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Full Length Research Paper

The Global Landscape of Kenyan Cut-Flower and Foliage Exports: An Analytical Overview

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In terms of volume and value, cut-flowers and foliage are the single most important horticultural exports, followed by vegetables and fruits. There are three main consumption centres where the market value for cut-flowers is high these are; the European union (EU), United States of America (USA) and Japan. Competitions for these markets are stringent, suggesting that countries may be easily substituted, making it critical to explore ways to improve Kenya's market share and strategy. In the European Union market cluster, the country should focus on market penetration and product development. The Japanese market is a prime candidate for diversification and development of new, special and differentiated products. While in the USA market the country should pursue new products and market development, this is because the South American countries already have a comparative advantage. These initiatives should go hand in hand with promotion and lobbying to increase market share. The market infrastructure needs to be strengthened so as to facilitate the development of new strategies for marketing Kenyan products such as the use of geographical indications. Finally, domestic support needs to be increased and safeguards for cut-flower exports by enhancing financing to the sector as envisioned in the Cotonou partnership agreement.

Key words: Cut-flowers, competitiveness, market share.

INTRODUCTION

The floricultural industry in Kenya is one of the fastest growing sub-sectors of the horticultural industry. Overall export earnings from horticulture have grown from an estimated Ksh 6 billion in 1995 to slightly over Ksh 70 billion in 2009. Cut-flower and foliage contribution to the total horticultural exports has been increasing steadily over the last fifteen years having grown from Ksh 3.5 billion in 1995 to Ksh 37 billion in 2009 (Figure 1). In terms of proportion, the share of cut-flowers and foliage exports have increased from 50.9% (1999) to 62.4% (2009) in value; and from 37.4% (1999) to 48.2 (2009) in volume unlike the fruit and the vegetable sub-sectors which have recorded a declining trend over the same period Table 1 (HCDA, 2010). Although no systematic surveys have been conducted, it is estimated that the sub-sector employs about 2.5 million people directly and 3.5 million indirectly (KNBS, 2008).

Roses alone account for 35% of the total value of horticultural exports, stand out as Kenya"s single most important export product, other cut-flowers include carnations and chrysanthemum cuttings, although they are ranked far behind roses (HCDA, 2010). Kenya faces competition from several countries: in Africa (Uganda, Tanzania and Ethiopia) some of the investors in Kenya have relocated and reduced their operations in the country because the neighboring countries are offering better investment environments (CBI, 2009). For instance, according to the Ethiopian Horticultural Producers Exporters Association (EHPEA), the government is offering 5 year tax holidays, relatively better infrastructure; that includes lower cost of electricity, transport, duty free access for inputs and capital items and attractive leasehold agreements just to mention but a few. Other competing countries include Israel, Ecuador and Colombia that have similar production environments and products.

Kenya is the largest non-European supplier to the

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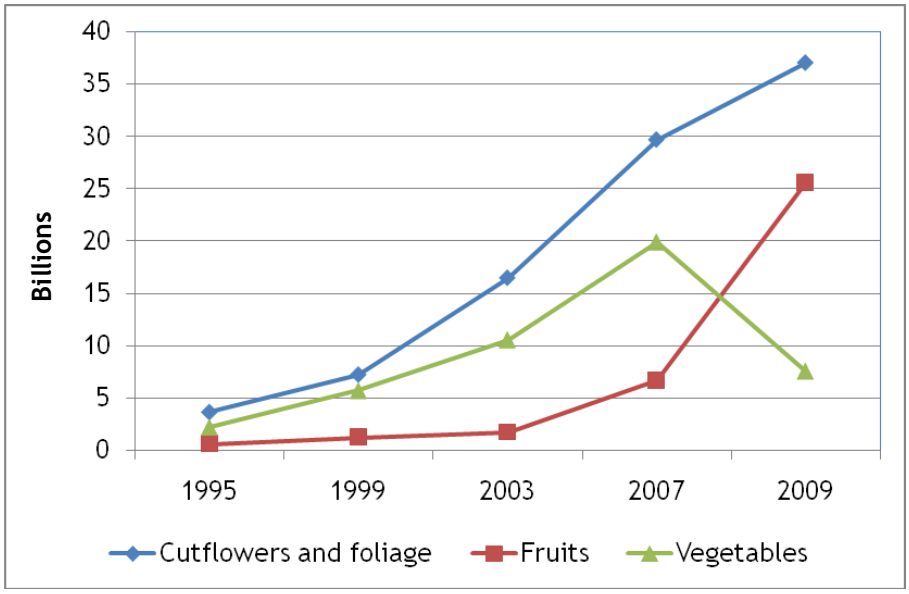

