

PETER MAANGI MITIAMBO

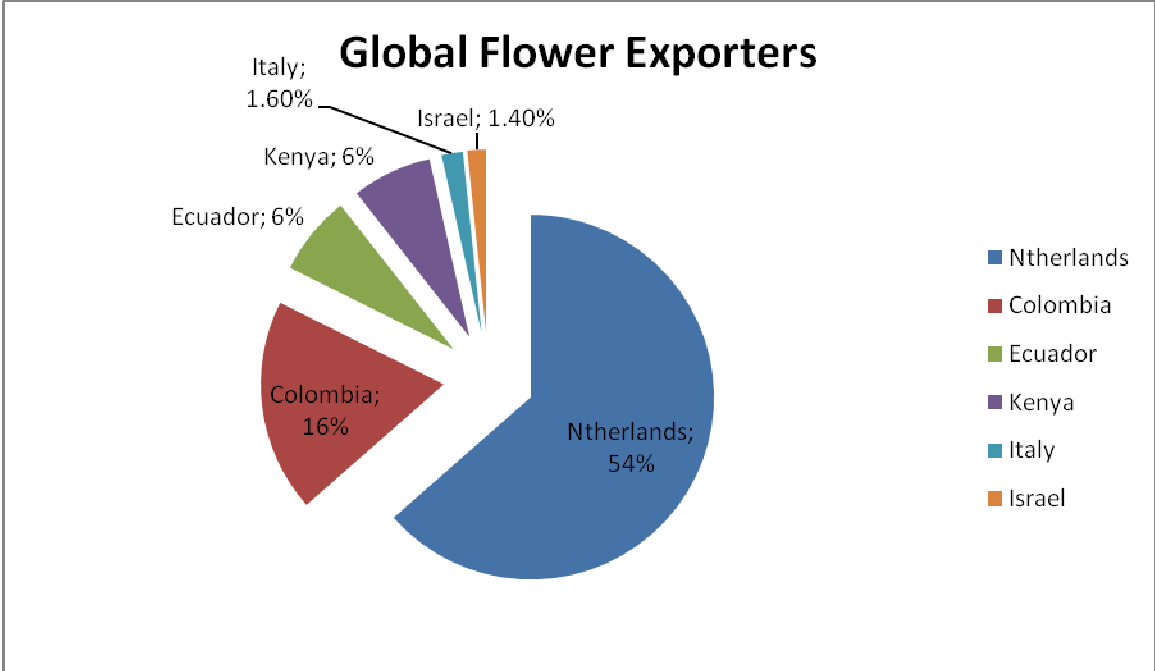
VALUE CHAIN ANALYSIS FOR THE FLOWER INDUSTRY IN KENYA AND TANZANIA

1. INTRODUCTION

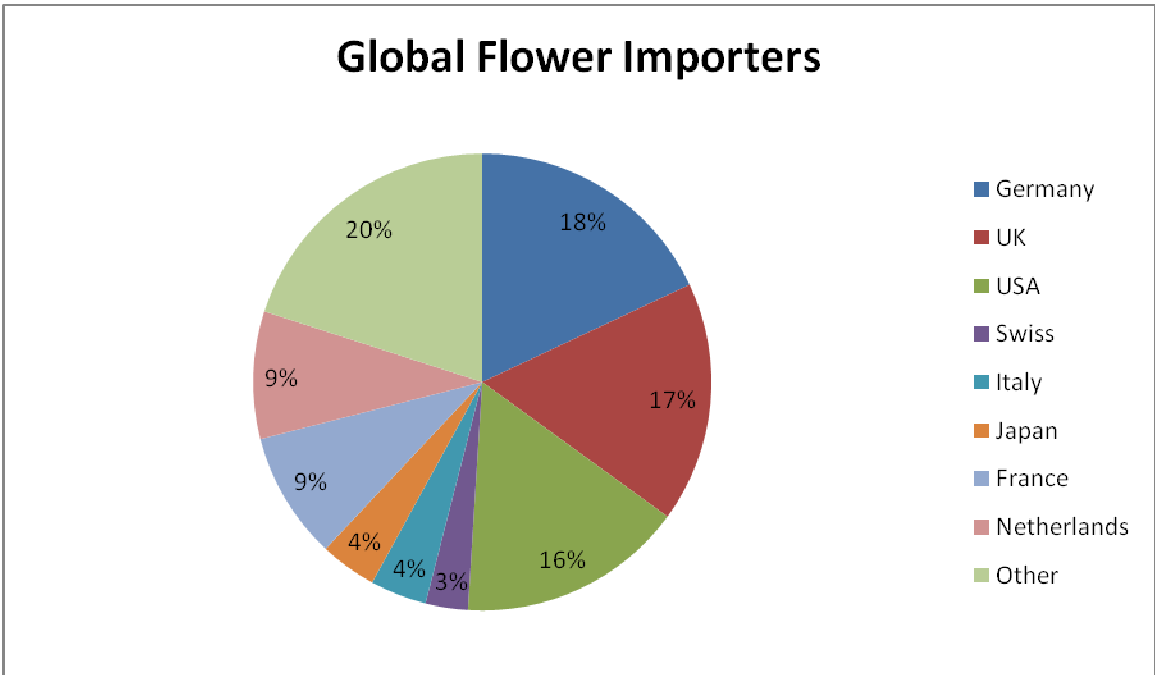
Flowers are very important in human life. They are able to influence human feelings more than even words or gifts could do. This is why they are in demand just like many consumer products in the world. Here below, I provide details of the flower value chain for two firms, one in Kenya and another one in Tanzania. The value chains will present details of the costs and value creation for all the actors in the chain with the selected firm as the focal point. Here, we shall look at how the concept of global value chain analysis could help in understanding the system of flower production and how it could be managed to benefit the poor. It will help in identifying opportunities and challenges for the sector to effectively contribute towards poverty eradication. To start with, I will provide some details on the global flower industry before narrowing down to Kenya and Tanzania and then finally to the value chains.

2. THE GLOBAL FLOWER TRADE

They are grown in more than 80 countries around the world, marketed and bought in virtually every place on the globe. The total size of the global flower trade is at least US\$40 billion with The Netherlands accounting for 54% of the exports. Other top exporting countries are: Colombia (16%), Ecuador (6%), Kenya (6%), Italy (1.6%), Israel (1.4%) and others (15%).

