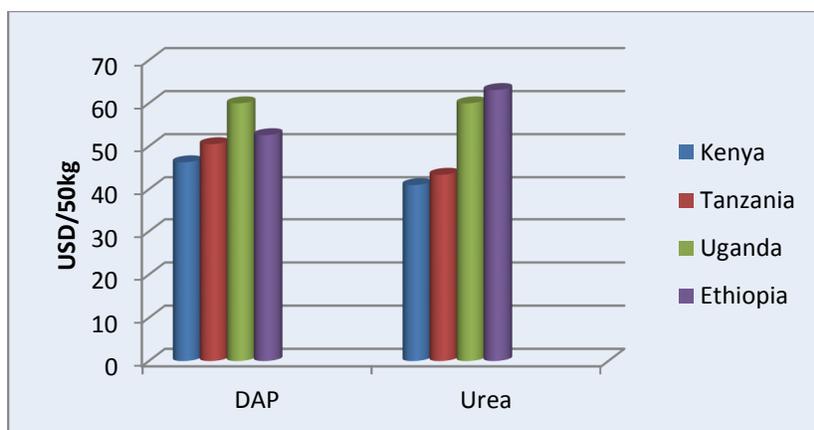
Due to the high demand of imported seeds and a developed market for horticulture, produce seed houses in Kenya are not only established and efficient, but also act as a central supplying hub for regional

countries. Importation of hybrid seed is regulated by KEPHIS to ensure supply is of the correct quality for germination and without contaminants. Seed royalties are now being demanded through the horticulture sector. This has been the regular requirement for cut flower varieties. Certain vegetable seed breeders are now following suit and demanding royalties on produce being sold to retailers.

5.2 Fertilizers

Fertilizer prices vary throughout East Africa but both Kenya and Tanzania benefit from lower prices mainly due to accessibility of sea freighted imports and larger volumes procured (**figure 3**). Recently the GOK introduced assistance for small growers by placing discounted prices on fertilizers purchased through the National Cereals Produce Board (NCPB).

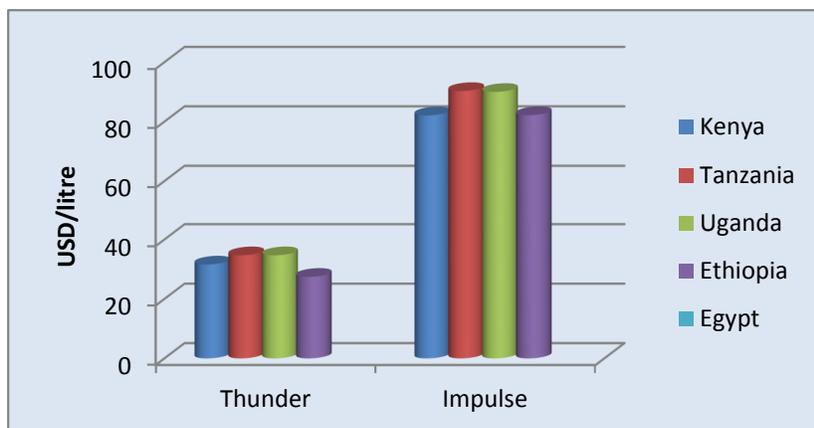
Figure 3: Fertilizer prices in USD/50kg



5.3 Chemicals

Chemicals for Uganda and Tanzania are usually routed and handled through Kenyan distributors with an additional commission being applied to the final price. Apart from this, chemical prices in general are static in the regional countries markets (**figure 4**). Uganda sees a slight reduction due to claims on tax relief.

