DEVELOPMENT OF FLORICULTURE INDUSTRY IN ETHIOPIA:

CHALLENGES AND OPPORTUNITIES OF THE INDUSTRY IN THE GLOBAL FLORICULTURE CHAIN

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DEVELOPMENT OF FLORICULTURE INDUSTRY IN ETHIOPIA: CHALLENGES AND OPPORTUNITIES OF THE INDUSTRY IN THE GLOBAL FLORICULTURE CHAIN

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Acronyms

CBA	Center for Importing from Developing Countries
DAP	Diamonium phosphate
DIY	Do it by yourself
EEPA	Ethiopian Export Promotion Agency
EHPEA	Ethiopian Horticulture Producers and Exporters Association
EUREP-GAP	European Good Agricultural Practice
FDI	Foreign Direct Investment
GCC	Global Commodity Chain
GVC	Global Value Chain
FFP	Fair flowers and Plants
IDS	Institute for Development Studies
Kms	Kilometers
MPS	Milieu Project Sierteelt (floriculture environmental project)
MTI	Ministry of trade and Industry
NGO	None-Governmental Organization
No	Number
SADC	Southern Africa Development Community
SSA	Sub-Saharan Africa
TFA	Tele Flower Auction
UK	United Kingdom
USA	United States of America
USD	United States Dollar

Abstract

The purpose of this study was to explore challenges and opportunities of the Ethiopian floriculture industry in the global commodity chain by describing the structure of the chain, examining governance structure and upgrading response of producers in light of global buyers. A cross-sectional survey with Questionnaire method was used to collect data form seventeen floriculture firms, who started exporting before 2006.

Global commodity/value chain approach was used to see challenges and opportunities of the industry in entering into global market and chain elements that are dealt in this study are input-output structure, governance structure, upgrading activities, and institutional framework.

As the findings of this study have revealed, input supply system of the Ethiopian floriculture chain is not well developed. As an output, floriculture industry produces different varieties of Rose flower and no indigenous varieties of flowers are found on the production and export. This product is targeted to auctions and wholesalers in the European market. This market is highly developed and sophisticated in terms of their requirement regarding quality, consistent supply and timely delivery. To meet these requirements, producers in Ethiopia should make high investment on the production, post harvest facilities and logistics. This has shaped the structure of the floriculture industry in the country that only those producers who are capable to make such investment can participate in the chain while small producers are structurally excluded form the chain.

On the other hand, governance structure of the chain is more of implicit type, the market being main governing body. Majority of producers have not entered yet into the most profitable as well as demanding chain, a retail chain, which is characterized by standing order and explicit coordination of the supply chain. In general buyers set product, process and logistic parameters and use different mechanisms to transmit their requirements. In the case of auctions and wholesalers, agents seem to play a lead role while supermarkets appear to coordinate more explicitly. In all cases the power of buyers emanates from their understanding of market demand and holding marketing infrastructure than Ethiopian producers. Upgrading by producers is limited due to lack of financial, organizational and information capability especially among domestic producers. Moreover, lack of research and innovation and low institutional backup in the country has limited the upgrading capability of floriculture industry. As a consequence, competitive advantage of Ethiopian floriculture industry lies only on the natural and basic production factors.

CHAPTER ONE: Introduction

1.1 Background of the Study

The flower industry comprises the cultivation of and trade in cut flowers, cut foliage, potted plants and bedding plants. The main representatives of cut flowers are: the rose, chrysanthemum, carnation and lily, Potted plants and cut flowers have an almost 80% share of the world trade in ornamental plant products (Groot, 1998). As regard to consumption, people buy flowers for a number of reasons: as a gift (for a birthday or a special day such as Mother's Day, Valentine's Day, and Thanks giving), for weddings and funerals, or for own use to brighten up the home (Van Liemt, 1999). All over the world, the floricultural industry can nowadays be characterized as a sector experiencing rapid changes. This is due to globalization and its effect on income development in the different regions of the world that resulted in growing per capita consumption in most countries (Groot, 1998). Moreover, globalization said to eliminate borders and the world market expanded due to the use of frequent and reliable air transport and the development of advanced receiving, handling and shipping facilities.

