

## Factors Affecting Competitiveness of Kenyan Cut Flower in the International Market: A Case Study of Cut-Flower Firms in Nakuru County

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**ABSTRACT:** The main aim of this study was to analyze factors affecting competitiveness of Kenyan cut flower in the international market. The study used descriptive case study design with a purposive sample size of 126 senior managers in the flower farms in Nakuru County. The study used structured questionnaire as the main data collection tool. Data was analyzed using descriptive statistics and information presented in frequency tables and charts. The study used factor analysis to establish the most important elements of the Porter's five force factors that are adopted in the flower industry in Kenya. The study found out that competition of Kenyan Cut in international market was affected by the following factors; activities along supply chain which were extremely many and also challenging; actors along the supply chain which were; difficult to manage, situated diversely in terms of physical distance, different laws, diverse requirements, expensive to manage and were also unpredictable; lastly international standards which were not consistent. Some of the recommendations put forward to make Kenya Cut-Flower Sector to be more competitive in the international market were; the players in the cut flower industry should develop systems that can help them identify actors in the cut flower supply chain their locations and their roles in the transmission of both the supplies and goods. This will help in making the actors more responsible and make these transmissions faster. The players should review the laws in cut flower sector in all the countries involved in the business and harmonize them as a way of making the Kenya cut flower more competitive in the international market. Third the cost associated with the diverse and unpredictable actors should be normalized through the flower councils and other associations.

**KEYWORDS:** International Marketing, Competitive Strategies, Supply Chain, Compliance to International Standards, International Players

### 1 INTRODUCTION

The business landscape is today characterized by increasing rates of globalization and technological advancements posing significant challenges for organizations management (Hussey, 1990). The environment is increasingly turbulent and complex consisting broadly of the economy at large, population demographics, societal values and lifestyles, governmental legislation and regulation, technological factors, and the company's immediate industry and competitive environments (Thompson et al, 2003).

Kenya is a major global supplier of cut flowers; the sector is estimated to employ approximately 50,000 to 60,000 people directly and over 500,000 people indirectly (Kenya Flower Council, 2009). Cut flowers, along with fruits and vegetables, make up Kenya's horticulture industry – one of the country's major foreign exchange earners (along with tea and tourism). Horticulture is one of the fastest growing sectors in the Kenyan economy, largely attributable to cut flower exports

(Barrientos, et al., 2003). Agriculture, more broadly, accounts for approximately one quarter of GDP and 60% of export earnings and is the source of livelihood for the majority of Kenyans (International Monetary Fund, 2010).

There are over 150 flower producers in Kenya, many of which are medium to large scale commercial operations. In 2008, Ksoll et al. (2009) conducted a firm-level survey of over 100 exporter producers. According to their data, there are about 120 established grower-exporters who export throughout most of the year, with substantial heterogeneity across firms with respect to key characteristics, such as acreage, ownership structure, and level of vertical integration. Major investment over the past two decades and duty-free access to the European Union (EU) has contributed to strong growth in the sector. Cut flower importers and retailers in the EU have established (largely unwritten) contractual relationships with Kenyan producers to ensure adequate supplies and timely delivery; this vertical relationship requires a readily accessible labor force (Hale et al, 2005).

The major flower-growing areas are Naivasha, Thika, Limuru, Nairobi, and the Athi river plains in the west, and the Nakuru, Nanyuki, Mount Kenya region, and Eldoret in the north. Naivasha \_ located about 100 kilometers Northwest of Nairobi \_ accounts for about 50% of the total land under cut flower cultivation, and about one-quarter of all flower exporters are located in the region. Additionally, the area is in close proximity to the Jomo Kenyatta International Airport and is linked by the Nairobi-Nakuru highway. Well-developed transportation networks are particularly important since fresh cut flowers are highly perishable.

## **2 LITERATURE**

### **2.1 EFFECT OF ACTIVITIES ALONG THE SUPPLY AND VALUE CHAIN ON COMPETITIVENESS OF KENYA CUT-FLOWER**

A cost advantage can be created either by reducing the cost of individual value chain activities, by reconfiguring the value chain (structural changes such as a new production process, new distribution channels, or a different sales approach), or by controlling the cost drivers better than the competitors do. Successful cost leaders are often low-cost product developers, low-cost marketers, and low-cost service providers (Porter, 1990). A differentiation advantage can be achieved either by changing individual value chain activities to increase uniqueness in the final product or by reconfiguring the value chain such as forward or backward integration.

#### **i. The Traditional Supply Chain**

Cut flowers are delivered from the farm to a forwarder/handling agent at the airport. The products are flown to Europe and received by a handling agent at the airport. The flowers are processed by an importer who prepares them for auctioning. At the auction, the flowers are bought by a wholesaler who sells them to retailers, where consumers constitute the end buyers concluding the supply chain.

#### **ii. The Auction Import Supply Chain**

Identical to Supply Chain no. 1, but the importer is cut out. The import division of the auction itself receives the products and unpacks and prepares the products for auctioning. A shipment is often spread over several auction days and auction locations to ensure a continuous supply to the auction clock.