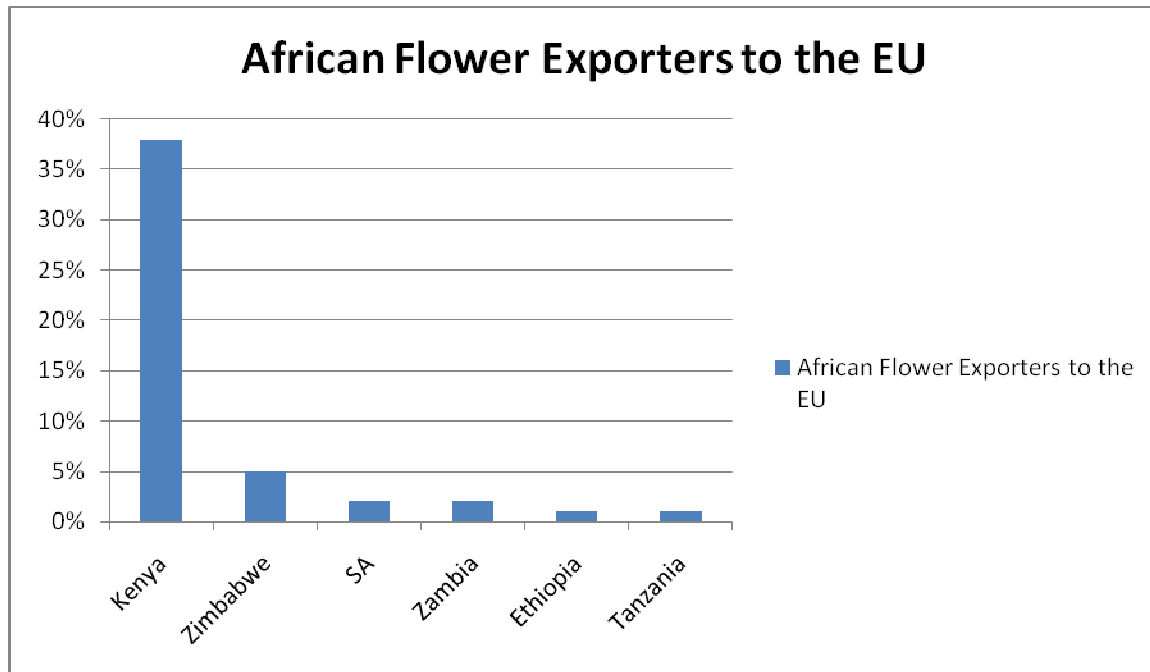


Importing countries are mainly European and the USA though Japan is increasing in prominence as per 2005 figures. The major ones are as follows: Germany (18%), UK (17%), USA (16%), France (9%), Netherlands (9), Italy (4%), Japan (4%), Switzerland (3%), others (20%).



The flower farming and export industry is experiencing tremendous growth in Africa. A number of the Sub-Saharan African countries are now becoming major exporters of this commodity to Europe and to

other emerging flower markets around the world. Kenya leads in this group commanding a 38% share of the EU market. Others are: Zimbabwe (5%), Uganda (3%), South Africa (2%), Zambia (2%), Ethiopia (1%), and Tanzania (1%). However, Ethiopia's growth in flower production and export is quite remarkable.



Source: EUROSTAT Database (2007)

With several countries in Africa struggling with high levels of poverty, economic managers are seeking opportunities in the flower industry to boost the war against this problem. In Kenya for example, it is estimated that up to 56% of the people live below the poverty line out of a total population of 35.1 people.

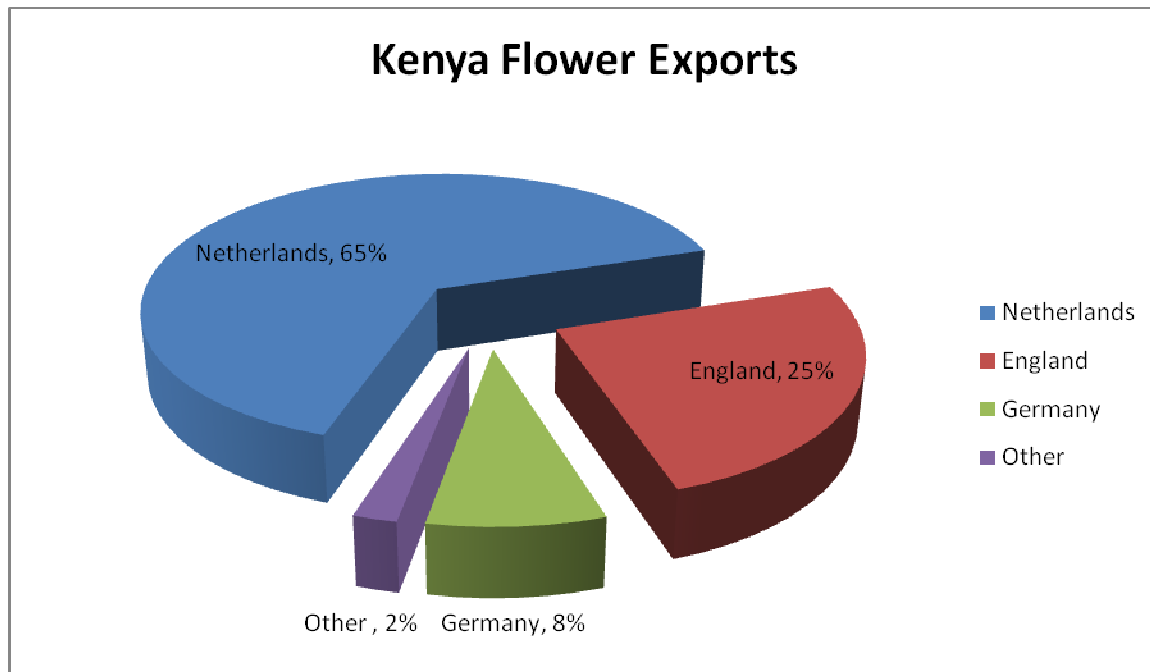
3. KENYA FLOWER INDUSTRY

Kenya is one of the leading producers and exporters of cut flowers in the world. The flower industry is number two foreign exchange earner for the country. In the year 2007, flower export earnings amounted to US\$615 a growth of 79% over the year 2006 figures (Kenya Flower Council-2007). In terms of weight, the industry exported a total of 90,000 tons of cut flowers in the year 2007. The industry employs 100,000 people directly and 2 million indirectly. The major export market is the European Union where Kenya commands a 38% of the market share. Within this market, The Netherlands takes 65% of Kenya's flowers whereas 25% is sold to Britain, 8% to Germany and 2% goes to other markets. Roses account for 70% of Kenya's flower exports. There are approximately 5000 flower growers in Kenya.