Every body agrees as globalization created economic linkages among nations, regions or localities, but the debate and difference come as to who benefits from those linkages. In this regard there is a sharp divide between theorists who see globalization as a *constraint* on the development prospects of non-core nations, and those who see the linkages implied by globalization as posing not only constraints but also *opportunities* for the advancement of developing countries (Gereffi, 1999). Despite this on going debate on globalization, integration of the world's economic activities is increasingly revealed not only through international trade but also through increased networks of globally organized production and trade systems. Today firms in developing countries are increasingly entering into such geographically dispersed networks or commodity chains (Dolan, Humphrey and Harris-Pascal, 1999). These chains link together the firms in developing countries to suppliers and customers in developed countries. Floriculture industry could be taken as one of the sectors where the above kind of production and trade organization can be observed.

As it is indicated in different literatures, demand for floriculture products especially for cut flowers exceeded supply in the world market during the 1970s and 1980s. It is after this period that most African countries like Kenya, Zimbabwe, Morocco and South Africa, emerged into the world floriculture market (Matthee.et.al.2005). However, during 1990s international floriculture production continued to increase, as more and more countries entered international market. This makes the playing field quite tough/competitive and the industry is becoming more dynamic. The dynamicity of floriculture industry is mainly attributed to the continuous change in varieties to be produced, the origin of production, production techniques, markets and retailing arrangements all challenging the adaptive capacity of the actors involved (Van Liemt, 1999). As the result some new countries are emerging into the market from time to time using their competitive advantages over the previous ones.

The evolution of floriculture industry in Ethiopia goes back to 1980/81where the first cut flower production was commenced. The previous government established Horticulture development Corporation, which was responsible both for regulation and production even for marketing of horticultural products including flowers (Sisay, 2001). Until up 1999, the industry did not show significant growth even it was at declining trend, This is mainly due to production and export of cut flowers in Ethiopia was not established with well-planned main objective of profit seeking but foreign exchange earnings with high subsidization (MTI, 2006). According to data obtained from EEPA, with regard to development since 1992, no basic upturn has been circumvented until 1999/00 despite changes and policy reform measures taken by the current government. Before 1999, there were only two private and two long-established state owned enterprises operating in floriculture industry. Since 2000, more numbers of flower projects are springing up in production and export activities. As data from Ethiopian Investment Agency shows, more than one hundred investors are given license and more than 40 started production and export of cut flowers in the country. According to export statistics obtained from Ethiopian export promotion agency, these producers are exporting their products to

Europe, Middle East, Asia and North America. Out of these, export to European countries accounts about 90% and Netherlands and Germany being the major importing countries with the share of 47.47% and 30% respectively. Other importing EU countries are United Kingdom, Belgium, Italy, Sweden and Norway. This shows the concentration of Ethiopian floriculture export in Europe in general and few European Countries in particular. As regards to the Value and volume of export, the industry showed spurt growth for the last three years. From 2000 - 2002 average annual export value in USD was 187,000. According to annual report of Ethiopian export promotion agency, the figure reached 21,966,899 USD in 2005/2006 (IEP, 2006).

1.2 Statement of the Problem

Trade in general and export in specific is essential for the growth of any given nation. From this perspective, the decline of Africa's share in the global trade over the past decades has been the major source of concern for governments and international development community. This can partly be explained by the fact that most African countries remained heavily dependent on export revenues from a limited number of traditional, low values per weight, bulky agricultural commodities, such as coffee, cocoa, or cotton, whose terms of trade have continuously declined (World Bank, 2005).

With the same token, Ethiopia for a long period depended on such traditional agricultural products for foreign earnings. Emergence of floriculture industry is a good example of non-traditional agricultural export commodity illustrating the potential for agricultural diversification. This is a good prospect for the country like Ethiopia who depends on few primary and traditional commodities for its foreign exchanges. Floriculture production and export is one of the few niche markets that Ethiopia could participate in international trade. Moreover, the industry, as it is labor intensive, could create more rural employment opportunity than other industries (Sisay, 2001). Therefore, floriculture could be taken as one of the light spots of country's economic development in general and for less developed agriculture sector in particular. The competitive advantages of Ethiopia emanate from the fact that the country has ideal climate for production and cheap labar,

land, water etc. over the developed world and its proximity to European countries, main consumer market that reduces freight cost as compared to other African producers like Kenya, South Africa, and Zimbabwe (MTI, 2006; Law, 2005).