#### **iii. The Auction-Retailer Supply Chain**

Identical to Supply Chain no. 2, but the wholesaler is cut out as well. Retailers themselves buy the flowers they need directly at the Dutch flower auctions.

#### **iv. The Traditional Direct Supply Chain**

The importer and flower auction links present in the supply chains described above are cut out.

Flowers are received by a handling agent who directly forwards the boxed products to a European wholesaler, who takes care of import handling and possible processing (e.g. bouquet making), before selling the products to domestic and foreign customers.

#### **v. The Mass-Market Direct Supply Chain**

This is the shortest currently used supply chain, cutting out two or three of the links mentioned in Supply Chain no. 1 and reducing the total length of this traditional supply chain by one third. Products are imported by an importer, who is selected by a retailer (in most cases a large supermarket chain). In fact, there is one case in which a retailer goes even one step further by skipping the importer and importing flowers itself.

In terms of vertical strategic alliances, most of the leading Kenyan exporters have a series of well-established relationships with EU-based importers. These range from vertical integration to trading partnerships that, although loosely based, are still very well established and can go back 20 years or more. These integrations involve joint ventures and co-investments (an example is Homegrown, Kenya's largest vegetable exporter – recently taken over by Finlay).

The cut flower value chain is undergoing structural shifts in its EU distribution channels as supermarkets increasingly source directly from suppliers in developing countries, thereby cutting out wholesalers and the Dutch auction system (Thoen et al. 2000; CBI 2007). The Dutch flower auctions (owned by the Dutch flower-growers) have historically been the most important channels through which flowers are distributed to European wholesalers and retailers. But lately the proportion of flowers imported into the EU that goes through the Dutch flower auctions has declined, and direct sourcing by large retailers is increasing, although the auctions still remain the most significant way for cut flowers to reach European wholesalers and retailers (in 2006, the auctions had an estimated 40% market share of flowers).

## **2.2 EFFECT OF ACTORS ALONG THE VALUE CHAIN ON COMPETITIVENESS OF KENYA CUT FLOW**

Kaplinsky (2000) views on value chain analysis and the determinants of income distribution was adopted in this study. Kaplinsky indicated that value chain analysis can help to explain the growing disjuncture between the global spread of activities and incomes. This can be done first, by mapping the range of activities in the chain that will provides the capacity to decompose total value chain earnings into the rewards which are achieved by different parties in the chain. Secondly, a value chain perspective, analyses the way in which particular firms, regions and countries are linked to the global economy. This will determine to a large extent the distributional outcomes of global production systems and the capacity which individual producers have to upgrade their operations and thus to launch themselves onto a path of sustainable income growth.

Melle et.al (2007) indicated that a value chain encompass a full range of activities required to bring a product or service from conception, thorough production, transformations, and delivery to final consumers and final disposal after use. It includes a series of actors from inputs suppliers to producers and processors to exporters and buyers –engaged in the activities required to bring a product from its conception to its end use. An effective value chain analysis approach would help in the identification of good policies and programmes to accelerate development and this requires a good understanding of how local enterprises fit into the global economy. Secondly, the approach would helps to identify and select relevant stakeholders for programme planning, including distant buyers where they exert strong influence over the chain. Thirdly it helps to identify all the enterprises that contribute to the production of a good or service and shows what institutions are needed to support the enterprises. Lastly, the value chain analysis approach helps policymakers and entrepreneurs find out which parts of the chain are holding up progress –which bottlenecks deserve priority attention and provides a framework for sector-specific action.

World Bank (2011) observes that internal factors are determined in the first place by entrepreneurs themselves, but also governments and sector organizations have played an important role. Other relevant actors are research and training institutes, credit and finance institutions, quality and regulatory agencies, and trade and investment promotion agencies. In some countries, the government plays an important role in coordinating efforts of varies actors.

The global value chain (GVC) approach developed by Gereffi et al. (1994) offers an analytical framework to examine interrelations between actors in value chains, but it has traditionally downplayed the role of labour as other than a productive asset. Likewise, the existing literature shows a very limited interest in the potential active role of labour. Rather, labour is seen as a passive object that needs to be taken into consideration, managed or at best consulted. The actors in the different segments are linked together within the chain in relationships that are coordinated in different ways. A value chain may include different parallel sequences of segments, called 'strands'. These strands may differ in terms of suppliers, buyers, product types, their coordination, and/or end markets. Simply put, the flower value chain for import into the EU involves two distinctive strands: the direct strand and the auction strand.

## **2.3 EFFECT OF COMPLIANCE WITH INTERNATIONAL STANDARDS ON COMPETITIVENESS OF KENYA CUT FLOWER**

Exporting cut flower products from ACP countries to Europe is becoming increasingly restricted due to European regulations and to private or industry-level environmental and social requirements. Driven by the various concerns of consumers, retailers, auctions, European regulators and civil society organizations, flower growers have to comply with a number of standards and codes developed by the major market-brokers, international organizations, national industry associations and multi-stakeholder partnerships (Dolan, et al., 2002). The export of cut flowers from East Africa is an example of a highly codified industry (cut flower producers in Kenya for example in average comply with at least three different social

and environmental codes. This project therefore intends to investigate the effects of social standards in the cut flower value chains connecting the EU with East Africa.