Map of Kenya

97% of the flower exports is by large scale companies mostly owned by foreigners. And roughly 40 producers account for up to 75% of the production and export. This dominance is explained by the high capital and knowledge nature of the market. According to HCDA, flower production by small scale producers has been decline over the last 8 years. 4,000 - 5,000 small to medium scale producers account for only 5 – 13% of total flower export production. This is because on average, an investor requires at least US\$50,000 per hectare to start a flower farm. On top of this, there are the operating expenses and vigorous marketing abroad. The only choice the small growers are left with, therefore, is the open field summer flower farming which though dependent on water supply, does not require greenhouses and other sophisticated technology. Flowers are grown in many parts of the country. Some of the areas prominent for flower growing are: Naivasha, Nakuru, Eldoret, Nairobi, Muranga and Kajiado.



Source: Kenya Flower Council

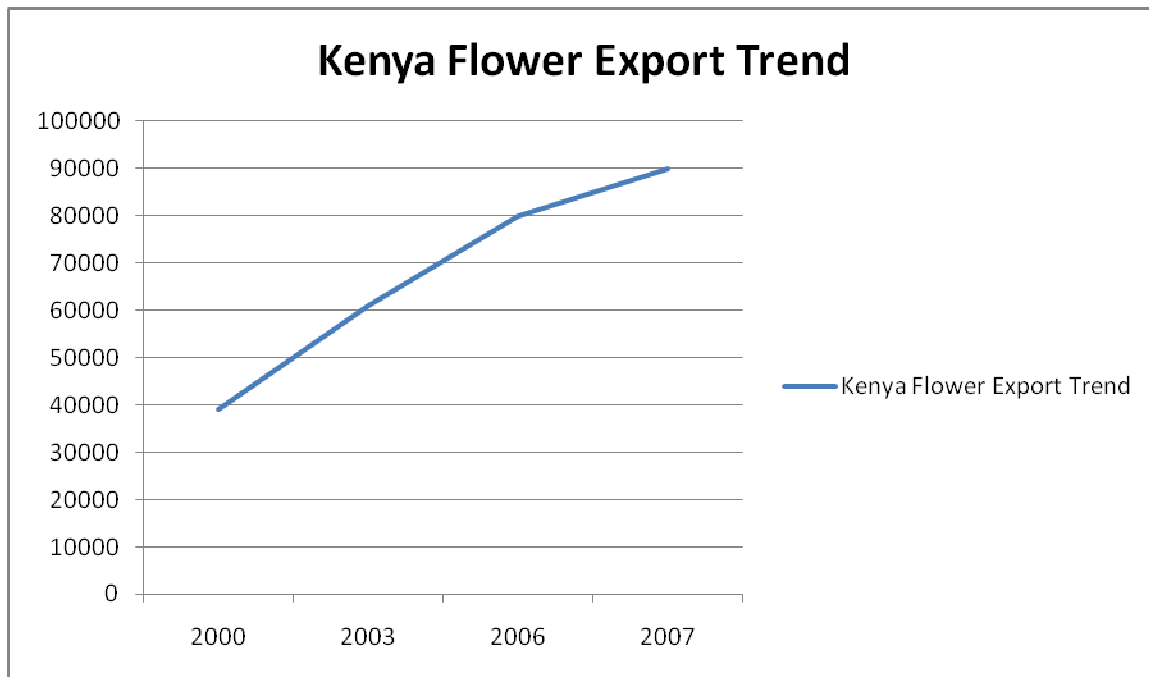
3.1. FACTORS CONTRIBUTING TO THE GROWTH OF KENYA'S FLOWER INDUSTRY

- a. Ideal agro-climatic conditions due to location on the equator thus guaranteeing all year round production.
- b. A hard working and highly educated workforce comprise both men and women.
- c. Reasonable infrastructure of the years.
- d. Massive investment by both local and foreign investors in high technology projects with emphasis on varieties and adding value.
- e. Good and informed marketing by the growers.
- f. A liberalized economy over the years with the removal of exchange control and other constraints.
- g. A temperate climate of 22-30 degrees Celsius during the day and 6-12 degrees Celsius in the night.
- h. Nairobi is a major transport hub in the region which is served by major airlines providing easy access to the EU market.
- i. The government recognized the importance of horticulture to the economy early and declared the crops as priority in 1967. The Horticultural Crops Development Authority (HCDA) was then formed to promote and coordinate the industry in Kenya.
- j. Maintenance of high standards through compliance to Codes of Practice, Traceability, due diligence and Ethical Trading.
- k. The government's intervention in the industry has remained minimal making it largely private sector driven. HCDA issues export licenses for Kshs5000 (\$80) for three years and does not interfere (WB, 2005)

3.2. THE HISTORICAL BACKGROUND TO KENYA'S FLOWER INDUSTRY

- a. Production of flowers in Kenya began in the 1980s with subsidy support from the Dutch government.
- b. In the 1990s production increased with private sector investment from the UK and the Netherlands.
- c. The International Finance Corporation, an arm of the World Bank, The Netherlands and the EU initiated support for human resource development, infrastructure construction and subsidies to support private sector investment.
- d. In the Netherlands, a shortage of flowers occurs during the cold season because of low production. Flower imports from Africa were meant to fill this gap. That is why the government supported producers in Africa.
- e. Later, as producers in the Netherlands sought to increase their value, they went for differentiation. The lower value items had to be outsourced from Africa.
- f. The drive for differentiation gave the Netherlands control over production and importation of flowers into their markets.

Given this background, flower production in Kenya has grown tremendously over the last decade or so. Between 1997 and 2007, the industry grew by more than 300% in value and 140% in volume. Flower exports in 2000 amounted to 39,000 tons, in 2003 it was 61,000 tons, in 2006, 80,000 tons and in 2007 it was 90,000.



4. THE FLOWER SECTOR IN TANZANIA

Despite high production potential in many parts of the country, at the moment horticulture is only relatively well developed in the northern and southern regions. Flowers farms are found in areas such as Arusha, Kilimanjaro and Moshi. In the south, we find them in the southern highlands around Mbeya and Iringa. The lack of proper infrastructure, access to markets and investment programmes form major bottlenecks to other regions with potential to develop a commercial and export-oriented floriculture sector. Flower exports amount to around 0.5% of total export value of the country which was roughly US6 million in 2003 (Nyambo, B and R. Verschoor, 2005). At least 65% of flower exports from Tanzania pass through Nairobi (TAHA, 2008). The rest is exported through Kilimanjaro and Dar es Salaam airports. Roses account for at least 90% of the flower exports and at least 90% of which is sold through the Dutch auction markets. The other 10% are exported to Germany, Sweden and UK.