Although Ethiopia has advantages over developed countries, as she is able to compete in terms of certain basic factors (e.g. cheap labor, land, water), according to Matthee (2005), consumers are becoming more demanding and this, along with the fact that supply is exceeding demand, causes the base of competition to shift to non-price factors (e.g. quality, advanced logistic, image, consistence in supply and shelf-life). Ethiopian producers are linked with highly developed and advanced market in developed countries. This is the market where few retailers, wholesalers or importers pose strong requirements on large producers in developed countries in terms of quality and consistency, reliability of supply, cost, and variety to be produced and ethical trade (Dolan, Humphrey and Harris-Pascal, 1999). To stay in the chain suppliers in developing countries have to keep pace with such requirements by innovating and upgrading on continues basis. Though Ethiopia has already entered into global floriculture market, no study has been conducted regarding how the industry is linked to and structured in the global floriculture chain. The aim of this study, therefore, was to pave the way into such studies by exploring the challenges and opportunities in entering global floriculture chain. Specifically it was intended to assess how Ethiopia is positioned in the global floriculture chain with respect to industry's governance structure and its upgrading capability and opportunities. This will provide insights to improve the competitiveness of the floriculture industry in the country.

1.3. Objectives of the Study

This study as it is the first in the sector is exploratory in nature and intended to assess the challenges and opportunities of the Ethiopian floriculture industry in the global floriculture chain by describing the structure of the chain, examine governance structure and upgrading response by producers in light of requirements of global buyers.

More specifically the study was aimed at the following objectives:

1. To describe the structure of the Ethiopian floriculture chain
2. Assess the nature of the governance structure in the chain
3. Assess the upgrading capability of producers
4. Assess the challenges faced by Ethiopian floriculture industry in its attempts to be competitive in the global market
5. Indicate the possible opportunities on which policy and supports could be made to enhance competitive position of the sector in the world floriculture market

1.4. Research Questions

In light of the objective mentioned above, the following specific questions were posed

1. How is the floriculture chain structured?
2. Which actors define what the chain requires?
3. How does the governance structure of the chain affect the structure of the industry in Ethiopia?
4. To what extent has the Ethiopian floriculture industry shown the capacity to upgrade their products and operations? and
5. What are the variables that determine its ultimate success in global floriculture chain?

1.5 Organization of the Paper

This paper is organized in five chapters. The first chapter is about the introduction that comprises background of the study, statement of the problem, objectives and research questions, and methodology of this study. Second chapter presents review of the related literature. Third chapter makes a brief assessment on the background and profile of the floriculture industries studied and respective respondents. In the fourth chapter, major

findings of this study; input-output structure, governance, upgrading and institutional framework are discussed. In the final and fifth chapter, summary, conclusion and some recommendations are made.

1.6 Research Methods and Procedures

1.6.1 Research Design

A cross-sectional survey design was used to obtain data form floriculture industries. Such design enables to cover all the industries and at the same time generate on many indicators related to floriculture industry.

1.6.2 Sources of Data

The data required for this study was obtained from two sources: primary and secondary sources. This study was basically about assessing how the floriculture industry is organized in the global floriculture chain, the main focus of it being the firms engaged in producing and exporting floriculture products in Ethiopia. Therefore, primary data obtained from individual firms in the mentioned sector served as major input for the study. Secondary data was also used to provide background for the study and to complement the information obtained through the primary source. Major sources of secondary data were; Ethiopian Investment Agency including Oromia Region, Ethiopian Export Promotion Agency, Ethiopian Horticulture Producers and Exporters Association, Ethiopian Environmental Authority, Ethiopian Agricultural Research Organization, Ethio-Horti-Share Company and various research papers and Internet sources to obtain data outside the country.

1.6.3 Sampling and Data Collection Techniques

The list of Ethiopian floriculture firms was obtained from Ministry of Trade and Industry. The list contained names, addresses, date of start of production, date of start of export, and other relevant information of the firms. From that it was able to notice that only

seventeen firms were identified to start exporting before 2006. The rest have started export in 2006 and it was not able to identify the exact date of start of export for them. Since this study deals with firms' experience in international/global trade relation and interaction, only those who have commenced export at least in 2005 were purposefully selected and all of them were considered for the study. This means *purposive sampling method* was employed to select those firms who have commenced export to international market at least in 2005. The subject of the study comprised managers/representatives of each enterprise.

Questionnaire method was selected as a tool to collect data from the above selected firms. Structured/standardized questionnaire with some open ended was used for the simplicity of administration, to ease analysis and make it clear to respondents. Pilot testing was made with two companies to see reliability of questionnaire prepared and some adjustments were made on the content and structure of the questionnaire. Seventeen questionnaires were provided to the same number of floriculture farms to be filled by managers. Frequent telephone and in person soliciting was made to get questionnaires filled. Out of seventeen firms, who were given the questionnaires, twelve of them filled it and returned back representing 70.60 percent of response. This is considered a good response because the time of data collection was coincided with peak season of export of floriculture products that make managers busy. Moreover, interviews were made with relevant peoples from institutions such as Ethiopian export promotion Agency, Ethiopian Investment Agency, Ethiopian Horticultural Producers and Exporters Association, and Ethio-Hort-Share Company to collect qualitative information. The available secondary data was also reviewed regarding the sector in general and the issues under study in particular.