The horticulture sub-sector of the agriculture sector has in the last decade grown to become a major foreign exchange earner, employer and contributor to food needs in the country. Currently the horticulture industry is the fastest growing agricultural sub-sector in the country and is ranked second to tea in terms of foreign exchange earnings. Fruits, vegetable and cut flower production are the main aspects of Kenya's horticultural production. The sub-sector has undoubtedly contributed to increased rural incomes and reduced rural poverty, through both direct production effects and linkage effects, as horticultural incomes are re-spent in rural areas (Mutuku et al., 2004). The success of the sub-sector has seen the export of horticultural produce rising from 1,480 tonnes in 1968 to 163,233 tonnes in 2006 fetching over US \$600 million during this period. Exported vegetables constitute only 4% of the total production, while 96% is consumed locally. It is estimated that 70% of exported vegetables are grown by smallholders, with up to 50,000 smallholders growing French beans (Minot and Ngigi, 2004). The major export market is the European Union countries taking 80% of the exports; with the UK, Netherlands and France being the main markets. Other markets include Middle East, South Africa, Norway, USA, Canada and Japan (HCDA 2007; Minot and Ngigi, 2004).

The European Retailer Produce Working Group Good Agricultural Practices (EurepGap) is the most widely known example of a common EU retailers' standard. Though it is a private standard, it is regarded as a condition of entry to EU markets does not provide price premiums. Compliance to these standards for smallholders entails costly investments in variable inputs (for example approved pesticides) and long term structures (e.g. grading shed, disposal pit and pesticide store). These investments are "lumpy" and mostly specific to the fresh export vegetable business. It is questionable whether small-scale farmers have the resources and skills to comply with the standards. The costs of implementing the standards may drive them out of lucrative export market for horticultural produce. Researchers, development practitioners, and government are concerned that these changes in requirements by the international supply chains for horticultural and other high-value agricultural products will make it increasingly difficult for smallholders to maintain their position in the export market trade (Dolan and Humphrey, 2000; Dolan et al., 2002).

The EurepGap was originally initiated in 1997 by retailers belonging to the Euro-Retailer Produce Working Group (EUREP) and developed into an equal partnership of agricultural producers and their retail customers. The aim was to develop widely accepted standards and procedures for the global certification of Good Agricultural Practices (GAP). The development of EurepGap was driven by the desire by retailers and producers to reassure their consumers of food safety following scares such as mad cow diseases (BSE) and foot-and-mouth epidemic in U.K (Friedberg, 2004). Other concerns include pesticide levels in food products and the rapid introduction of genetically modified (GM) foods (EurepGap, 2004). The EurepGap protocol has 250 rules or control points. The goal of this protocol is to provide the tools that objectively verify best good agricultural practices to reduce the risk in agricultural production in a systematic and consistent way throughout the world.

Farm and household specific characteristics have been cited as major barriers to compliance with food safety standards. Charlotte and Fairman (2003) in their study assessing the factors affecting food safety compliance within small and medium-sized enterprises (SMEs) in UK, identified the major barriers as; lack of knowledge throughout the compliance decision process, lack of support services, lack of money to cater for the costs of compliance, and lack of information. Antle (1995) also agrees that size of the farm could explain the importance of the cost of implementation as an incentive to adopt food safety and quality practices.

Cost of certification, which is a major element of the EurepGap standards, has been cited as a major barrier to compliance. Graffham (2006), in his study on Zambian farmer's experience with the EurepGap standards, notes that some African certifiers charge up to four times more than the European-based certification bodies. These high costs as well as other recurring costs such as audit expenses, training and expensive pesticides, overburden smallholder growers if no external support is provided to them (Graffham, 2006).

Costs of complying with EurepGap requirements can be classified broadly into two categories; transaction costs and production costs. To be able to characterize these costs, it is necessary to distinguish transaction cost from production costs, which can be a difficult task in French beans business. Production of French beans for international market requires certain institutional arrangements that enhance compliance with EurepGap standards. Costs associated with these institutional arrangements are mainly transaction costs. Thus costs arising from implementing such standards such as set-up costs are regarded as transaction costs. Compliance with EurepGap standards requires taking various technical measures such as use of specific chemicals. The costs arising from these technical measures may be regarded as production costs but in reality they are transaction costs. One way of categorizing such costs would be to consider the reason why the farmer is using the chemical and whether he had been using it before complying with EurepGap requirement. Farmers using any specific chemical for the purpose of complying would be regarded to incur transaction costs. Thus all costs that are not associated

with compliance of the EurepGap requirements will be treated as production costs. In the characterization of the costs, therefore, the study notes the difficulty of separating production and transaction costs. However any additional production costs incurred as a way of complying with the EurepGap standards will be regarded as transaction costs. This is also noted by other authors in related studies such Aloui et al. (2005).

All farmers, retailers or trade operators who join the EurepGap protocol are committed to five main principles (EurepGap, 2001): To maintain consumer's confidence in the quality and safety of the EUREP certified Food; to practice good agricultural practices; to minimise the use of pesticides and other chemical inputs as much as possible; to use non renewable resources (as soil, water, etc.) efficiently; to be responsible for the occupational health and safety of their workers.