Figure 4: Chemical Costs in USD per Litre/Kg



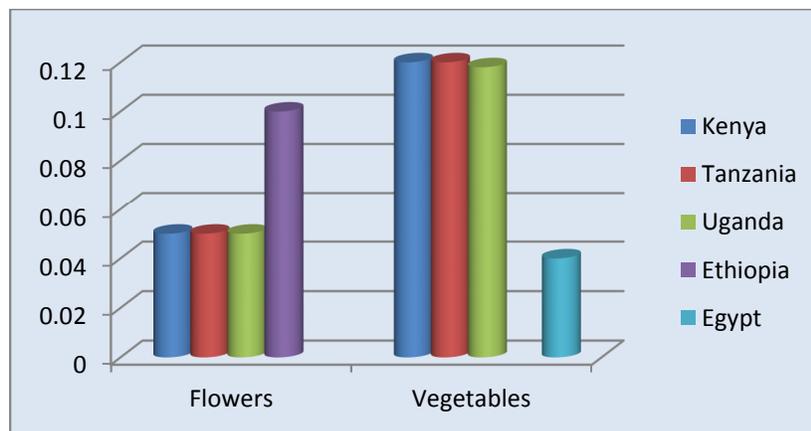
(Source data – Bayer, Agrisher Trading)

To reduce the amount of pesticides used in horticulture, Integrated Pest Management (IPM) including biological control agents have been introduced. Most Kenyan farmers have ceased using “class 1” chemicals and have been encouraged to do so by the Kenya Flower Council (KFC) and external certifying bodies. Kenya’s initiative in this area is seen as another comparative advantage by importers.

5.4 Packaging

Packaging costs are similar in the three East African countries shown in **figure 5** since all depend on imported materials but manufacture boxes locally. Flower packaging in Ethiopia is almost twice the price since all boxes are imported. Vegetable packaging prices reported for Egypt are significantly lower than Kenya, apparently due to availability of ready-made boxes and raw materials from Europe and elsewhere. Kenya is now producing more advanced packaging, including branded and printed labels, flower food, flower sleeves and produce bags that add value and increase the competitiveness of its flowers.

Figure 5: Packaging costs in USD



(Source data – Exporter, TAHA, Flowerama Plc, HEIA, Flower/Vegetable exporter Uganda)

The packaging and consumable sector in Kenya is constantly updating processes and modernizing equipment to reduce cost and produce quality products. European retailers have realized the advancing techniques used and are promoting the industry to produce packaging to allow fully-packed-at-source product. Products packed at source reduce costs and time delays throughout the supply chain and allows product life guarantee to be lengthened to the final consumer. Modified atmosphere packaging (MAP) has been the latest development in Kenya and are being produced locally for use in packing both high and low care products. Outer boxes that are lighter in weight and more durable have been developed. Only Egypt can compete at this level of sophistication.

6.0 COSTS OF PRODUCTION

Challenges were observed in gaining “like for like” data from bench-marking countries. Two examples are given here for fine beans and sweet potato that illustrate the difficulty of comparing different production systems and price data from different countries.

6.1 Fine beans

Production of fresh cut vegetables in Kenya is carried out by small-scale growers and large-scale exporting companies. **Table 2** gives data obtained from one company in Ethiopia compared to average

data for Kenyan large and small-scale growers. Ethiopia appears to be much more profitable but this is really an anomaly caused by the high price per kilo reported. In Kenya, small growers in the main grow beans for exporters and beans are considered a low input crop that usually requires paid labour for harvesting. Planting costs are inclusive of labour as well as seed. Production yields are higher in Kenya than Ethiopia per acre and where more inputs are used and input costs are higher, production volumes also increase. The prices shown for Kenyan beans in **table 2** are the average paid throughout a year. However, in February 2012 due to the scarcity of fine beans, market prices reportedly went as high as \$3 per kg at farm gate.

Table 2: Fine Beans Production Costs in USD per acre

	Small Grower Kenya	Commercial Grower Kenya	Commercial Grower Ethiopia
Land preparation	96	108	100
Planting	215	211	163
Chemicals	107	30	60
Fertilizers	194	155	29
Irrigation	77	215	213
Harvest & Disposal	172	198	62
Total \$	861	916	627

Source Data: Small growers Kenya, Exporter Kenya & Consultant Ethiopia.