1.6.4 Data Analysis

Data collected through the questionnaire method was checked and edited for correction. Absolute numbers and percentages were used to summarize this data and hand tabulation was done to present it in the form of tables. The presented data was interpreted in

accordance with global commodity chain approach to answer the research questions. Verbal analysis was also used to analyze data collected through interviews, observations and consulting different documents.

1.7 Scope of the Study

The main focus of this study was to make assessment on challenges and opportunities of Ethiopian floriculture industry with respect to Global floriculture chain by exploring the structure of the chain, its governance structure and the producers' upgrading capability and opportunities in relation to requirements of global buyers. The study made use of global commodity chain/ value chain approach to analyze the way industry in Ethiopia is integrated into global market focusing on producers' perspectives. However, it did not look into other aspects of global value chain analysis such as distribution of income from the chain and the impact on other producers of the chain, nor relied on detailed analysis of value adding activities through the whole chain, especially at the downstream of the chain.

1.8 Limitations of the Study

Global commodity chain study in general comprises firms involved in production, export, and distribution in various countries. However, this study was basically done based on interviews with producers and exporters in Ethiopia. It was not possible to triangulate the findings by interviewing overseas buyers, but this is clearly an important step for future inclusive research regarding global organization of the industry.

1.9 Theoretical Framework

Two analytical methods, Global Commodity Chain (GCC) and Global Value Chain (GVC), have been used to determine the global organizations of industries. According to *Matthee* (2005), although their analyses are very similar, their focuses differ. The GCC approach focuses mainly on the governance structures in the chain and the influence of

lead producers/firms on the participants in the chain. The GVC approach focuses more on the relative value aspects of the production processes, distribution and consumption.

These analyses are useful as they identify possibility for producers to upgrade their activities in the chain or to move into more profitable chains. They identify the role players in the chain and the factors that influence the chain. They also determine the distribution of income (IDS, 2002). This is especially important for those producers situated in countries that do not form part of the developed world, as they also face global competition, but usually participate in the lower end of the chain where there are low value-added activities (Dolan, Humphrey and Harris-Pascal, 1999).

A. Global Commodity Chain Analysis

Geriffi (1999) has defined global commodity chain as the whole range of activities involved in the design, production and marketing of the product in both a national and international environment. GCC can be also described as a network with global linkages of transactions that incorporates all aspects of the international and national environments. This network comprises all the facets of production and is continually concerned with adding value to the product produced. Gereffi and others identified the four core elements of the GCC approach.

1. Input-output structure: It identifies the types of products, processes and actors involved in the production activities
2. Geographical coverage: describes the spatial dispersion or concentration of the specific industry, the size of the producers and the distribution networks.
3. Governance structure: It identifies the authority and power relationships that determine how financial, material and human resources are dispersed and distributed in the chain.
4. Institutional framework: It comprises the conditions in which control market access and information are exercised on a global level. Or how small producers, via their buyers, gain indirect access to markets, knowledge and technologies at a lower cost.

5. Upgrading: it refers to how a producer or firm improves its position in the global industry to improve its competitiveness (upgrading can be conducted on various levels, namely on product, process, intra-chain and inter-chain level.

A very critical element of GCC is governance structure. Governance Structure can be either producer-driven or buyer-driven. Producer-driven commodity chains are those in which large, usually transnational, manufacturers play the central roles in coordinating production networks (including their backward and forward linkages). This is characteristic of capital- and technology-intensive industries such as automobiles, aircraft, computers, semiconductors, and heavy machinery. Buyer-driven commodity chains refer to those industries in which large retailers, marketers, and branded manufacturers play the pivotal roles in setting up decentralized production networks in a variety of exporting countries, typically located in the third world. This pattern of trade-led industrialization has become common in labor-intensive, consumer goods industries such as garments, footwear, toys, house wares, consumer electronics, and a variety of handicrafts.

However, these two governance structures described by GCC framework are not adequate for certain industries. Therefore, Gereffi, Humphrey and Sturgeon (2003) developed five basic types of chain governance, which form part of GCC approach.