Figure 1. Value of exported cut-flower and foliage, fruits and vegetables in Kenya shillings for selected years. Source (MoA, 2010).

Table 1. Percentage share of flower, vegetable and fruit to total Kenyan horticultural exports, 1999 to 2009.

Products / Year	Share of total Volume						Share of total Value					
	1999	2001	2003	2005	2007	2009	1999	2001	2003	2005	2007	2009
Flowers	37.4	41.9	45.8	49.8	47.0	48.2	50.9	52.7	57.2	59.0	64.0	62.4
Vegetables	46.9	35.2	36.5	38.9	44.0	40.1	40.2	39.4	36.7	35.8	33.0	32.9
Fruits	15.8	22.9	17.7	11.3	8.0	11.7	8.8	7.8	6.1	5.3	3.0	4.6

Source: Computed from HCDA statistics for various years.

European Market since 1999, before that Israel was the largest supplier followed by Colombia and Ecuador, in third and fourth place respectively (CBI, 2009). How long the country will maintain this position is not known, because the product specialization and basic structure of the industry is quite similar to that of the competitors. The market on the other hand is dynamic, consumers are currently attaching importance to issues of health, environment, ethics and traceability thus pushing up the cost of production.

Overview of the markets for cut-flowers and foliage

A red rose bought in a market outlet anywhere in Western Europe might have been produced in Kenya, Colombia, Ecuador, the Netherlands, Italy, Israel, Morocco e.t.c. Basically, different countries with similar or different factor endowments compete to produce what in the end is a similar product except varietal characteristics (Meiver, 1999). Entry into the cut flower market is not restricted; however, certification codes are a prerequisite and are often used as a proxy for lower transaction cost (World Bank, 2004; Wijnands and Hack, 2000). Resources are being spent on technological innovations, advertising, packaging and transport which reduces the amount of money the producer receives (Dolan and Humphrey, 2000; Dolan et al., 1999). This brings into sharp focus the need to embrace innovation that allow the producers to adjust production and at the same time remain competitive in the market place. There are three significant producers and consumers of cut-flowers, with the exception of India and China, these are, 1) European Union (EU), 2) Japan and 3) the United States of America (USA) (ISHS, 2005).

According to the Floriculture Council of Holland (FCH, 2007) Figure 2, the annual consumption per head ranges from 20 Euros in the USA to more than 80 Euros in Switzerland. The market value is high in Japan, Europe and USA making these countries viable markets for developing countries.

The EU consumes over 50% of the world"s flowers and is the world"s leading importer of cut-flowers and foliage, total imports in 2008 were valued at $2 trillion with