Map of Tanzania

4.1. OPPORTUNITIES FOR FLOWER SECTOR GROWTH IN TANZANIA.

- Large amounts of arable land. There is a total of 88 million hectares of which only 6% is under cultivation (TIC).
- Abundant water resources, good soils and a climate which is ideal for flower farming.
- Cheap labor.
- Air transport connections through Kilimanjaro, Dar es Salaam, Nairobi.
- A strong network of associations and NGOs supporting the industry.

4.2. CHALLENGES

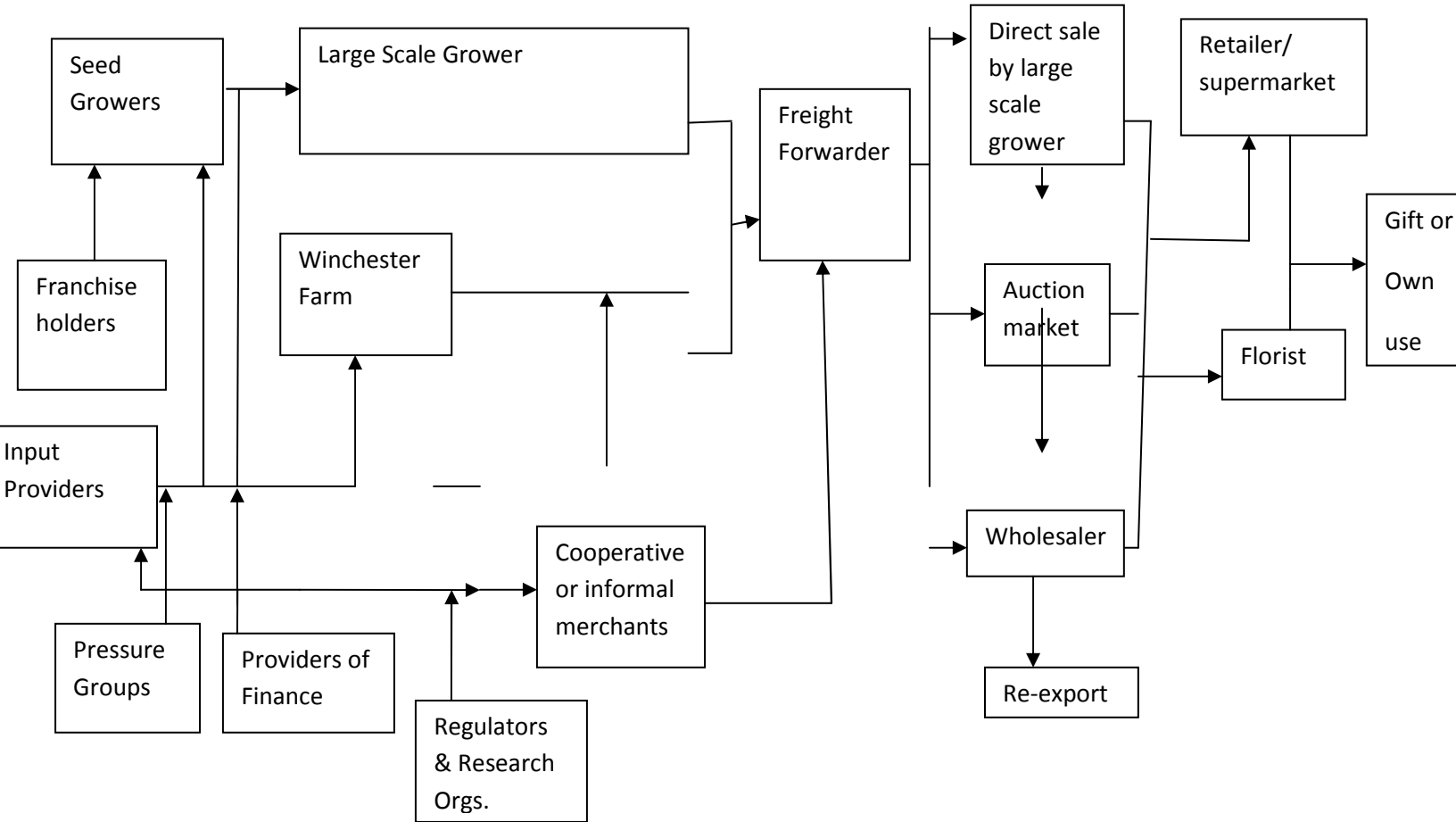
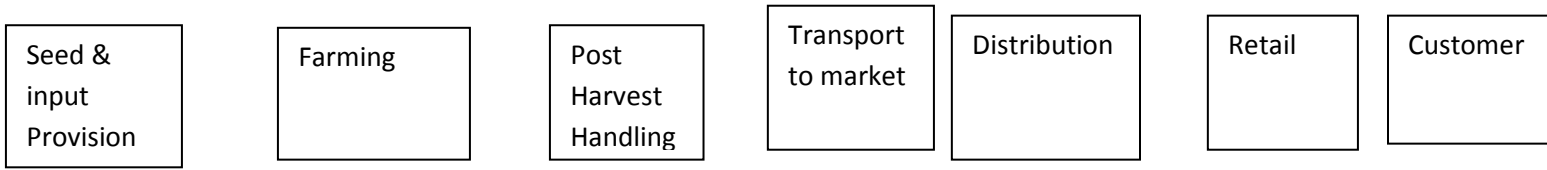
- a) Land laws that limit freehold land ownership.
- b) Lack of air cargo space as few cargo airlines operate from Kilimanjaro or Dar.
- c) Distance from the European market which makes air transport costly.
- d) Lack of skilled labor with expertise in flower business management.

5. THE FLOWER VALUE CHAINS

A value chain is the sequence of activities required to make a product or provide a service to the final consumer (Schimitz, 2005). It involves identifying the activities performed during each stage of the process, the value of inputs, processing time, outputs and value added. It includes the spatial relationships, such as distance and logistics, of the activities and the structure of economic agents such as suppliers, the producer and the wholesaler (World Bank, 2005). Kaplinsky and Morris (2000) have gone further in defining a value chain. They say that the value chain describes the full range of activities required to bring a product to or service from conception, through the different phases of production, delivery to final consumer and disposal after use. In this discussion, I will present value chains for two different firms, one in Kenya and the other in Tanzania.