Table 3: Fine Bean Production net Profit per Acre in USD

	Small Grower Kenya	Commercial Grower Kenya	Commercial Grower Ethiopia
Harvest Graded Kg	3,510	3,960	2,880
Sold Price FOB \$ per Kg	0.54	0.591	2.5
Sold Price FOB \$	1,895	2,340	7,200
Production Cost \$	860.5	916	627.4
Net Profit per acre \$	1,035	1,424	6,572

Source data: Small Growers Kenya, Exporter Kenya, Consultant Ethiopia

6.2 Sweet Potatoes

Sweet potato is one of the fastest growing fresh produce imports into Europe and a good example of Kenya “missing the boat” through lack of market analysis. At present Kenya produces significant quantities of sweet potato for the local market but the varieties grown are generally not suitable for export. Some trials are taking place but commercial export production is still several years away.

For comparative purposes, **tables 4 & 5** give figures for Kenyan and Honduran sweet potato production. Honduras has been exporting sweet potato for several years and it is grown by commercially-oriented farmers whereas in Kenya all production is by smallholders with little commercial experience. Input costs therefore differ dramatically and Kenya’s average production yield is much lower than Honduras (**table 5**). When inputs are provided and yields increase, the different production systems in Kenya and

Honduras are much closer in terms of gross margin and profitability. Clearly, if yields can be increased even further in Kenya, smallholders can be competitive in sweet potato production for export.

Table 4: Sweet Potato Production Costs in USD

Activity	Kenya	Honduras
Land Preparation	102.00	93.00
Planting	16.00	237.00
Chemicals	0.00	443.00
Fertilizers	0.00	295.00
Irrigation	0.00	240.00
Harvest and disposal	25.00	280.00
Total Costs	143	1,588

Source data: KHCP, Small holder growers.

Table 5: Sales and Profit per acre of Production in USD

	Kenya	Honduras
Kg Graded	2,430	10,859
FOB Price per Kg	0.30	0.36
Sold price per Harvest	726.57	3,855
Production Cost	143	1,588
Net Profit per Acre \$	583.57	2,267

7.0 TRANSPORTATION

Road networks in Kenya have been improved in recent years and the main trunk roads are in good condition. Feeder roads are accessible but with challenges in the rainy seasons. The rail network runs from Nairobi to Mombasa and is in need of serious repairs, development and investment to enable efficient transportation of cargo. The port of Mombasa is not only significant to Kenya, but serves other East African countries as well.

Kenya's main airport has developed into the main exporting air hub in East Africa. Cold stores are available to ensure chill chain adherence for the main exporting companies. Eldoret International airport has developed over the past five years and is now allowing a further outlet for horticulture produce export. No other country in sub-Saharan Africa has the continuity and quantity of air cargo space available to Kenyan exporters.

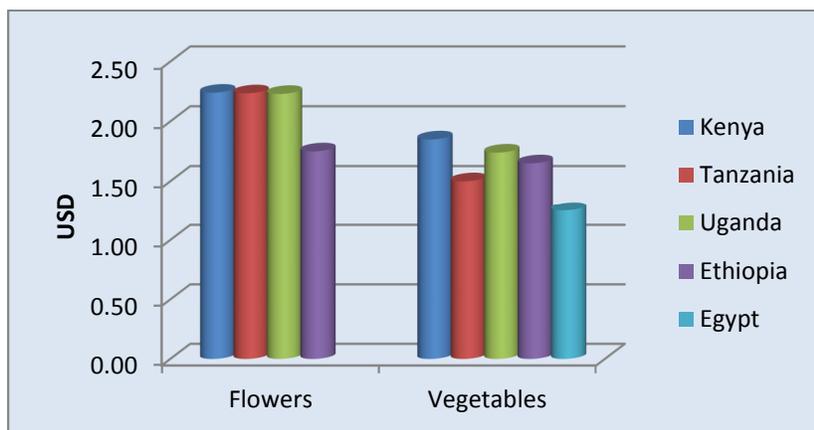
7.1 Air Freight

The cost and availability of air freight cargo space for export crops is a major determinant of Kenya's competitiveness. Quantity and price are the key factors but obtaining quantitative data on these is difficult. Air freight pricing varies depending on volumes being exported as well as agents and carriers being used. Larger exporters negotiate BSA's (Blocked Space Agreements) which come at cheaper rates and guarantee uplift of product. This can also lead to dead freight charges which will be imposed on the

exporter by the agent if space is not fully utilized. Some of the larger-scale exporters reported that they pay \$1.75-1.80 per kilo if volumes exceed four tonnes per shipment. Mandatory fees are charged per consignment including airline pricing, agent documentation and transport costs, phyto-sanitary fees and local taxes. Low season runs from May to September and attracts lower rates due to lower volumes.