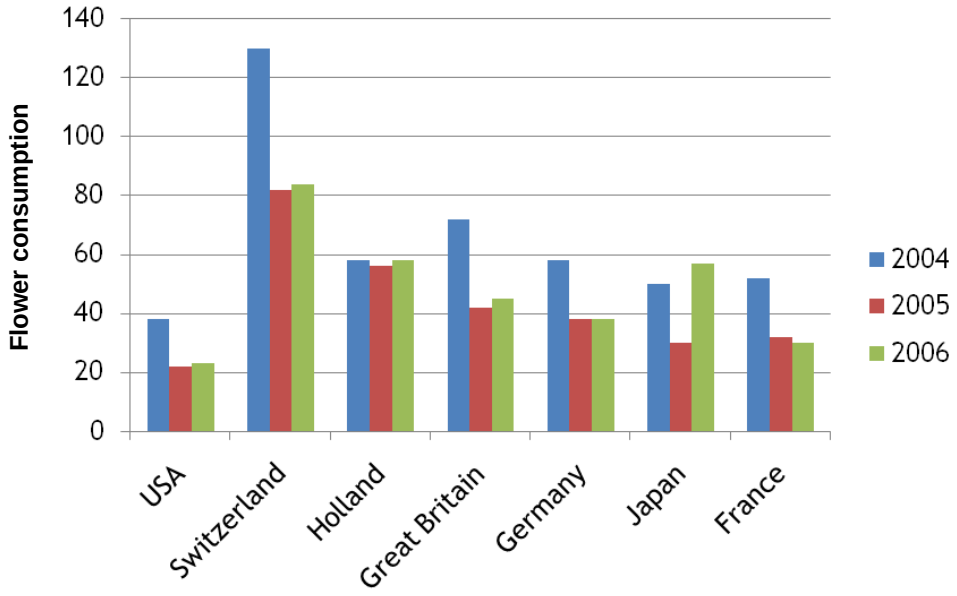

Figure 2. Per Capita consumption of flowers in selected countries. Source: (Flower Council of Holland, 2009).

exports valued at $2.3 trillion (COMTRADE, 2009). Imports from developing countries accounted for € 838.4 billion in 2008 (EUROSTAT, 2010). The main product supplied by developing countries is roses and suppliers in terms of volume share include; Kenya (23%), Ecuador (7%), Ethiopia (5.3%), Uganda (2.1%), Colombia (2%), Zambia (1.3%), Zimbabwe (1.2%), and Tanzania (0.8%) (CBI, 2009). The United States of America is a large producer and importer of cut flowers and foliage, in 2008 imports value was estimated to be $1.7 trillion and exports valued at $0.4 trillion (COMTRADE, 2009). This market is supplied mainly by growers in South America, with Colombia supplying more than one-half of such imports while Netherlands and Ecuador accounts for a quarter of the total imports (COMTRADE, 2009; ISHS, 2005; U.S.ITC, 2003). Japan has a significant domestic production of cut–flowers (ISHS, 2005). In 2008, total cut flower and foliage imports were estimated to be $0.5 trillion (COMTRADE, 2009). South Korea, Malaysia, Thailand, Netherlands, New Zealand and Colombia are the main suppliers of the imported flowers (67%) into Japan.

However, it is an important market niche for exclusive products or out of season products (ISHS, 2005; World Bank, 2004; Wijnands and Hack, 2000). Currently, horticultural exports to the EU enjoy preferential market access under the Cotonou Partnership Agreement and lately, the Interim Economic Partnership Agreement between the EU and the EAC. Under the framework of the WTO"s Doha Development Agenda, trade preferences have been at the core of on-going negotiations for further multilateral trade liberalization. Most least developed and developing countries, including Kenya consider that a move to further liberalization will not be in their interest as the erosion of preferences would reduce the benefits they reap from their preferential access to developed country markets. In this light, it is increasingly becoming more important for Kenya to determine its comparative position, so as to evaluate whether or not change is necessary to improve its competitive position.

CONCEPTUAL FRAMEWORK AND METHODOLOGY

There exists a number of definitions of “competitiveness” depending on the different levels at which competitiveness may be measured. Competitiveness has been defined as a country”s share of world markets for its products. A commonly understood firm or industry-level (microeconomic) use of the term is the capacity to sell one's products profitably. To be competitive, a firm must be able to offer products of better quality (or with better service) than its competitors (Cockburn et al., 1998). Two types of competition are deduced from these definitions. First, the competition on domestic and international product markets, and thus the ability to gain and maintain market shares, and second, the competition in factor markets, where those factors employed in producing the goods have to earn at least the opportunity costs (Frohberg and Hartmann, 1997). Classical theories of international trade assume undistorted markets or perfect markets.