Kenya is unique among developing countries in that the most significant player in the agricultural export sector is the smallholder. In the recent past, only a few Kenyan farmers were operating to international quality and safety standards. Export-bound produce was being sold through informal networks of brokers, traders and resellers who had limited understanding of international standards. From the first of January 2005, farmers who export horticultural produce to the European Union were required to comply with the EurepGap regulations including a sophisticated set of good agricultural practices (GAP). These requirements cover among others agro-chemical use, record-keeping, farm infrastructure, hygiene facilities and grading and packing processes (New, 2005).

Kenya's tropical climate demands the use of frequent applications of pesticides that have over the years proved to be effective. EU regulation force Kenyan producers to change these applications regimes and pesticide types. However, unless Kenyan horticultural producers and exporters adapt rapidly to the new measures they will lose the share of the market built up over the years (Mussa et al., 2004). Musaa et al., (2004) in their study argue that the impact of stringent consumer health requirements on large corporations and small-scale farmers will be quite different. Large corporations have much better conditions than small-scale farmers to quickly adapt to new measures, such as EurepGap. In fact, European markets have favoured larger producers and exporters since they have the capacity to respond to new requirements leaving out smallholder farmers who dominate most of the African agricultural sector.

#### **2.4 EFFECT OF COMPETITION AMONG OTHER INTERNATIONAL PLAYERS ON COMPETITIVENESS OF KENYA CUT FLOWER**

The present day flower industry is a dynamic and highly international industry. Significant growth rates have been achieved during the past few decades. Trade is dominated by south-north flows with Europe and North-America housing the world's largest consumer markets, while the producing countries are situated close to the equator. For the past ten years, the leading flower exporting countries have been the Netherlands, Colombia, Kenya, Ecuador and Israel. Since a few years, Ethiopia has joined this list, while Israel's position has weakened (World Bank, 2011).

A comparison of last 2003 figures with 2004 confirms that production growth took place in countries around the equator. Since 2004, production area in Kenya has grown by 1,400 hectares, newcomer Ethiopia by 1,568 ha, Ecuador by 421 hectares and Colombia by 300 hectares. In Israel and the Netherlands, production area shrank. Given the rise in export value, the Netherlands nevertheless continue to play a key role in the international flower trade, being both the largest importer of flowers from outside the EU and the main supplier of flowers to other EU countries (World Bank, 2011). The astonishing growth of flower production in the countries around the equator, however, was not gradually, and certainly not automatic. Producers were hit hard by the economic crisis. Production in Colombia and Ecuador has even dropped in recent years.

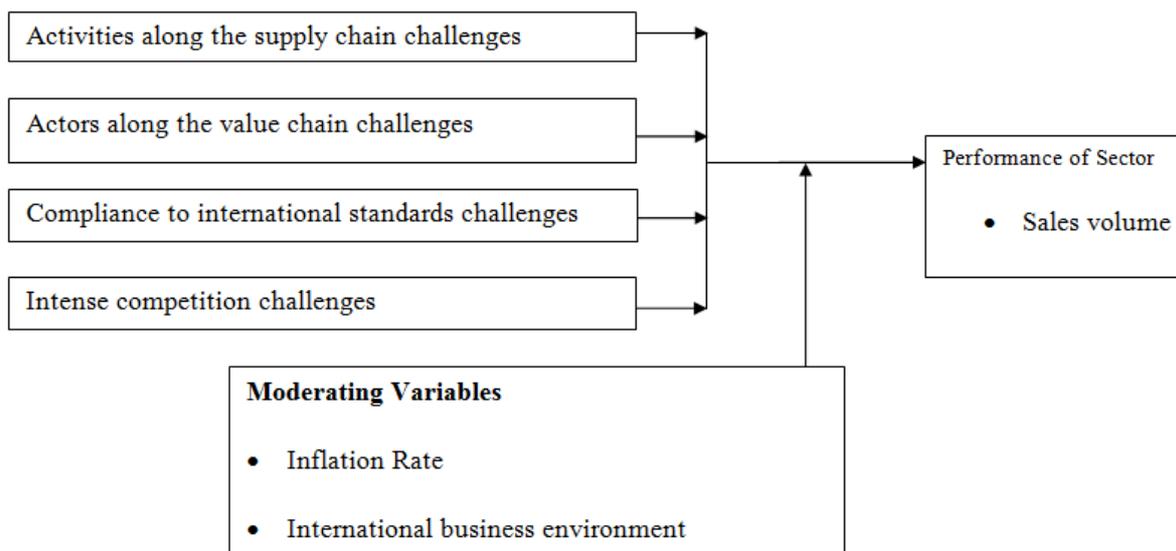
Acknowledging the fact that floriculture business is very diverse and highly competitive the strategic management and competitiveness framework is required to be able to make the judgments on general success factors of the industry actors. Particularly, to address the success of Netherlands as a main floriculture industry value chain hub and the perspectives for the Ukrainian companies in this business as a final consumption hub. This section of the theory won't be elaborated deeply as this is not the main focus of the research. However, the strategic planning, implementation and control of the industry actors shape the business processes in any value chain and has to be accounted. Moreover, it will be a useful tool for the SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis for the Ukrainian floriculture business in the fifth chapter of the research.