5.1. KENYA FLOWER FIRM VALUE CHAIN (WINCHESTER FARM- 9.5 HA).

The value chain presented here below is for Winchester Farm. This is part of a larger group called Sian Roses. Sian Roses group owns four flower farms: Winchester (9.5 ha), Sian Nakuru (23ha) and two farms in Eldoret with a total acreage of 42 hectares. Sian Roses is owned by a group of indigenous Kenya investors. Winchester Farm is located in the Karen area of Nairobi, which roughly 19 kilometers from the centre of the city. The farm specializes on rose farming and export. It has a total acreage of 9.5ha. With a total turnover of US\$2.68 million, Winchester employs 250 people most of whom are casual paid an average of US\$2.50 per day. The farm grows rose flower in greenhouses and exports 75% of them through the Dutch flower auction market. The rest are sold directly to buyers in the UK, Sweden, Russia and Japan.



a. Seed Production

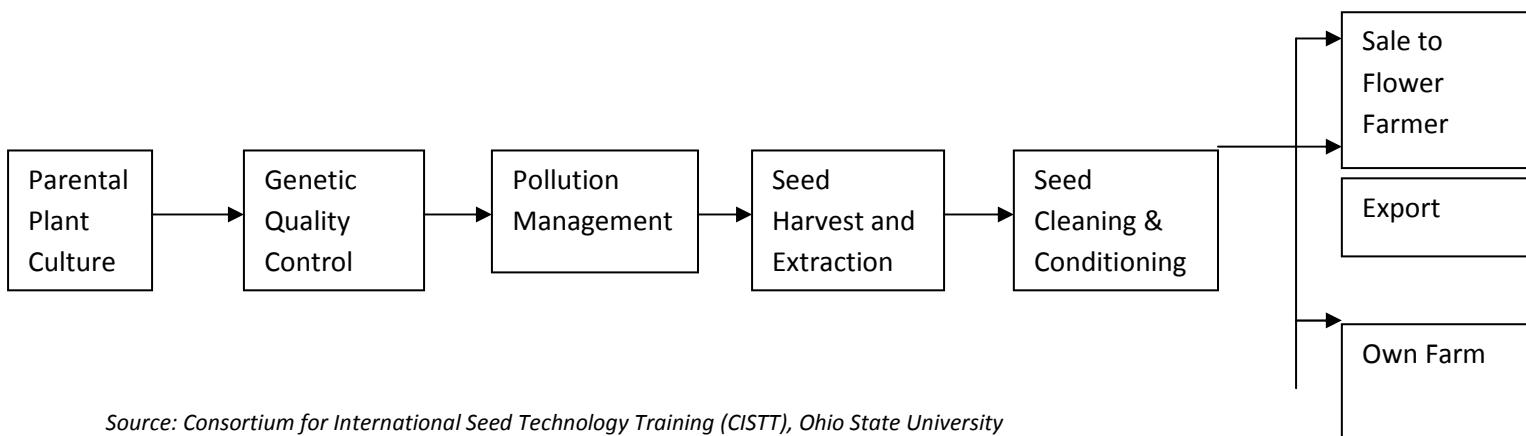
There are three main routes through which flower farmers get seeds. One is by breeding the seeds themselves. They culture the plants using latest biotechnology to get the best seeds for planting. This can also be done through license from major breeders of branded seed varieties.

Another option is direct purchase from specialized seed breeders. Some farmers have specialized in the production of seeds for sale to flower farmers. These are normally done through franchise or license as farmers prefer using tested and proven high quality seeds. The producers also produce for export especially those that require culturing. The warm climate in Kenya enables faster sprouting of the bud (in cuttings) and then the cutting is exported for planting in Europe. In many cases the cutting is brought from the Netherlands or any other country where the climate is colder. The objective is to save on energy cost and time. The Kenya Agricultural Research Institute (KARI) breeds seed varieties that they make available to farmers.

The other option the farmer has for accessing seeds is to import. There are dedicated breeders all over the world from where the farmer can buy seeds. Most seed breeders prefer to produce themselves and then export to protect patents.

Seed production is a technology intensive exercise. It starts from culturing the plant using the best varieties in order to produce the best quality plant. Quality control is paramount and involves combining genes to produce the desired color, stem length and flower size. Some breeders stop here and sell the product to commercial growers who will develop the seed further and sell it to flower farmers. Lex Company in Naivasha, Kenya is one of those pure breeders that do not go into commercial seed growing but stops at the variety development stage. Pollution is managed in accordance with industry and buyer requirements and regulations. When the plant is ready, it is harvested, cleaned and packed for sale, export or own use. An example of a generic seed production chain is shown here below.

The Seed Production Chain



Source: Consortium for International Seed Technology Training (CISTT), Ohio State University

Winchester Farm obtains its seedlings from breeders at an average cost of 30-32 Euros per square meter. Annual royalties paid to the breeders for the plants is 0.8 - 1 Euro per square meter or 0.2 Euro

per plant per year. The main breeders who supply Winchester are located in Nairobi and Naivasha which is roughly 90 kilometers away. Some of these are: Kordes Roses, Lex, Shreurs, Olij and Deureter. All these are local but foreign owned. Although the plants are costly, Winchester must continue to source them from qualified breeders in order to maintain quality and retain market share.

b. Input Supply

There are various inputs that Winchester requires and uses. We have already talked about seedlings or plants as they are commonly called. Other inputs are the greenhouses, water, fertilizers, chemicals and packaging materials and the cost of land.

Greenhouse materials are imported from Israel and they cost on average US\$11 per square meter which includes purchase and annual maintenance. The materials have an economic useful life of 7 years on average. However, the polythene is changed after every three years. The depreciation charge is included in depreciation expenses shown under other expenses caption below.

The **chemicals** used are mainly pesticides meant to control pests and weeds. Manufacturers of these chemicals are mainly multinational corporations with production facilities and distribution agents locally. The major manufacturers are: Bayer, Syngenta and BASF. Their local distribution agents are: Amiran Kenya, Elgon Chemicals, Twiga Chemicals, Osho Chemicals and Farmchem among others. Chemicals are costly. Winchester consumes on average US\$1 of chemicals per square meter per year. In total per year, cost of chemicals amounts to US\$92,000 per year or 3.4% of total revenue.

Water is another major input that Winchester finds quite challenging to afford. The farm has tried to limit costs by being innovative in rain water harvesting. They designed the greenhouse structures in such a way that rain water falling on them drains into reservoirs for use in irrigation. This way they have been able to cut the water costs considerably. They also have two bore holes and are connected to the Nairobi City Water Company's supply system. Consumption of water at Winchester Farm is on average 60 cubic meters per hectare per day which amounts to roughly 171,000 cubic meters per year. However, due to cost savings through rain water harvest, cost of water is minimal. The total water and electricity bill amounts to US\$78,500 or 2.9% of total revenue.