B. Global Value Chain (GVC) Analysis

GVC analysis has been developed to explain the dynamics of inter-linkages within the productive sector, especially the way in which firms and countries are globally integrated. The value chain describes the full range of activities that are required to develop a product or service from conception, through the different phases of production, delivery to the final consumers, and finally disposal after use. Three elements of GCC approach are:

1. Barriers to entry: they determine the distribution of profit. A decrease in barriers to entry leads to an increase in the number of global producers, which causes competition to increase and results in lower profit. Consequently, economic rent

is lower. Global producers must continually seek new forms of rent in order to gain both a competitive advantage and economic rent.

2. Governance: It implies that one party is responsible for coordinating and regulating the various activities performed in the development of a product, from a product's conception to its consumption. Value chains are governed when parameters are set regarding products, processes and logistics. Gereffi et al. (2003) developed five types of governance, as an extension of the producer-driven and buyer-driven chains identified in the GCC approach.
    - Markets: Market linkages do not have to be completely transitory, as is typical of spot markets; they can persist over time, with repeat transactions. The essential point is that the costs of switching to new partners are low for both parties.
    - Modular value chain: Typically, suppliers in this type of value chain make products to a customer's specifications, which may be more or less detailed. However, when providing "turn-key services" suppliers take full responsibility for competencies surrounding process technology, use generic machinery that limit transaction-specific investments, and make capital outlays for components and materials on behalf of customers.
    - Relational; value chains: In this network, there is a complex interaction between buyers and sellers, which often creates mutual dependence and high level of asset specificity. This may be managed through reputation, family and ethnic ties. Trust and reputation might well function in spatially dispersed networks where relationships are built-up over time or are based on dispersed family and social groups.
    - Captive value chains: In these networks, small suppliers are transactionally dependent on much larger buyers. Suppliers face significant switching costs and are, therefore, "captive". Such networks are frequently characterized by a high degree of monitoring and control by lead firms.
    - Hierarchy: This governance form is characterized by vertical integration. The dominant form of governance is managerial control, flowing from managers to subordinates, or from headquarters to subsidiaries and affiliates.

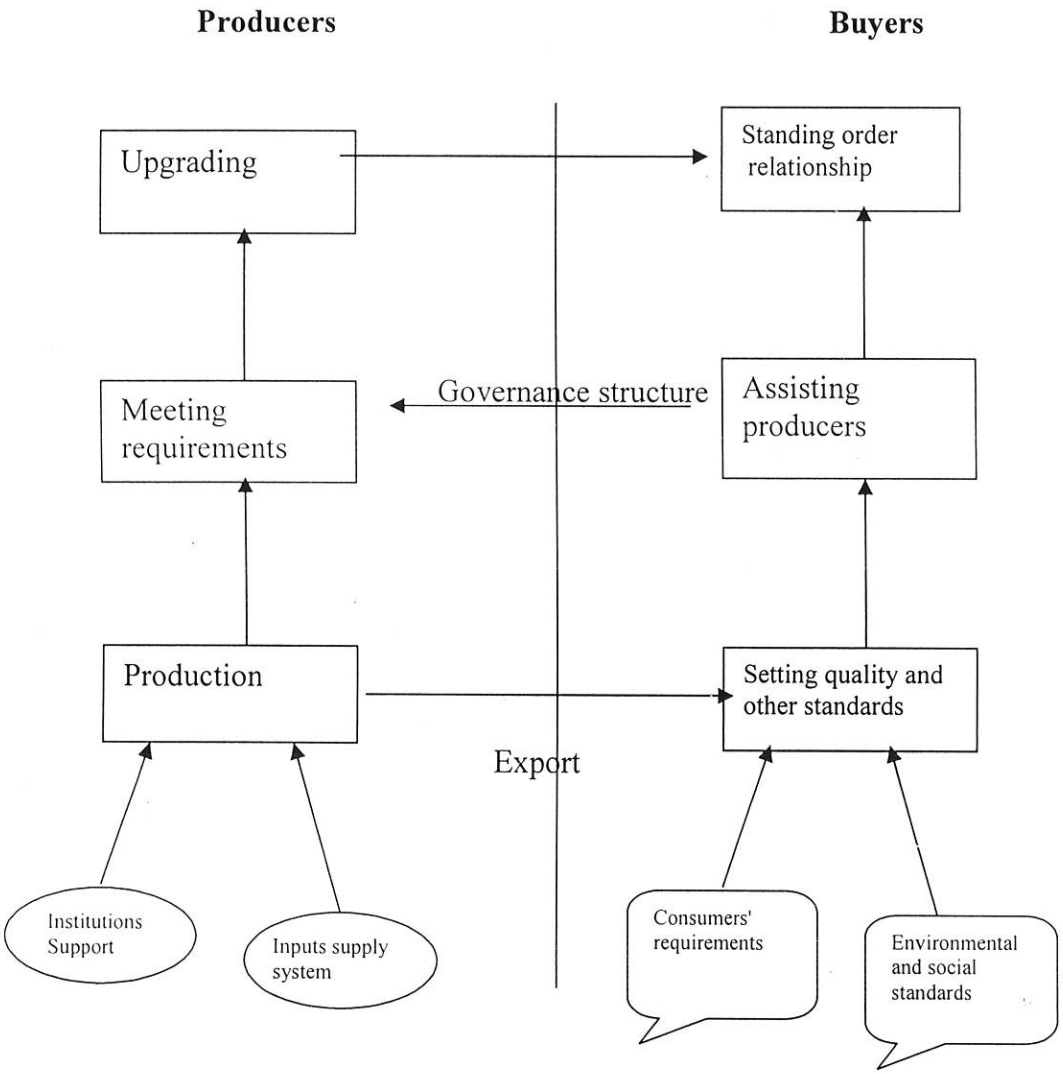
3. Systematic efficiency: It implies that governing party in the chain insures close cooperation and trust between the parties in the chain exist. The governing party is involved in assisting the participants in their chain, which are located in developing countries, to upgrade. Due to the global nature of such a chain, governing parties have a greater degree of responsibility. This involves helping participants in the chain (those that are located in developing countries) to upgrade. The objective is to ultimately increase the efficiency of the chain. This implies producers need to continuously innovate by adding value to their products and operations in order to remain competitive.