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 (USAID, 2012).

As expressed in the above literature review, very little has been researched on the challenges affecting the cut flower sector in Kenya and therefore necessitating this study as the fast way to narrow the literature gaps.

**CONCEPTUALIZATION**



**Figure 1: Factors Affecting Competitiveness of Kenya Cut Flower in International Market**

The independent variables of the study are; Challenges associated with the activities along the supply chain, the actors along the value chain of the Cut Flower Sector in Kenya, the compliant with international standards of the Cut Flower Sector in Kenya and intense competition among other international players in the cut-flower sector. The dependent variable is performance of the sector measured in terms of sales volume. The moderating variables are; inflation, international business environment and exchange rates. When the cut flower sector manage Challenges associated with the activities along the supply chain, the actors along the value chain of the Cut Flower Sector in Kenya, the compliant with international standards of the Cut Flower Sector in Kenya and intense competition among other international players in the cut-flower sector then there the sales volume will increase assuming that the above listed moderating variables are kept constant.

**3 METHODS**

The study adopted a descriptive case study research design. The target population for this study comprised of the top management in the flower firms in Nakuru County; General Manager, Production Manager, Human Resource Manager, Financial Manager, Marketing Manager, Logistics and Transportation Manager. This category is purposively selected since they are involved in crafting, implementing and evaluating strategies used in the flower firm. There were a total of 21 flower firms in Nakuru County according to Kenya Flower Council records of 2013; De Ruiters East Africa, Lake Naivasha Growers Group, Bilashaka Flowers Ltd, Florensis (K) Ltd, Groove Ltd, Hamwel Ltd, Kudenga Ltd, Live Wire Ltd, Morop Flowere Ltd, Olnjorowa Ltd, Nini Ltd, Oserian Dev. Co. Ltd, Roseto Ltd, Wild Fire, Buds and Blooms Ltd, Homegrown Ltd, Kenya Highlands, Longonot Horticulture, Maridadi Flower Ltd, Sian Roses. The target population therefore was the 21 flower firms multiplied by the 6 top management drawn from each flower firm, making 126. The study purposively took the 21 flower firms and collect information relevant to the study from the 6 managers mentioned above totaling to a population of 126 which also formed the sample size. Questionnaire was used to collect primary data to ensure a high response rate. The questionnaires were distributed to respondents to complete and were collected by the researcher. Factor analysis was used in the analysis because of the concern of decomposing the information content in a set of variables into information about an inherent set

of latent components/factors. This assisted in reducing a number of variables into fewer factors which were the most adopted factors affecting competitiveness of Kenyan cut flower in the international market.

#### **4 RESULTS**

##### **4.1 HOW ACTIVITIES ALONG THE SUPPLY CHAIN AFFECT COMPETITIVENESS OF KENYAN CUT-FLOWER IN THE INTERNATIONAL MARKET**

*Table 1: Factors Related to Activities along the supply chain*

Factor	N	Min.	Max.	Mean	Std. Dev.
Activities are extremely many	120.0	1.0	4.0	2	0.7
Activities are challenging to monitor	120.0	1.0	4.0	2	0.7
Activities are time bound	120.0	1.0	5.0	2	0.6
Activities involve chain reaction	120.0	1.0	4.0	2	0.6
Activities are delicate	120.0	1.0	4.0	2	0.7
Activities are affected by climate change	120.0	1.0	5.0	2	0.6

The study used Likert Scale to analyze the factors where 1 – SA – represented Strongly Agree, 2 A– represented Agree, 3 N – represented not sure, 4 D – represented Disagree and 5 SD – represented Strongly Disagree. The factors were analyzed using descriptive statistics (see table 4.1 above). N was the sample of the study which was 120 respondents, Min was Minimum value in Likert Scale which was represented by Strongly Agree, Max was maximum value in the scale which represented by Strongly Disagree, Std. Dev – was the standard deviation from the assumed mean. The study established that majority of the respondents agreed that the activities along the supply chain in the flower sector were extremely many, challenging, time bound, involved chain reaction and were affected by climatic changes. This was represented by the mean of each of these factors which was 2 representing agree in the Likert Scaling used.

##### **4.2 HOW ACTORS ALONG THE SUPPLY CHAIN AFFECT COMPETITIVENESS OF KENYAN CUT-FLOWER IN THE INTERNATIONAL MARKET.**

*Table 2: Factors Related to the Actors along the Supply Chain*

Factor	N	Min	Max	Mean	Std. Dev
Actors are difficult to manage	120	1.0	5	2	0.9
Actors are diverse in distance	120	1.0	4	2	0.8
Actors are affected by different laws	120	1.0	5	2	0.7
Actors have diverse requirements	120	1.0	5	2	0.8
Actors are expensive to manage	120	1.0	5	2	0.7
Actors are unpredictable	120	1.0	4	2	0.7

*Source: Field Data (2014)*

The study used Likert Scale to analyze the factors where 1 – SA – represented Strongly Agree, 2 A– represented Agree, 3 N – represented not sure, 4 D – represented Disagree and 5 SD – represented Strongly Disagree. The factors were analyzed using descriptive statistics (see table 4.1 above). N was the sample of the study which was 120 respondents, Min was Minimum value in Likert Scale which was represented by Strongly Agree, Max was maximum value in the scale which represented by Strongly Disagree, Std. Dev – was the standard deviation from the assumed mean. The study established that majority of the respondents agreed that the actors along the supply chain were difficult to manage, they were located in diverse distance, they were affected by many laws involving the flower food chain, they had diverse requirements which were difficult to attain, they were also very expensive to manage and quite unpredictable. This was confirmed by the mean of each of the factors related to actors along the supply chain which was 2 representing Agree in the Likert Scaling used.