Nevertheless, in the „real world" markets are imperfect, there are heterogeneous products and preferences, economies of scale, economies of scope, transaction costs and external effects just to mention but a few. This implies that productivity differences are not sufficient to explain trade and thus the concept of competitive advantage comes in. Competitive advantage is a more realistic approach to analyze „real world" phenomena. However, to capture the content of „competitiveness" in this broader sense is difficult, since there is no comprehensive theory at hand. The microeconomic concepts of competitiveness focus on the essential

characteristics of producers in competition for market share and profits or the ability to export. This ability can be measured by the size or increase of market share by export performance (Balassa, 1965), cost competitiveness (Siggel and Cockburn, 1995) or by more complex and multi-dimensional indicators. Under free trade, countries specialize and become net exporters of goods in which they have a comparative advantage. To identify which good or industry a country has a comparative advantage, the sign of the difference between autarkic and free trade relative prices is often used.

If the sign is positive then the country is competitive in production and export of the particular good. If the sign is negative then the country has comparative disadvantages in production and export of that particular good. Relative autarkic prices are however, unobservable variables and thus hinder identification of true or shadow comparative advantages. To overcome this, the revealed comparative advantage is used to analyze specialization patterns of countries (De Benedictis and Tamberi, 2001), this reflects the success in exporting countries relative to a worldwide norm (Siggel, 2006). This approach compares national sectoral shares with their international analogs and infers the existence of comparative advantage through the examination of actual output and/or trade flows as done by Balassa (1965). The Balassa index uses the world export share in a given sector to "normalize" the respective export share of each country. The international specialization Index as proposed examines the share of exports of a given sector in total exports of each country relative to the world unweighted average share.

The flower industry was expounded by analyzing the position of Kenya in comparison with the main competitors in their preferred markets.

Relative unit value (RUV)

According to new theories of international trade, product differentiated by quality is often reflected by difference in prices. Assuming that a consumer has access to product information, two products of different quality cannot be sold at the same price. Thus, the unit value is used as a proxy for price, because prices are not available for individual commodities. Higher unit values are considered to be reflecting higher quality, assuming all other factors are equal.

The RUV of the sub-sector was calculated as the ratio of the average unit value of exports for a country to the world average unit value. The reference point or average relative unit value is 1 (the unit value in the targeted country equals the unit value in the world market). If the RUV is below (above) 1, then the country exports its product at a lower (higher) price than the world average unit price.

Measuring competitive advantage

The Balassa index

Assume that the world[1] economy comprises of *N* countries and *m* sectors. Country *i* exports of the sector *j* are x_{ij} and total exports of country *i* are given by $X_i = \sum_{j=1}^{m} x_{ij}$. World exports of sector *j* amount to $X_{wj} = \sum_{i}^{N}{}_{=1} x_{ij}$, while total world exports can be seen either as the sum of all sectors or as the sum of all countries. That is $X_w = \sum_{j=1}^{m} x_{wj} = \sum_{i}^{N}{}_{=1} X_i$ [1] ; using relative export structure, the Balassa index can be written as:

$$B_{ij} = \frac{x_{ij}}{X_i} \Big/ \frac{x_{Wj}}{X_W} \quad \text{for all country } i = 1, 2 \ldots, N; \text{ and product } j = 1, 2, \ldots, m \qquad (1)$$

If the share of sector *j* in total exports of country *i* is higher than the equivalent share of sector *j* in the world exports, that is $\left(\frac{x_{ij}}{X_i}\right) > \left(\frac{x_{Wj}}{X_W}\right)$, then $B_{ij}>1$ and country *i* is classified as having a revealed comparative advantage in sector *j*. Here the index uses $\left(\frac{x_{Wj}}{X_W}\right)$ to normalize $\left(\frac{x_{ij}}{X_i}\right)$ which is a weighted average across countries, given that X_i and X_w, vary across time the upper bound changes across countries and time. The international product specialization index suggests the use of a different normalization; the denominator. The international specialization index normalizes $\left(\frac{x_{ij}}{X_i}\right)$ in which all countries have the same weight (Amador et al., 2006; De Benedictis and Tamberi, 2001).