Table 1.1 Key determinants of Global Value Chain Governance

Governance Type	**Complexity of transactions**	**Ability to codify transactions**	**Capabilities in the supply-base**	**Degree of explicit coordination and power asymmetry**
market	Low	High	High	Low ↑
Modular	High	High	High	↓
Relational	High	Low	High	
Captive	High	High	Low	
Hierarchy	High	Low	Low	High

Source: Gereffi et al. 2003

Fig 1.1 Framework of Global Commodity Chain



Source: Own construction

CHAPTER TWO

Review of the Related Literature.

2.1 Global Commodity Chain

Despite the fact that globalization remain a puzzle word, today's economic integration in the world evidenced not only the increased international trade, but also global coordination and organization of production and distribution systems. Gereffi(1994) put this clearly as " In the transnational production systems that characterizes global capitalism, economic activity is not only *international* in scope, it is *global* in its organization". Different approaches have been used to study global organization of economic activities in general and specific industries in particular. The global commodity chain approach concept is one of a number of approaches to study inter-firm relations that draws on the simple idea that the design, production and marketing of products involves a chain of activities divided between different enterprises. Different definitions are forwarded by different scholars to explain commodity chain among which, Hopkins and Wallerstei(1994) " a network of labor and production processes whose end result is a finished commodity" and applied it to the changing organization of the world economy. Porter (1990) uses the terms value chain and value system to discuss company strategies in terms of the management of relationship with other firms, arguing that: 'competitive advantage is increasingly a function of how well a company can manage this entire system. Linkages not only connect activities inside a company but also create interdependencies between a firm and its suppliers and channels'. The others also use terms like 'industrial complex', 'productive systems', etc to explain the concept. All Authors take the idea of a chain of inter-firm linkages and apply it to particular circumstances, focusing on specific linkages and their characteristics (Dolan and Humphrey, 2001).

Gerefii(1994) has widely explained the concept of global commodity chains(GCCs) and his concept of global commodity chain contains three basic elements, which are useful in analyzing global organization of different industries. First, Gereffi has emphasized the fact that chains frequently involve cross-border coordination of the activities of independent firms. Secondly Gerreffi has raised the issue of governance that

large retail and brand name companies create inter-firm networks characterized by a high degree of co-ordination. Thirdly, Gereffi has highlighted the increasing role played by international buyers, retailers and brand-name companies in the trade of labor intensive manufactured products such as garments. According to Gereffi, global commodity chain has four main dimensions: (1) a value added chain of products, services and resources linked together across range of relevant industries; (2) a geographic dispersion of production and marketing networks at the national, regional, and global levels, comprised of enterprises of different sizes and types; and (3) a governance structure of authority and power relationships between firms that determine how financial, material, and human resources are allocated and flow within a chain; and (4) and institutional framework that identifies how local, national, and international conditions and policies shape the globalization process at each stage in the chain (Gereffi, 1995).

Gereffi(1994) again categorized global commodity chain into 'producer-driven' and 'buyer-driven' and described them as follows.