Currently there are no established airfreight hubs in Tanzania. Cargo space can be found in Dar es Salam since it is the main airport for passenger flights and at Kilimanjaro International airport, but these volumes are low. Produce from Arusha is generally trucked to Kenya and is air-freighted to EU markets through JKIA since the distance is less than trucking to Dar es Salam. This places Tanzanian exporters at a competitive disadvantage to Kenyan companies.

Figure 6: Air Freight costs for fruits and vegetables in USD per kilo



(Source data – Agents, TAHA Fresh, Fresh Handling, Ethiopian Airlines, HEIA)

Entebbe is the only airport in Uganda used for export of fresh produce. In general cut flowers (roses) and plant cuttings make up 95% of export volumes. Fresh vegetables and Asian vegetables are small in volumes at 5%. Chill chain facilities are available at Entebbe Airport.

Airfreight pricing is achieved in a similar principle to Kenya, with negotiations taking place with agents to establish low and high season rates. Ugandan export businesses are encouraged by a tax free zone, which lowers their costs and encourages more businesses to export.

The capacity for horticultural cargo-handling at Cairo International Airport has reached its limit in export volume. Moreover, stakeholders believe that air freight is 30-50% more expensive than at similar airports in competing countries. Only one company is licensed to handle horticultural produce. This is believed to be the main cause of the relatively high freight costs. A further limiting factor is the restrictions placed on exporters for directly contracting airfreight companies to uplift their cargo. This is a disadvantage for Egyptian growers but they have alternative sea and road networks available that could be utilized by growers in future.

7.2 Sea freight

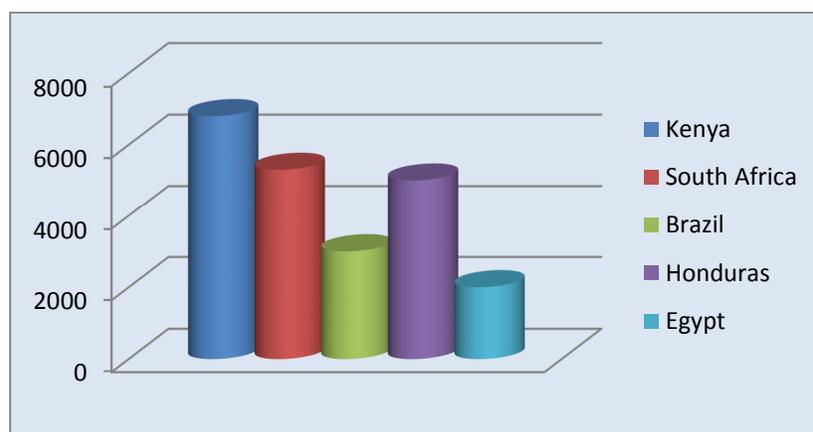
The costs of sea freight when benchmarked against the competition indicate that Kenya is slightly more expensive. In spite of this many exporters are looking to sea freight particularly for the more hardy crops like carnations, avocados and mangoes among others. However urgent work is required on the efficiencies of the port and the Somali Pirate scourge that is increasing costs and the time from departure to arrival at destination. Today according to some exporters, it takes over 36 days to Europe whereas prior

to the security risks and detours this time could be reduced by 10 days. Competitors for example South America can take less than half the time to Europe.

Kenya is unable to compete mainly due to the lack of exports against imports, trans-shipment charges, port inefficiencies, added security charges and road haulage costs.

In-bound cargo ships on average carry 5% empty reefers for exported products and carry 25% empty containers on outbound shipments, hence capacity inefficiencies are charged to the exporter. Added security charges called emergency risk surcharges (as seen in **Table 6**) are added to North-bound freight due to the current insecurity posed upon by the Somali pirates.