International product specialization index

$$B^{*}_{ij} = \frac{x_{ij}}{X_i} \Big/ \left(\bar{\mu}_i\right)_j \quad \text{for all country } i = 1,2,\ldots,N; \text{ and product } j = 1,2,\ldots,m \qquad (2)$$

$\left(\bar{\mu}_i\right)_j$ $\left(\frac{\bar{x}_{ij}}{X_i}\right)$ $\frac{1}{N}$ $N\left(\frac{x_{ij}}{X_i}\right)$ sharing of sector *j* across the different *i* countries. Each country *i* =1, 2…N has a particular share on sector *j* exports, $\left(\frac{x_{ij}}{X_i}\right)$, and $\left(\bar{\mu}_i\right)_j$ is the un-weighted average of this export share in all countries. The threshold for this index is also 1. If the share of sector *j* in total exports of country *i* is higher than the average share of sector *j* in the N economies of the world, that is $\left(\frac{x_{ij}}{X_i}\right) > \left(\bar{\mu}_i\right)_j$, then $B^{*}_{ij} > 1$ and this country is classified as being relatively more specialized in sector *j*. Thus, the value of each B^{*}_{ij} can be interpreted as the contribution of each country *i*, in sector *j* to N. So, it is dependent on the number of countries or

[1] The definition of 'world' is the reference countries Kenya, Uganda, Tanzania, Ethiopia, Zambia, Zimbabwe, Morroco, Egypt, Israel, Colombia, Ecuador and Netherlands. And the number of products is limited to different types cut-flowers and sector is horticulture. Balassa (1965) did not use the world as a whole, but aggregate comprising 6 areas (EU, USA, Canada, UK, Sweden and Japan).

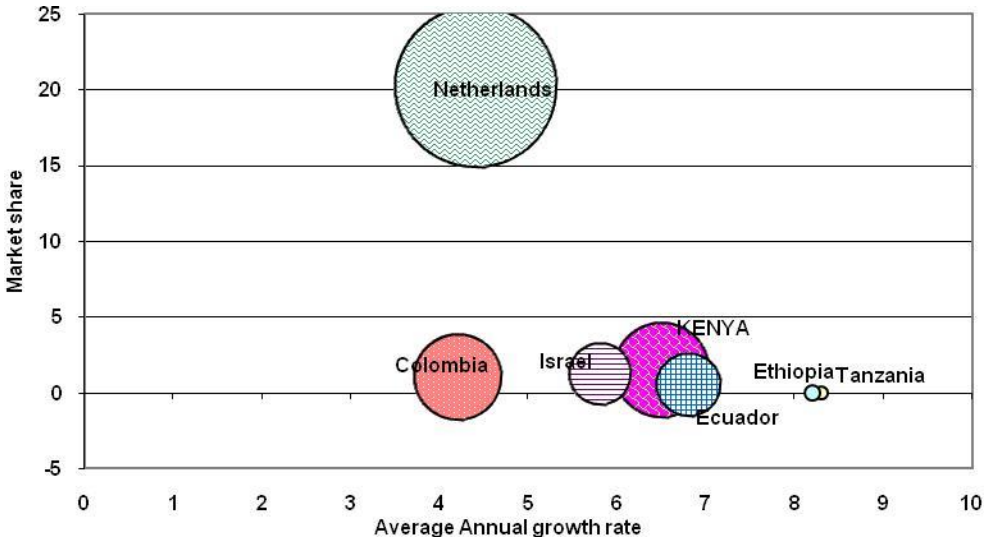

Figure 3. Selected countries value, average annual growth rate and market share of the EU-25 cut-flower and foliage market 1995-2008. The bubble size is proportional to the absolute export value. Source: Computed from EUROSTAT (2010) and COMTRADE (2009).

regions under consideration. The international sector specialization index mean within each sector (cross-country analysis) is always equal to 1, that is $\frac{1}{N}\sum_{i=1}^{N} B_{ij}^{*} = 1$ (Amador et al., 2006; De Benedictis and Tamberi, 2001).