Fertilizer is an equally important input into flower farming. With the escalating oil prices, the cost of this input has equally escalated. Over the past one year, it has gone up by an average of 75%. Fertilizer consumption is on average US\$1 per square meter per year which is at the same rate as for chemicals. The Farm spends roughly US\$100,000 on fertilizer per year which is about 3.5% of total revenues. Winchester Farm procures its fertilizers from Amiran Kenya, Twiga Chemicals and Ocean Agriculture.

Land is expensive in this part of Nairobi as a hectare is roughly US\$30,000 at the moment. However, Winchester Farm is an old company and the land was acquired by the owners, on freehold ownership basis, at a time when it was comparatively cheap. However, the opportunity cost must be recognized

and the annual rates charged by the council need to be recognized. But no land rent is paid as it is a freehold property.

Other production expenses include repairs, maintenance and M.V. running expenses which amount to US\$85,000 or 3.2% of the total revenue. Labor costs amount to US\$586,000 or 22% of total revenue. The depreciation of the capital equipment amounts to US\$ 180,000 or 7% of total revenue. Other general expenses such as office expenses, telephone and email, etc amount to US\$92,000 or 3.4% of total revenue.

Production Expenses Summary

ITEM	Cost %age
Labor	22%
Water & Energy	2.9%
Fertilizer	3.5%
Chemicals	3.4%
Repairs & Maint,	3.2%
Depreciation	7%
General Exp.	3.4%

c. Postharvest

These are all those activities that are required to get the flowers ready for export. This function is greatly influenced by the major European buyers especially the UK supermarkets. Post harvest starts immediately after harvest after which the flowers must be sorted, cleaned and graded. After this, the flowers must be inspected to ensure that they meet the required standards. Packing is done to ensure the flower is well protected for freighting and ready for the shelves in the supermarkets. This activity is done in close collaboration with the buyer/supermarket. It is important as some of the buyers want a packaging such that the flowers are ready for the shelf on delivery. Even when the flowers are going to the auction, they must be specially packaged for transport. The firm spends a total of US\$110, 000 on packaging. This is about 4.1% of total revenue. Packaging materials are obtained locally from: Prestige Packaging, East Africa Packaging, Carton Manufacturers and Prime Carton

Transportation is done in refrigerated trucks to ensure the flowers are kept at low temperatures so that they are not damaged. Winchester uses own trucks but the cost is minimal as the airport is less than 25 kilometers away. The cost is part of Repairs, Maintenance and M.V. running expenses already discussed above. The flowers are maintained at a temperature of between 2-4 degrees Celsius. They must arrive within 4 hours of the aircraft departure.

d. Transport to Market

Flower transport is a large component in the production cost of flowers. In Kenya, it averages one US cent per stem. Most large scale farmers have invested in sophisticated post-harvest cold supply chain infrastructure including refrigerated trucks. 90% of Kenya's flowers are handled by specialized air freight forwarders, three of which are owned or linked to top flower producers (World Bank-2005). The steps involved in this stage include customs clearance in Nairobi, inspection, cargo handling and then freight to destination. The cargo must be booked for clearance a week in advance. All these have to be done expeditiously to avoid long storage time at the airport. Ideally, all the functions are performed within four hours of the flower arriving from the farm to ensure quick dispatch to the market. As for Winchester, freight costs a total of US\$400,000 or 15% of total revenue.

e. Distribution

On arrival at destination points, the flower consignment is subjected to inspection by customs and health officials before being released to the distribution outlets. There are four main channels of distribution: the auction floor, the wholesalers, the supermarkets and the florist shops. Winchester sells most of its flowers (75%) through the flower auctions and 25% to the supermarkets, wholesalers and other direct clients. Some of the wholesalers re-export flowers, after purchase from the auction marts, to the rest of Europe, the USA and Japan. Total selling and distribution expenses of Winchester Farm amount to US\$241,000 or 9% of total revenue.

f. Other Actors.

i. Freight Forwarders

Winchester uses own cooling trucks to transport their flowers to the airport. They do their own papers. The flowers are checked by representatives of Kenya Plant Health Inspection Services (KEPHIS) and then handed over to the freight handlers. Three main handlers operate from JKIA in Nairobi: Durflo, KN and Total Touch. They use any of these. These are the people who organize for freighting. They also take care of cooling and storage at the airport.

ii. Cooperatives and Informal Merchants.

Small growers in the industry who are unable on their own to organize for export have to form cooperatives in order to afford the various related expenses. Alternatively, they

do sell their producer to merchants, who are not growers but operate as middlemen. Winchester operates on their own, but on certain activities like transport and clearing, they would share facilities and staff.

iii. Large Farmers.

The large scale farmers control roughly 90% of the flower exports in Kenya. There are about 40 of them who share this volume. On the other hand, about 4,500 small producers share the remaining 10%. Some of these have sister companies who do direct selling on their behalf.

iv. The Dutch Auction Market

Winchester sells 75% of their flowers at this market. The auction has its own rules which everyone must follow and the price is a function of the forces of supply and demand for any given day. Each seller must pay auction commission and other auction costs. Winchester spends a total of US\$119,000 on these two items per year.

v. Supermarkets

This is a growing force in the flower industry. The major supermarkets especially from UK have done a great deal in not only developing the flower market, but also in operating as a link with the final consumer. They are able to know what the consumer wants and then communicate the same to the producer.

vi. Pressure Groups

Various groups put pressure on flower farmers and exporters with an aim of improving governance and working conditions. Winchester's experience is that NGOs such as Oxfam, National Commission on Human Rights and many others have continued to put pressure on them to maintain high standards of working conditions and discourage them from engaging in practices considered to be unfair within the industry. The issues they cover include child labor, poor pay, working hours, accommodation, etc. Other stakeholders in this group are the labor unions, politicians and the general public who are concerned with labor practices and pollution. The National Environmental Management Authority has also emerged as a major influence on the operations of Winchester.

vii. Providers of Finance.

There are many institutions that provide finance for this sector. Winchester has been financed long-term by the shareholders and a development finance institution. Other banks have as well have provided both short and medium finance.

viii. Regulators and Research Organisations.