Figure 7: Sea freight costs in USD per 40ft container



(Source data – Agents)

Table 6: Sea Freight Europe cost Breakdown 40ft and 20ft Container in USD January 2012

Cost Area	Kenya 40ft	South Africa 40ft	Kenya 20ft	South Africa 20ft
Basic Ocean Freight	5,100	4,100	2,652	2,132
Bunker Adjustment Fee	960	960	499	499
Carrier Security Charge	9	9	9	9
Documentation Fee	50	50	50	50
Emergency Risk Surcharge	500		250	
Handling Charge	135	135	90	90
Submission Of Cargo Declaration Fee	25	25	25	25
Suez Transit Fee	50		25	
Total \$	6,829	5,279	3,600	2,805

(Source data: Sea freight agents)

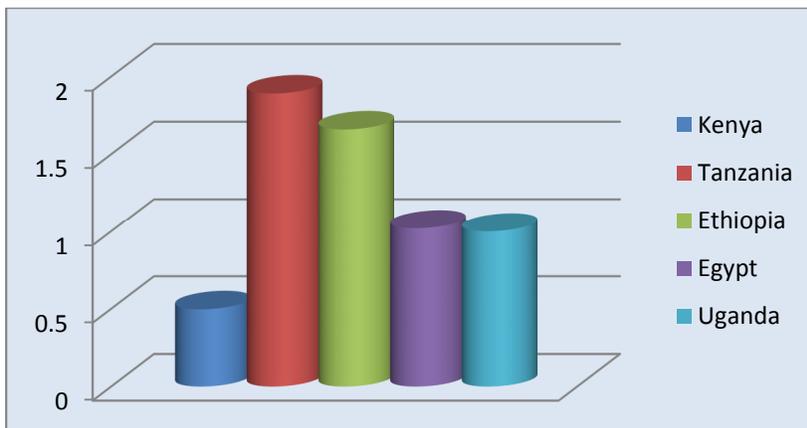
Sea Freight costs from Kenya to Europe were assessed and bench marked against South Africa (**Table 6**). Most charges remain static, however some differ due to trans-shipping, transit charges and insecurity risks. Kenya's shipping time to Shanghai is 25 days and South Africa is 28 days. There are no cargo vessels direct to Shanghai from the two countries. All vessels dock and trans-ship in Tanjung Pelepas, Johor - Malaysia. Only Basic Ocean Freight differs since it depends on container size and days to

destination port. Overall it seems that Kenya should pursue business in Asian markets where Kenyan prices are competitive and quality restrictions less severe.

7.3 Road Transport

Kenya’s larger exporting companies run their own fleet of trucks to enable flexibility and in house controls on timings. Others transport raw material produce to their pack-houses and transportation of packed product is mainly out-sourced to haulage companies.

Figure 8: Road Transport costs in USD/Km



* Tanzania’s road transport rate includes border to Kenya crossing

(Source data – Exporters, TAHA Fresh, HEIA, Exporter Uganda, Melaku)

Uganda’s road network comprises of 25% tarmac roads and 75% gravel highways. Road conditions vary throughout the country with the main trunk roads linking other land locked countries being constantly maintained to enable the transportation of goods to and from the Port of Mombasa. Tanzania’s main gazetted road network has been improved over the recent years. Feeder roads are still in bad condition. Delays can be expected at the border post in Namanga (Kenya) due to inspections and corruption affecting both schedule and cost. Overall, Kenya has the potential to provide efficient road transportation from all the main production areas to the closest or most convenient airport.

8.0 NATURAL RESOURCES

Kenya benefits from a strategic geographical location and climatic conditions that favor year-round production– an essential input in the horticulture sub-sector and arguably one of the most significant factors in retaining competitive advantage over the rest of the world. Kenya’s diverse ecological zones allow for a wide range of horticultural crops to be produced including tropical crops (mangoes, bananas, French beans), temperate crops (apples, carrots and snow-peas) and crops such as aloe, that are best adapted to semi-arid areas. Furthermore, Kenya experiences 12 hours daylight all year round from a sun shining overhead, ideal for production of high quality flowers.