Data types and sources

Export data for Colombia, Ecuador, Ethiopia, Israel, Kenya, Netherlands, Tanzania, Uganda and South Africa was collected from COMTRADE and EUROSTAT. Import data from EU-25, Japan and USA was collected from COMTRADE and EUROSTAT. The Standard International Trade Classification Revision 3 (SITC rev 3) at the 4- and 5-digit level was used for this study. Code SITC. REV. 3 codes S3-2927 for cut-flowers and foliage and S3-05 for fruits and vegetables.

RESULTS AND DISCUSSION

Average annual growth rate and market share

Average annual growth rate

The average annual growth rate of cut-flower and foliage exports have been increasing annually in all the selected countries, this corroborates that the growth of this sub-sector has been steady. With the entry of countries like Ethiopia and Tanzania, which have recorded substantial growth in the last five.

South American countries like Colombia growth has slowed down from 13% in the mid 1970"s to less than 5% from the 1990"s to date. Ecuador on the other hand, has recorded a rising growth rate since the 1980"s. Israel has recorded a steady growth rate of approximately 5% annually, since (Figures 3, 4 and 5).

The European- (25) Market

Despite, the growth in exports over the decades, Kenya"s share of the market seems to be declining, and is been overtaken by Israel and Colombia Figure 3. This can be attributed in part, to the lack of diversification of flower varieties and products. Currently, the country product diversification is biased to fresh flowers and limited to specific flower types namely roses, carnation, assorted summer flowers and chrysanthemum (Theon et al., 1999). This is contrary for countries such as Israel which has evolved over time and moved from traditional flower types; such as roses, gerbera and carnations, to wax flowers, roses, gypsophilia and a variety of summer and indigenous flowers (World Bank, 2004).

Kenyan growers have over the years relied on the auctions in the Netherlands, as the main marketing channel. Direct marketing may offer better prices to growers if they are able to meet the market requirements. However market intelligence will be critical to sustain this market. The global flower chain is classified as a spot market (Gereffi et al., 2003), this means that the complexity of the transactions are low; the supply side has the capacity to meet the market demands; and the marketing channels are relatively transparent.

The Japan Market

Japan imports only 7% of its cut–flower consumption

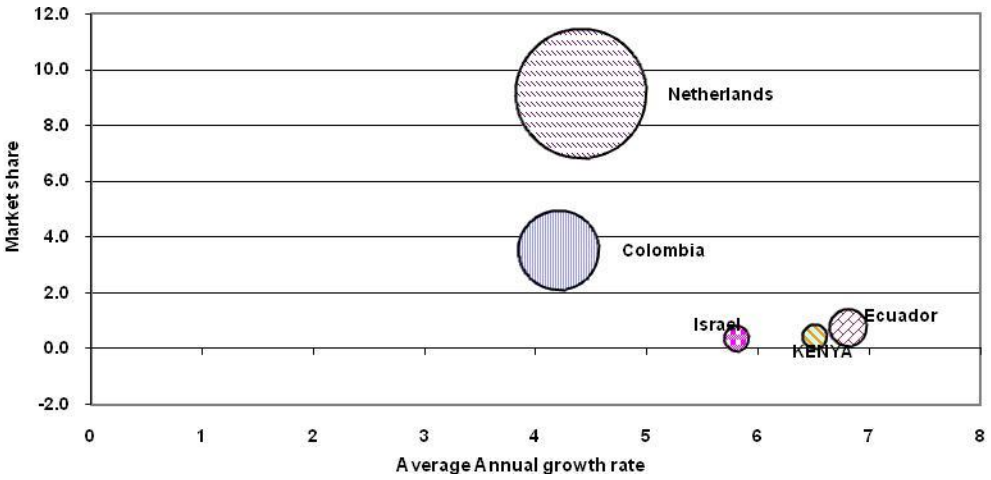

Figure 4. Selected countries value, average annual growth rate and market share of the Japan cut-flower and foliage market 1995-2008. The bubble size is proportional to the absolute export value. Source: Computed from EUROSTAT (2010) and COMTRADE (2009).