> *Industrial and commercial capital has promoted globalization by establishing two distinct types of international economic networks, which can be called "producer-driven and "buyer-driven" global commodity chains, respectively. Producer-driven commodity chains are those in which large, usually transnational, manufacturers play the central roles in coordinating production networks (including their backward and forward linkages). This is characteristic of capital- and technology-intensive industries such as automobiles, aircraft, computers, semiconductors, and heavy machinery. Buyer-driven commodity chains refer to those industries in which large retailers, marketers, and branded manufacturers play the pivotal roles in setting up decentralized production networks in a variety of exporting countries, typically located in the third world. This pattern of trade-led industrialization has become common in labor-intensive, consumer goods industries such as garments, footwear, toys, house wares, consumer electronics, and a variety of handicrafts. One of the main characteristics of the firms that fit the buyer-driven model, including retailers is that these companies design and/or market—but do not make—the branded products they order. They are part of a new breed of "manufacturers without factories" that separate the physical production of goods from the design and marketing stages of the production process.*

However, the above classifications focus primarily on manufactured products with little or no reference made to agricultural commodities that form the bulk of exports from the developing countries. Hence, another type of governance structure referred to as "the international trader-driven chain" has been proposed by Gibbon (cited in Timothy 2005). The international trade-driven chains are controlled by organizing firms, mainly giant

multinational trading houses that typically trade in a variety of commodities. They obtain supplies of commodities from all over the world for other firms that sell them through their established retail chains or that process them into final form or sale to consumers. Whatever type it may be, literatures show that major part of international trade in a given commodity is conducted through systems of governance that link firms together in a variety of sourcing and contracting arrangements (Gereffi et al. 2001).

The issue of governance is, therefore, central to global commodity chain and in analyzing organization of global industries and trade. As different literatures indicate, trade in labor intensive products such as clothes, shoes, and high value horticulture is organized by global buyers, who may work, or act on behalf of, major retailers or brand name companies. This has been shown to be the case in, for example, the trade of garment between East Asian countries and the US (Gereffi, 1999) and horticulture trade between UK and Africa (Dolan and Humphrey, 2000). The important point forwarded by the above studies is that firms in developing countries are required to inter into the global production networks of lead firms in order to get access to developed-country markets. Such types of production and trade organization at different levels require inter-firm relationship and coordination by one party in the chain.

Humphrey and Schmitz (2001) also used the term governance to express the relation between or among firms where one firm/group of firms in the chain set and/or enforce parameters under which others operate in the chain. Parameters include definition of products and production processes, which can include elements such as the technology to be used, quality systems, labour standards, and environmental standards. According to this definition, the question of governance arises when some firms work according to parameters set by other firms in the chain and the governance structure is required to transmit information about parameters and enforce compliance. Governance structure arises from two distinct needs for coordination. First, when trading companies are more involved in specifying products that their suppliers have to make, then they develop governance structure to coordinate suppliers' activities. Secondly, when they are exposed

risk as the result of the suppliers' failure, they directly intervene to coordinate and monitor the supply chain (Gereffi et al, 2001).

From the preceding discussion, it is logical to conclude that governance refers to inter-firm relationships and institutional mechanisms through which non-market coordination of activities in the chain is achieved.

This clearly shows that there are some firms who play a lead role in the chain by setting and enforcing parameters and coordinating the networks. As to who plays lead role, Gereffi made distinction between producer-driven and buyer-driven types of governance. In producer-driven chains, the key parameters are set by firms that control key process and product technologies, for example, in the automobile industry. In the buyer-driven chains, the key parameters are set by retailers and brand-name firms who focus on design and marketing, not necessarily possessing any production facilities (Gereffi, 1994). Product and processes parameters are also set by agents external to the chain, for example, by government agencies and international organizations. Parameters set from outside the chain lead to chain governance when one agent in the chain either enforces the compliance with parameters of the other agents or translates the parameter into a set of requirements which it then monitors and/or enforces (Humphrey and Schmitz, 2001).

Governance structure created through the above mechanisms has implication for upstream of the commodity chain. As indicated in deferent literatures, it has direct effect for upgrading of the firms. Firm upgrading has been defined in commodity chain/value chain literatures as the process of making better products, making them more efficiently, or moving into more skilled activities from which a firm can appropriate higher returns (Porter, 1990). Gereffi describes industrial upgrading by explaining that in internationally dispersed commodity chain, developing countries have an opportunity to participate and specialize in labor intensive stages of the manufacturing process of a commodity. Industrial upgrading, from this perspective, involves moving up global commodity chains from labor-intensive activities to more capital- and skill-intensive economic activities that involve organizational learning to improve the position of firms or nations in international trade and production networks (Gereffi, 1999).