Other countries have more difficult climatic conditions to cope with. Egypt, has limited rainfall and relies on irrigation from the Nile river that may not be sustainable in the future. In Uganda many parts of the

country have heavy rainfall in excess of 1000 to 1500 millimeters per year with high humidity which raises the incidence of disease pressures. The Southern African countries experience only one rainy season per year and suffer from cold winters that can result in frosts which rarely affect the Kenyan horticultural grower.

Weather conditions therefore are playing an important role in the competitiveness of the sector. Volcanic eruptions disrupted the supply levels and stopped Kenya exports in 2010 for more than ten days resulting in some companies coming to a standstill. Many of the competitors suffered the same fate but Egypt and Morocco for example, could continue to ship by sea ensuring continuity of supply and more erosion into the Kenyan Bean market share. The growing rural population in Kenya is expected to exert huge pressure on land, and water resources. Today, arable land is being converted to housing estates, added to which already small plots of land in much of rural Kenya are being subdivided resulting in unsustainable plots only really big enough to build a house for the family. Land policy may need to restrict sub-division of agricultural land in future if Kenya is to maintain its competitive advantage on export markets.

9.0 MARKET ACCESS

Horticulture production for export is completely market driven and sensitive to factors that facilitate market access such as global trade agreements and compliance to standards

The Economic Partnership Agreements (EPA) between the European Union (EU) and the African Caribbean and Pacific (ACP) states are designed to replace the preferential trade provisions of the COTONOU partnership agreements which are no longer acceptable under the WTO rules. Kenya negotiated under the East African Community though only an interim agreement has been initialed and the process has recently stalled. Kenya would suffer if no agreement is reached since all other member states are least developed countries (LDC) who enjoy preferential access to the EU duty and quota free. The result would be that only Kenya would lose out to the preferential trading access and this would negatively impact the horticultural sector in particular as the resulting failure would make Kenyan product liable to 5% to 15% duties. The increase of production by Kenyan companies in neighboring countries (vegetable production to Tanzania and flowers to Ethiopia) reflects this threat to some extent. The Government continues to assure the sector that all is being done to conclude the agreement but the uncertainty continues.

The Kenyan industry has recognized the need to comply with the numerous regulations on standards set up by destination markets and has embraced these requirements which have now become a “license to trade”. Working with the private sector, the Kenya Plant Health Inspectorate Service (KEPHIS) has worked hard to comply with EU regulations in terms of inspections and achieved status under EU regulation 1148 as an “approved nation” which ensured that Kenyan produce would be fast tracked on arrival in the European Market. This is a significant competitiveness advantage for Kenyan exporters.

10.0 TAXATION AND LEVIES

Kenyan companies are increasingly expressing concern about the plethora of taxes and levies that are imposed on the sector. The perception is that over the years national and local Governments although providing a liberal framework within which to work, are now looking to tax horticulture both directly and indirectly through “stealth taxes”. Interviews with companies in competing countries did not highlight taxation as an issue whereas in Kenya it was raised by almost everyone from smallholder export

businesses to large-scale exporters. Kenyan farmers face numerous direct and indirect taxes. Both the Central Government and local authorities charge a wide range of taxes, levies, cess and fees. By contrast, competing countries such as Ethiopia and Tanzania enjoy tax relief in certain areas of the sector. This not only assists in allowing a competitive market but also promotes horticulture, FDI and private sector development. Uganda gives tax exemption on all export products providing 80% of products are being exported.

The Fresh Produce and Exporters Association of Kenya (FPEAK) has developed a list of the taxes and levies that apply to the horticultural sector in Kenya. With “devolution” and the setting up of “counties” there is a danger that taxation could become a major deterrent to new investment and impact negatively on Kenya’s comparative advantage.

11.0 SUPPORT SERVICES

Government intervention in the Kenyan horticulture sub-sector has been minimal, mainly facilitating sectoral growth through infrastructure development, incentives and support services (HCDA strategic plan 2009 – 2013) and letting the private sector steer the industry. The result has been unprecedented growth in the sector which has been the envy of many competitors and indeed the model has been utilized as a template for many emerging economies.