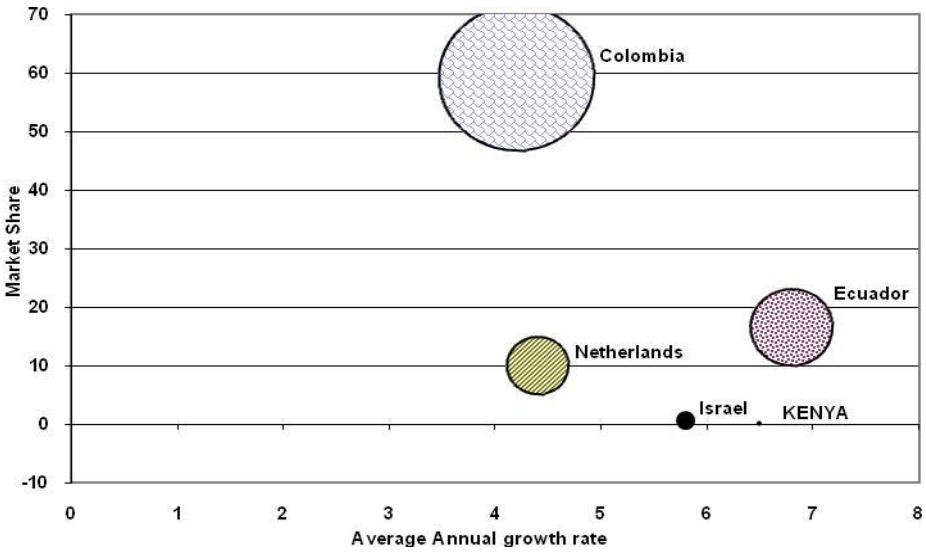

Figure 5. Selected countries value, average annual growth rate and market share of the US cut-flower and foliage market 1995-2008. The bubble size is proportional to the absolute export value. Source: Computed from EUROSTAT (2010) and COMTRADE (2009).

needs. The imports mainly come from Thailand, Malaysia, Taiwan and South Korea among other countries (ISHS, 2005). The Netherlands, Colombia, Costa Rica, and Ecuador account for an average of 14% of the market share. Kenya has less than 1% market share in this market (Figure 4). Exports to Japan from Kenya have increased over the recent past, however as indicated earlier, understanding the consumer preferences, the traditional habits, and meeting the Japanese import regulations is problematic (ISHS, 2005). Therefore, this is a market that the country could consider for developing new products.

The USA Market

The USA is a large importer of cut-flowers despite having a vibrant domestic market supported by domestic production (ISHS, 2005). More than 50% of the market share is accounted for by Colombia. When Colombian imports are combined with Ecuador, Netherlands and Costa Rica, their market share is over 90%. Kenya"s

contribution is less that 0.5% of the market (Figure 5). To benefit from this market and increase her market share, Kenya should consider intensifying the supply of flowers; developing new products; and diversification options, since the main players in this market have a comparative advantage.

Relative unit value of exports to the Europe Union-25

The comparison of unit values gives an indication of an exporter"s relative prices. The unit value is used as a proxy for price, because prices for individual commodities were not available. Higher unit values are considered as reflecting higher quality, assuming that all other factors are equal. Table 3 shows that Kenya exports prices which are higher than the relative price of cut flowers in the European Union. When Kenya (2008) is compared with the other selected countries, the indication is that Kenya"s (1.93) cut flower is different in quality from its competitors; Colombia (1.38) and Netherlands (1.84).