There are many organizations whose main occupation is to ensure fair practice among the various players in the industry. Examples are The Kenya Flower Council (KFC) which is a members' organization catering for the interests of the member flower farms and the Fresh Produce Exporters Association of Kenya (FPEAK) that covers the wider Horticultural sector. There are also agricultural research organizations like the Kenya Agricultural Research Institute (KARI) providing useful support in terms of new flower varieties and new ways of crop husbandry. The Kenya Plant Health Inspectorate Services (KEPHIS) as well plays a crucial role in ensuring that the seeds and flower plants imported and exported are free of diseases.

6. SIMPLIFIED GROSS MARGIN

The total cost of flowers from farm to market could be summarized to three items as follows:

- Production 45.4%
- Packaging 4.1%
- Transport & marketing 24%

There Winchester Farm gets a Simplified Gross margin amounting to 26.5%.

7. OPPORTUNITIES OPEN TO WINCHESTER FARM.

- a. Untapped markets for flowers exist in Japan, China and the Middle East. Planned direct flights from Nairobi to Japan will enable direct sale of Kenya flowers to Japan instead of passing through Europe.
- b. New auction marts have opened in Dubai and Mumbai which presents a great opportunity for the Kenyan producer.
- c. The increasing role played by the supermarket in Europe in the flower business is expanding demand for flowers as well as helping the farmer in reaching the market without spending money in marketing.
- d. Favorable multilateral agreements particularly the recently signed EPS with the EU. The agreement gives Kenya duty free access to the EU markets.
- e. Certification opportunities to ensure compliance to market requirements hence increased access.
- f. The stable Kenya shilling. Means that any investment made in Kenya will be safe.
- g. Availability of skilled labor.
- h. Air connections to Europe and many parts of the world from Nairobi. The farm is also very near to the airport.
- i. The infrastructure, especially cooling facilities at the airport, is good.
- j. Power supply is reliable.

8. THE CHALLENGES TO THE FARM'S BUSINESS.

- a. The entry of the supermarket chain has made it difficult for the survival of the small flower grower. The supermarket wants to deal with members of the Kenya Flower Council, but the conditions to be a member are that you must adhere to their code, which only large growers can afford.
- b. The gender dimension. 75% of flower sector workers are women most of them employed as temporary workers at low pay and in harsh working conditions. The farm is continuously faced with threats of action from gender activists and human rights activists on this issue.
- c. The strong shilling. Over the past few years, the Kenya shilling has strengthened a great deal. This has eroded Kenya's market share in flowers.
- d. Pressure from environmental activists. The most serious one is the carbon miles where activists are said the longer a flower travels, the more it contributes to environmental pollution through carbon emission.
- e. Non-tariff barriers:
 - Phytosanitary (Plant health) control.
 - Breeders' rights and intellectual property.
 - Quality and grading standards.
 - Labeling requirements.
 - Trade related environmental and safety issues.
 - The convention on International Trade and Endangered Species (CITES) and other regulations on trade.
- f. Pest and weed control. This is very expensive and has environmental and safety implications.
- g. Requirements of large buyers for quality, reliability of delivery and product differentiation have raised the levels of competence required.
- h. Water resources. When it is not raining, relying on Nairobi Water Company is risky as their supply is unreliable.

9. TANZANIA FIRM VALUE CHAIN (MOUNT MERU FLOWERS)

Mount Meru Flowers is a small flower farm located on the slopes of Mount Meru, the second highest mountain in Tanzania after Kilimanjaro, in the northern part of the country. The farm is six kilometers from Arusha and thirty from Kilimanjaro International Airport. This is a 14.5 hectare flower farm owned by foreign investors from Sweden who put in a total capital investment of six million Euros. Its annual turnover averages US\$4.5 and it employs 300 people.

Mount Meru Flowers produces mostly roses which it exports to the European market, Qatar, and Japan. Most of exports to Europe are made through the Dutch auction market. They also make direct sales to supermarkets and have dealers in Italy and Switzerland to whom they sell directly. The farm sells some flowers in the local market but what they sell is the so called second grade which might not be suitable for export.

a. Inputs.

i. Seedlings.

The farm buys most of their seedlings from breeders in Kenya. They also buy some from Tanzania produce some of their own. The amortized cost of seedlings is roughly 7.5% of sales revenue. Their main suppliers both from Kenya and Tanzania are: Sunrose, Maua, Soloplant and Vegpro.

ii. Greenhouse Materials.

These are imported mainly from France. Average amortized cost for greenhouses is 2.8% of the total revenue.

iii. Water.

The farm gets water from a nearby river, rain and has dug three boreholes. Irrigation equipment and pumps are imported from Israel and Italy. The total amortized of water supply including electricity is 2.7% of total revenue.

iv. Fertilizer.

This is a major input and its cost has been increasing due to world oil prices. The firm gets its supply from Kenya and locally, in Tanzania. The Kenya suppliers are Elgon Chemicals. Those in Tanzania are Triachem and Balton. Fertilizer costs are 6.4% of the total revenue.

v. Chemicals

These are required for fighting pests and weeds are are procured from Kenya and locally. The same firms that supply them with fertilizers are the ones that supply them with chemicals. Chemicals make 3.9% of total revenue.

vi. Land

Land is expensive at roughly US\$30,000 per hectare. The tenure of ownership is a 66 year lease.

vii. **Finance**

Apart from equity, external finance is not much. A medium term loan was obtained from Tanzania Investment Bank.

ix. **Other Inputs.**

- Labor- 10%
- Packaging-2.8%
- Airfreight and clearing- 34%
- Auction fees-8%

Total Production Costs

Labor	10%
Water and Energy	2.7%
Fertilizer	6.4%
Chemicals	3.9%
Trucking	6%
Greenhouse	2.8%
Seedlings	7.5%