#### 4.3 HOW COMPLIANCE WITH INTERNATIONAL STANDARDS AFFECT COMPETITIVENESS OF KENYAN CUT-FLOWER IN THE INTERNATIONAL MARKET

*Table 3: Factors Related to Compliance with International Standards*

Factor	N	Min	Max	Mean	Std. Dev
Standards are inconsistent	120	1	4	2	0.7
Standards are expensive to implement	120	1	5	2	0.6
Standards are not adoptive to Kenya sector	120	1	4	2	0.6
Standards require highly qualified personnel	120	1	4	2	0.7
Standards are too high to achieve	120	1	5	2	0.6
Standard documentation difficult to obtain	120	1	4	2	0.6

Source: Field Data (2014)

The study used Likert Scale to analyze the factors where 1 – SA – represented Strongly Agree, 2 A– represented Agree, 3 N – represented not sure, 4 D – represented Disagree and 5 SD – represented Strongly Disagree. The factors were analyzed using descriptive statistics (see table 4.1 above). N was the sample of the study which was 120 respondents, Min was Minimum value in Likert Scale which was represented by Strongly Agree, Max was maximum value in the scale which represented by Strongly Disagree, Std. Dev – was the standard deviation from the assumed mean. The established that majority of the respondents agreed that the international standards were inconsistent with local agricultural production standards, expensive to implement, not adoptive to Kenya Agriculture Sector, required highly qualified personnel some of which could not be locally found, too high to achieve in Kenyan Agricultural environment and that their documentations were hard to obtain. This situation therefore affected competitiveness of Kenyan Cut-Flower in the international market. This was confirmed by the mean of each of the factors related to actors along the supply chain which was 2 representing Agree in the Likert Scaling used.

#### 4.4 HOW COMPETITION AMONG OTHER INTERNATIONAL PLAYERS AFFECT COMPETITIVENESS OF KENYAN CUT-FLOWER IN THE INTERNATIONAL MARKET

*Table 4: Competition among Other International Players*

Factor	N	Min	Max	Mean	Std. Dev
There are many substitute in market	120	1	4	1	0.6
There are strong competitors	120	1	5	2	0.6
Substitute for better price performance ratio	120	1	5	2	0.7
Buyers easily switch to substitutes	120	1	5	2	0.7
Substitute are major challenge to profitability	120	1	5	2	0.8
It is difficult to switch from our product to others	120	1	5	2	0.7

Source: Field Data (2014)

The study used Likert Scale to analyze the factors where 1 – SA – represented Strongly Agree, 2 A– represented Agree, 3 N – represented not sure, 4 D – represented Disagree and 5 SD – represented Strongly Disagree. The factors were analyzed using descriptive statistics (see table 4.1 above). N was the sample of the study which was 120 respondents, Min was Minimum value in Likert Scale which was represented by Strongly Agree, Max was maximum value in the scale which represented by Strongly Disagree, Std. Dev – was the standard deviation from the assumed mean. The established that majority of the respondents agreed that competition among other international players affect competitiveness of Kenyan Cut-Flower in the international market because there were; many substitute products in the market, there existed very strong competitors, there were substitute for better price performance ratio, buyers easily switched to substitutes, substitutes were major challenges to profitability, it was difficult switching from cut-flower to the provision of other products. This was confirmed by the response mean between 1 and 2 which according to Likert Scaling were within the range of Strongly Agree and Agree.

4.5 FACTOR ANALYSIS OF THE FACTORS AFFECTING COMPETITIVENESS OF FLOWER FIRMS

Table 5: Factors Loading

Factor	Initial	Extraction
<b>Activities along Supply Chain</b>		
Activities are extremely many	1	0.848
Activities are challenging to monitor	1	0.921
Activities are time bound	1	0.959
Activities involve chain reaction	1	0.921
Activities are delicate	1	0.834
Activities are affected by climate change	1	0.837
<b>Actors along Supply Chain</b>		
Actors are difficult to manage	1	0.720
Actors are diverse in distance	1	0.526
Actors are affected by different laws	1	0.820
Actors have diverse requirements	1	0.780
Actors are expensive to manage	1	0.738
Actors are unpredictable	1	0.848
<b>International Standards</b>		
Standards are inconsistent	1	0.921
Standards are expensive to implement	1	0.959
Standards are not adoptive to Kenya sector	1	0.921
Standards require highly qualified personnel	1	0.834
Standards are too high to achieve	1	0.837
Standard documentation difficult to obtain	1	0.683
<b>Competition</b>		
there many substitute in market	1	0.589
there are strong competitors	1	0.542
there are substitute for better price performance ratio	1	0.778
Buyers easily switch to substitutes	1	0.801
substitute are major challenge to profitability	1	0.733
it is difficult to switch from our product to others	1	0.747

Source: Field Data (2014)

Table 4.5 above was used to load the factors. The factors were categorized as per the objectives of the study; factors related to activities along supply chain, factors related to the actors along the supply chain, factors related to international standards in the flower sector and competition.