International product specialization index

The international specialization index as proposed examines the share of exports of a given sector in total exports of each country relative to the world unweighted average share.

European Union -25 Market

Kenyan, and Ugandan cut-flowers and foliage exports have a comparative advantage in the EU-25 market. All the other countries have no comparative advantage in the market. Kenya"s most important horticultural export is cut flowers and foliages. These products are competitive and are of good quality and thus attract higher prices than the average market price. The EU is an important market for Kenyan exports, this is because the country has traditional links and enjoys preferential access granted by trade agreements. The Netherlands is the largest exporter and importer of cut flowers. It is interesting to note that the country has no comparative advantage in the cut flower and foliage market in the EU-25 when compared with developing countries. This maybe attributed to the fact that there are several other flower products markets that the country participates in, which include: bedding and potted plants; and production of plant and propagation material. The Netherlands is extremely advanced in breeding innovation and technology. She has a good knowledge and infrastructure and extensive marketing institutions.

The country"s policy of using auctions has succeeded in excluding foreign growers in the supply chain, thus reducing the number of direct market sales by these growers (foreign) in the European Union. Israel also has comparative disadvantage in EU-25 this can be attributed to the fact that the country has moved from basic cut-flower production to include production of plant propagation material and knowledge infrastructure. Apart from that, its exports have evolved from traditional varieties such as roses, gerbera and carnations to wax flowers, roses, gypsophilia and a variety of summer and indigenous flowers. The cut-flower production in Israel is technologically superior and innovative thus it can only be compared to the Dutch production systems; it however, lacks extensive marketing institutions (CBI, 2009; ISHS, 2005; World Bank, 2004; Batt, 2000).

CONCLUSIONS AND POLICY IMPLICATIONS

Kenya has a competitive advantage in cut flower and foliage exports, and has a revealed comparative advantage in the cut flower and foliage markets in the EU. Kenya"s products sold in these markets are of relatively higher quality compared with her major competitors, thus assuring better prices. Kenya commands a 1.5% share of the EU and a negligible share of the Japan and the USA markets. Kenya"s main competitors, for instance, Colombia have a comparative advantage in the USA and Japan, and it controls more than 50% of the market in the USA, about 3.5% in Japan and an estimated 1% in the EU. The market for cut-flowers consists of a wide range of product groups. Kenya has managed to be the leading foreign supplier to the EU with a very limited product range that is not unique to other developing countries involved in the trade.

The domestic market in the country is almost non-existent, when taking into account that the EU, Japan and the USA have very vibrant domestic markets and the imports are used to compliment their own production. Kenya has been a force to recon with, as concerns the export of cut-flower and foliage in the world and Sub-Saharan Africa for a long time. However, in the recent past, other countries in East Africa are providing competition. New producers like Ethiopia and Uganda, have successfully broken into the European flower market, albeit they still have a significantly lower market share.

Policy implications

Horticultural trade policy in Kenya has being driven largely by the private sector. Nevertheless, it is imperative for the government to be actively involved in the implementation of policy in this sub-sector, thus ensuring benefits for the country"s population as a whole. In the cut-flower industry some of the desired interventions include the following.

Adapt geographical indications for Kenyan products

Geographical indications (GI) is valuable as market tools in the global economy, it acts as a certification that the product is of a certain quality due to its geographical origin. This should be carried out hand in hand with product development in public-private partnerships with relevant research institutions in the country. This will fast track the development of the sector toward the direction of the Netherlands and Israeli, floriculture sectors.

Increase domestic support and safeguard cut flower exports

In order to safeguard the erosion of preferences of horticulture exports envisaged in both the EPAs and the Doha Round of negotiations, there is need for Kenya to emphasize the need for the EU to observe the principles of cooperation in development financing of the sector as envisioned in the Cotonou Partnership agreement. Furthermore, Kenya has flexibility to enhance domestic support to the sector under the Green Box measures if need be, so as to consolidate her market share of the products.

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