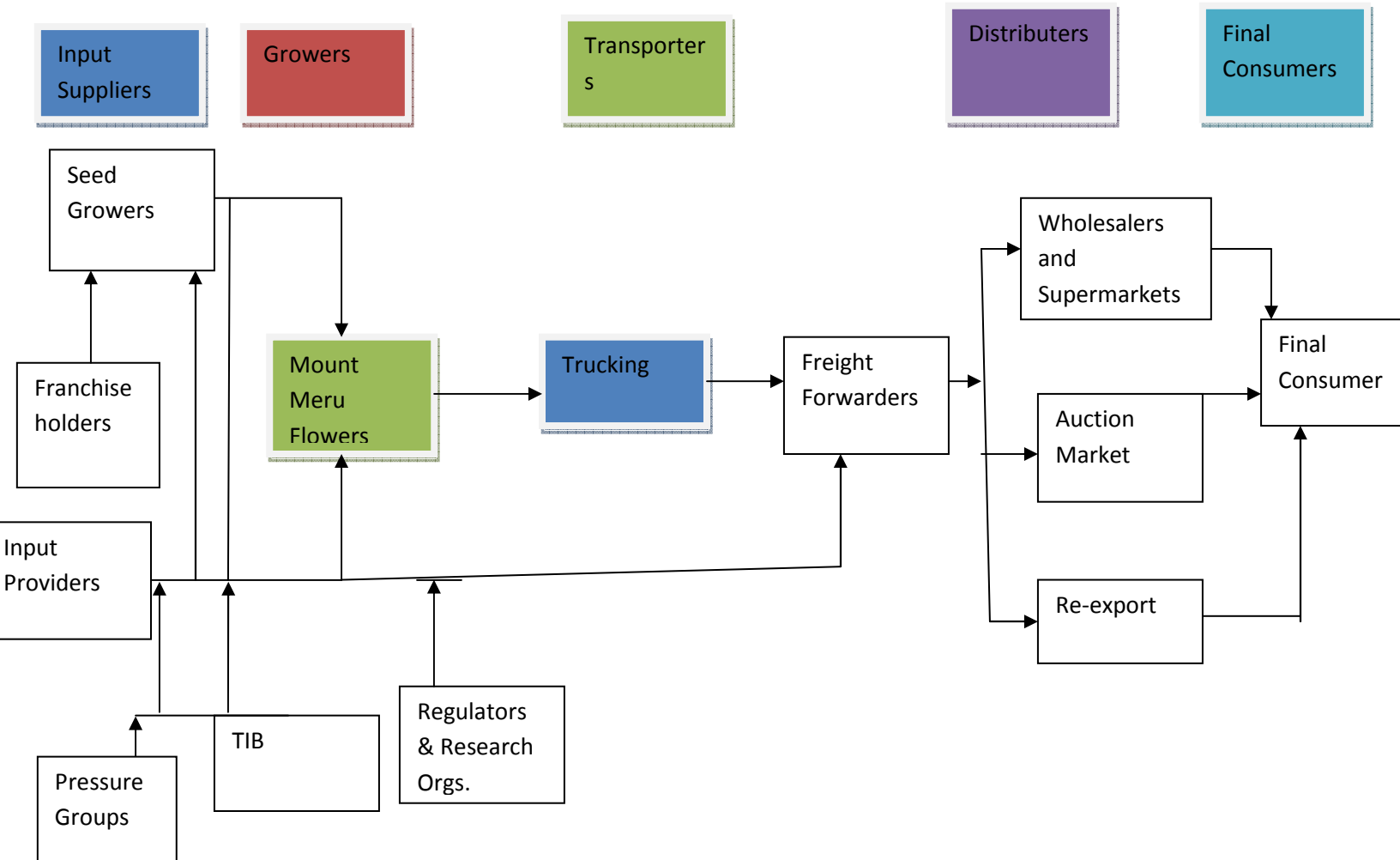
Variable Sales Costs

Packaging	2.8%
Airfreight	34%
Auction fees	8%

Simplified Gross Margin

Production	39.3%
Packaging	2.8%
Transport and Marketing	42%
Gross Margin	16.9%

The Value Chain



b. Opportunities Available to Mount Meru Flowers

- Good soils and enough rain.
- Enough land though expensive.
- Available cheap labor.
- Good climate.
- Proximity to the airport.

c. Challenges

- Getting the right flower variety to maintain quality.
- The weather is mostly cloudy, thus limiting the rate of flower growth.
- Inadequate availability of air freight services. Forced to use Nairobi which is 300 kilometers away and Dar es Salaam which is 500 kilometers away.
- Funding. The financial markets are just starting to develop. There are not many development finance institutions.
- Land is quite expensive and the countries laws do not allow for permanent land tenure.

Comparing the Two Value Chains

Item	Mount Meru Flowers	Winchester Farm
Production Costs	39.3%	45.4%
Packaging	2.8%	4.1%
Freight and Marketing	42%	24%
Gross Margin	16.9%	26.5%

Mount Meru Flowers show a lower margin than Winchester by almost 10%. The explanation for this is mainly freight costs. Winchester is close to Nairobi which has good international air connections and the airport has many freight operators because there is a lot of business passing through there. On the other hand, KIA and Dar es Salaam airports have low volumes and therefore per unit charges for freight are high. However, Mount Meru Flowers enjoy lower labor costs because Winchester is close to a large city. The lower packaging costs for Mount Meru are mainly due to cost of materials which is lower in Tanzania.

Another contributor towards the higher margin for Winchester is due to cluster benefits. This is part of a larger group and is able to share costs with sister companies especially marketing and freight. Another cluster benefit is that of being able to access services offered by many supportive organizations such as chemical and fertilizer companies as well as seedling producers.

Chain integration for the two firms look similar. Each trades at the auction but also they both have links with direct buyers abroad such as supermarkets.

10. SUMMARY AND CONCLUSIONS

- a. The two sectors are dominated by the private sector. This is both an advantage and a disadvantage at the same time. The government does not interfere with unnecessary regulations and bureaucracy and therefore the firms operate more or less efficiently. However,

the governments are not responsive in terms of macro policy and infrastructure in order to provide an enabling environment for competitiveness. Therefore there is a need to balance the government's role.

- b. Secondly, the level of chain integration for the two value chains is low. The bulk of the sales are to the auctions. This increases the level of risk.
- c. Thirdly, the firms are small and do not enjoy economies of scale.
- d. Distance from the market is of major concern for the two and this means high transportation costs.

11. REFERENCES

- a) Eurostat Database, <http://epp.eurostat.ec.europa.eu>
- b) Global Development Solutions, www.gdsconsulting.com
- c) Horticultural Development Authority, www.hcda.or.ke
- d) Kaplinsky, R and Mike Morris, *A Handbook for Value Chain Research*, Prepared for IDRC, 2000
- e) Kenya Agricultural Research Institute (KARI), www.kari.org
- f) Kenya Flower Council, www.kenyaflowers.co.ke
- g) Kenya Plant Health Inspectorate Services (KEPHIS), www.kephis.org
- h) Schmitz, H, *Value Chain Analysis for Policy Makers and Practitioners*, Institute of Development Studies, University of Sussex, England (ILO, 2005).
- i) The World Bank (2005), Kenya Growth and Competitiveness Report, Private Sector Unit, Africa Region, Report No. 31387-KE, January 27, 2005.