Education has had an important part to play in providing an educated, competent and productive workforce. It has also ensured that the small farmer is much closer to understanding and managing his costs on the farm ensuring that he is much more efficient and competitive. The basic education also facilitates further training on specific skill sets needed from production to marketing.

Scaling up the capacity of the cargo terminal at the airport as well as adequate and efficient cold storage systems on site have also contributed significantly to efficiency in export horticulture. The chill chain has grown from the days of one chill handling facility to several, with private sector taking the lead in cold chain infrastructure development. Availability of cold storage depots for hire near production zones was facilitated by HCDA through construction of cold stores in various regions bringing chill chain services closer to the produce source. Most major roads have been repaired; however the feeder roads in the production areas still need to be worked on. Easy access to production areas will reduce transaction costs and open up sourcing from new areas.

In terms of ease of doing business Kenya rates as number 109 of 183 countries. The indices look at ease of starting a business, dealing with permits, getting power electricity, registering property, getting credit, protecting investors, paying taxes, trading across borders and enforcing contracts. Kenya is well placed vis-à-vis the bench mark countries in this study, the closest being Egypt and Ethiopia at 110 and 111 respectively, however the position could be improved consequently encouraging more investors into the country. The rest of the benchmark countries range from positions 123 to 171.

Peace and security are key in remaining competitive in the subsector. There will be no investment if there is no security and in Kenya it is a close run issue between inadequate supply of infrastructure and crime and theft as problematic factors for doing business. The recent unrest in Egypt was costly to the sub-sector in terms of present export value as well as losing established markets. Similarly, the cost of corruption is high and increases cost of doing business in the country. According to Transparency International, Kenya has the highest corruption perception index vis-à-vis all the benchmark countries Uganda and Tanzania inclusive.

12.0 CONCLUSIONS AND RECOMMENDATIONS

Kenya is in the enviable position of being amongst the leading exporters of flowers and fresh vegetables to the EU market and has a good reputation. Maintaining this reputation is key to continued growth and for diversification into new markets in the future. Some of the preliminary conclusions reached to date on how this can be achieved are summarized below

1. Government investments in education, infrastructure and communications have supported the sector and encouraged more private investment. This has included the introduction of dedicated airfreight airlines, new airports, introduction of cold chains, packaging and label suppliers setting up locally, greenhouse suppliers, irrigation suppliers, chemical and fertilizer companies looking at the markets with a view to expand regionally into the East African Community. However, Government has allowed the gradual increase of direct and indirect taxes that are making the industry less cost competitive.

- **Recommendation:** Lobby for government intervention to reduce all forms of taxation that impact negatively on exports

2. Kenya's sea freight rates to Europe are relatively high. However, lower prices are available on outward bound cargo to Asian countries. Rather than concentrate on EU markets where competition is high and consumer spending power is reducing, the emerging markets of Asia may have more potential.

- **Recommendations:** Assess potential markets and competitiveness of Kenyan produce in Asia.

3. Labour costs are high in Kenya and the costs continue to rise, mostly attributed to an educated workforce and inflation. Kenya has a comparative advantage in the availability of well-trained supervisors and technicians but unskilled labour is expensive.

- **Recommendation:** Focus research on developing labour-saving production and post-harvest techniques

4. Compliance with MRLs is crucial to continued growth of the industry. With Kenya having seen an increased number of interceptions in 2011, there is need to enforce regulatory systems on chemical use in horticulture. The ban of dimethoate use on fruits and vegetables will contribute significantly to adherence to MRL requirements.

- **Recommendation:** Harmonize standards and send the same messages to all farmers. Introduce guiding food safety policies on produce destined for the domestic market.

5. Irrigation is essential for maintaining future production. Much of horticultural production not irrigated, leading to erratic production and insecure income for farmers.

- **Recommendations:** Upgrade and invest in irrigation systems and promote sustainable natural resource management e.g. water and soil conservation, use of irrigation systems etc.