Table 6: Principle Component Extracted Factors

Factor	Component	
	1	2
<b>Activities along Supply Chain</b>		
Activities are extremely many	<b>0.654</b>	<b>0.572</b>
Activities are challenging to monitor	<b>0.750</b>	<b>0.312</b>
Activities are time bound	<b>0.658</b>	(0.149)
Activities involve chain reaction	<b>0.694</b>	(0.279)
Activities are delicate	<b>0.815</b>	(0.235)
Activities are affected by climate change	<b>0.706</b>	(0.177)
<b>Actors along Supply Chain</b>		
Actors are difficult to manage	<b>0.536</b>	<b>0.422</b>
Actors are diverse in distance	<b>0.473</b>	<b>0.533</b>
Actors are affected by different laws	<b>0.547</b>	<b>0.562</b>
Actors have diverse requirements	<b>0.596</b>	<b>0.484</b>
Actors are expensive to manage	<b>0.638</b>	<b>0.418</b>
Actors are unpredictable	<b>0.654</b>	<b>0.572</b>
<b>International Standards</b>		
Standards are inconsistent	<b>0.750</b>	<b>0.312</b>
Standards are expensive to implement	<b>0.658</b>	(0.149)
Standards are not adoptive to Kenya sector	<b>0.694</b>	(0.279)
Standards require highly qualified personnel	<b>0.815</b>	(0.235)
Standards are too high to achieve	<b>0.706</b>	(0.177)
Standard documentation difficult to obtain	<b>0.575</b>	(0.362)
<b>Competition</b>		
there many substitute in market	<b>0.674</b>	(0.139)
there are strong competitors	<b>0.659</b>	(0.116)
there are substitute for better price performance ratio	<b>0.550</b>	(0.343)
Buyers easily switch to substitutes	<b>0.786</b>	(0.284)
substitute are major challenge to profitability	<b>0.603</b>	(0.455)
it is difficult to switch from our product to others	<b>0.668</b>	(0.346)

Source: Field Data (2014)

The study established positive significant correlations in the following groups of factors in the second rotation as the most surviving factors;

#### **Activities along Supply Chain**

Activities were extremely many had a positive high correlation of 0.572, activities were challenging had positive correlation of 0.312

#### **Actors along Supply Chain**

Actors were difficult to manage had positive correlation of 0.422, actors were situated diversely in terms of physical distance had positive correlation of 0.533, actors were affected by different laws had positive correlation of 0.562, actors had diverse requirements had positive correlation of 0.484, actors were expensive to manage had positive correlation of 0.418, actors were unpredictable had positive correlation of 0.572.

#### **International Standards**

Standards were not consistent had positive correlation of 0.312

#### 4.6 SALES VOLUME OF CUT FLOWER SECTOR IN KENYA

*Table 7: Sales Volume of Cut Flowers in Kenya*

<b>Sustainability of growth</b>	<b>No</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Std Dev</b>
Floriculture industry in Kenya is sustainable	120	1	5	4	0.3
There is a high volume of sale of cut-flower	120	1	5	4	0.4
Innovation in the sector has lead to the current growth	120	1	5	4	0.3

The study used Likert Scale to analyze the factors where 1 – SA – represented Strongly Agree, 2 A– represented Agree, 3 N – represented not sure, 4 D – represented Disagree and 5 SD – represented Strongly Disagree. The study established that majority of the respondents disagreed that the floriculture industry in Kenya was sustainable, they also disagreed that the sales volume were high and that innovation in the sector did not lead to any growth. This was confirmed by the mean on each of the items which was 4 represented by disagree in the Likert Scaling used in the study.

### 5 CONCLUSIONS AND RECOMMENDATIONS

The study found out that that competition of Kenyan Cut in international market was affected by the following factors; activities along supply chain which were extremely many and also challenging; actors along the supply chain which were; difficult to manage, situated diversely in terms of physical distance, different laws, diverse requirements, expensive to manage and were also unpredictable; lastly international standards which were not consistent.

Competition is a complex concept in business and contains many theories that a single study cannot fully address the issue of competition. The initial aim of this study was to analyze the factors affecting competitiveness of Kenyan cut flower in the international market. The study managed to analyze the four main factors; activities along supply chain, actors along supply chain, compliance with international standards and competition. Further study should be done on effect of these factors on expansion of cut-flower sector in Kenya and its contribution to the Gross National Product. Findings from such a study will be important in establishing which factors investors look into when they plan tom expand their cut flower investment in Kenya towards competition in the world market. The findings will also inform policy formulators on which factors are key towards addressing flower expansion and their individual contribution towards Kenya’s Gross National Product.

### 6 RECOMMENDATION

- i. The Kenya Cut-Flower Sector should take advantage of Information and Communication Technologies (ICT) to develop effective systems that monitor the movement of the supplies and the products based on real time data transmission
- ii. The players in the sector should review the laws in cut flower sector in all the countries involved in the business and harmonize them as a way of making the Kenya cut flower more competitive in the international market. The cost associated with the diverse and unpredictable actors should be normalized through the flower councils and other associations.
- iii. Kenyan Flower Council should lobby so that the costs associated with international standards compliance should reduce and be made more adoptive to Kenyan situation. Kenya Government should train more personnel on disciplines like international business, international relations and international laws so that such personnel can be asset to cut flower sector as far as compliance with international standards are concerned.
- iv. The Government of Kenya should engage the Dutch Government where there is cut flower auction market so that there are more bilateral trades that can position Kenyan Cut Flower to be more competitive in the World. This in turn will increase the sales volume and more expansion in the sector and hence more foreign exchange.

## REFERENCES

- [1] Aloui, O., and Kenny, L., (2005). *The Cost of Compliance with SPS standards for Moroccan Exports: A case Study*. The International Bank for Reconstruction and Development /The World Bank.
- [2] Antle, J. M., (1995), *Choice and Efficiency in Food Safety Policy*. Washington, DC: American Enterprise Institute.
- [3] Barrientos, S., Dolan, C., & Tallontire, A. (2003). A gendered value chain approach to codes of conduct in African horticulture. *World Development*, 31(9), 1511–1526.
- [4] Dolan, C. and Humphrey, J., (2000). Governance and trade in fresh vegetables: The impact of UK supermarkets on the African horticultural industry. *Journal of Development Studies* 37 (2): 147-176
- [5] EUREPGAP –*General Regulations Fruits and Vegetables*. Version 1.1 and Version 2 .1–Jan 2004. <http://www.eurep.org>. September, 30th. 2013
- [6] EUREPGAP Protocol for Fresh Fruit and Vegetables Version Sep 2001. <http://www.eurep.org>. September, 30th. 2013.
- [7] Freidberg, S., (2004), *French Beans and Food Scares: Culture and Commerce in an Anxious Age*. New York: Oxford University Press
- [8] Gereffi, G. and Korzeniewicz, M. (1994) *Commodity Chains and Global Capitalism*, Westport, CT: Praeger
- [9] Gereffi G, Humphrey J, Sturgeon T. (2005). The Governance of Global Value Chains. *Review of International Political Economy* 12: 78-104
- [10] Hale, A., & Opondo, M. (2005). Humanizing the cut flower chain: Confronting the realities of flower production for workers in Kenya. *Antipode*, 37(2), 301–323.
- [11] HCDA-Horticultural Crops Development Authority- “Export statistics in volumes and values for fresh fruits, flowers and vegetables for the year 2007 in Kenya.
- [12] Hussey, D. E. (1990). Development in Strategic Management in Hussey D. E (ed), *International Review of Strategic Management*, John Wiley and Sons, Vol 1.
- [13] International Monetary Fund. (2010). *Kenya: Poverty Reduction Strategy Paper IMF Country Report*. Washington, DC.
- [14] Kaplinsky Raphael .(2004). *Spreading the Gains from Globalization: What Can Be Learned from Value-Chain Analysis? Problems of Economic Transition*.
- [15] Ksoll, C., Macchiavello, R., & Morjaria, A. (2009). Guns and roses: The impact of the Kenyan post-election violence on flower exporting firms. *CSAE Working Paper Series. Centre for the Study of African Economies, University of Oxford*.
- [16] Melle, C., O. Coulibaly, and K. Hell. (2004). *Agricultural Value Chain Development in West Africa. Methodological Framework and Case study of Mangos in Benin*.
- [17] Mussa, Vossenaar, and Waniala, (2003). Strengthening Developing Countries’ Capacities to Respond to Health, Sanitary and Environmental Requirements. The Experience of Kenya, Mozambique, Tanzania and Uganda. *Paper No.4. United Nations Conference on Trade and Development*.
- [18] New Agriculturist, (2005). “Bridging the EurepGap” Contribution paper to reporting Agriculture for the 21st Century, January 2 2014. Available at: <http://www.newag.nfo/05-1/develop/devol.html>.
- [19] Porter, M. E., (1990), „The Competitive Advantage of Nations”, *Harvard Business Review* 68 (2), March- April.
- [20] Thompson, A. A. Jr. and Strickland A. J. III (2003): *Strategic Management: Concepts and Cases*, 13th Ed., Tata McGraw-Hill Publishing Company Ltd. New Dheli.
- [21] Thoen R, Jaffee S, Dolan C. 2000. Equatorial Rose: The Kenyan-European Cut Flower Supply Chain. In *Supply Chain Development in Emerging Markets: Case Studies of Supportive Public Policy*, ed. R. Kopiki. Boston: MIT Press
- [22] USAID (2012). Kenya’s Competitive Position in Horticulture. Kenya Horticulture Competitiveness Project (KHCP). *Progress Report May 2012*
- [23] World Bank (2011). Global Competitiveness of Kenya Flower Industry.