Humphrey and Schmitz (2001) have sketched four types of upgrading options for enterprises working in a commodity/value chain: process, product, functional and intersectoral upgrading.

- *Process upgrading*: This refers to transforming inputs into outputs more efficiently by reorganizing the production system or introducing superior technology. This may involve changing internal processes to become significantly better than those of competitors, both within links in the chain and between links.
- *Product upgrading*: This refers to moving into more sophisticated product lines with better quality, lower prices, more differentiated, as well as shorter times to market and ultimately increased unit values.
- *Functional upgrading*: This refers to acquiring new, superior functions in the chain such as designing or marketing, or abandoning existing functions that have a low value added to focus on higher value added activities including packaging and logistics management.
- *Intersectoral upgrading*: This refers to the application of the competences acquired in a particular function to move into new and more profitable value chains.

As part of functional upgrading Dolan and Tewari (2001) added that firms expansion of both forward and backward linkages of the chain to exert control over more segments of the chain.

2.2 Global Commodity Chain and Floriculture Industry

According to world floriculture trade statistics, international trade in this industry is to a large extent, organized along regional lines. Asia-Pacific countries are the main suppliers to Japan and Hong Kong. African and other European countries are the principal suppliers to Europe's main markets. The United States is supplied mainly by other countries in the hemisphere for which the United States in turn is their main market (Van Liemt, 1999). Among these three regional line, the Ethiopian floriculture industry falls under the Euro-African trade chain. Since this study is about analyzing the floriculture

chain encompassing Ethiopian floriculture industry and because most of the African floriculture production in general and that of Ethiopia in particular is oriented towards the European market, the broad perspective of this market is noteworthy. The discussions in this section and others, therefore, are focus on the structure of industry in relation to European markets.

2.2.1 Structure of the Chain and Distribution Channels

World trade of floriculture worth about $7.3 billion and a substantial part of it is traded in Europe (World Bank, 2005). Although the EU is by far the biggest market for cut flowers in the world, a large proportion of this trade is between EU members. The main consuming countries in EU are Germany, UK, the Netherlands, France, Italy, Spain etc. The Netherlands supplies almost three-quarters of the EU market and even a greater proportion of the top three EU national markets – almost 80% of the UK's, 90% of Germany's and 90% of France's imports. In these markets People buy flowers for a number of reasons: as a gift (for a birthday or a special day such as Mother's Day, Valentine's Day, and Thanksgiving), for weddings and funerals, or for own use to brighten up the home. According to data obtained from CBI regarding consumption patterns in EU, around 50% to 60% of flowers in the EU are purchased as gifts, 20% for own use and 15% for funerals (CBI, 2005).

Floriculture can be sub-divided into four groups, namely cut flowers, cut foliages, plants and bulbs. Cut flower is the most widely produced and traded group in the world ornamental industry. By far the most important cut flower sold in Europe is Rosa representing € 760 million or 30 percent of total flower sales, followed at a distance by other flowers like Dendranthema (chrysanthemum) (21%), Tulipa (8%), lilium (7%) and others (CBI, 2005). As it is indicated in different literatures, demand for floriculture products especially for cut flowers exceeded supply in the world market during the 1970s and 1980s. Traditionally, the major markets (particularly in the EU) have focused predominantly on the more standard, 'everyday' varieties of flowers – roses, carnations, etc. However, more recently there have been some shifts in demand patterns, with more unusual and/or specialty species finding a niche. At the same time international

floriculture production continued to increase, as more and more countries including developing countries have been able to gain a foothold in these giant markets. This shifts in patterns of production and trade, which shaped the structure of floriculture chain, are on account of increased globalization, market liberalization/ trade policies, reduced tariffs, change in the consumer taste, advanced in transport and communication services, and counter-seasonality of developing countries (SADC, 2005). The out puts of the chain resulted from the above change can be explained in the following sections in terms of market structure, quality and consistence, retail structure, and price/cost, logistic/cold chain management.

2.2.1.1 **Market Structure**

Current floriculture industry is characterized by variety of its market products, especially at the down stream of the chain: funerals, special occasions (marriage holidays, theme days), gifts, personal use (decoration). According to World Bank market survey done on EU main market, each of the above market products or applications evolves according to different levels of market maturity and dynamics. There are three market structures, which in turn accounts for chain dynamics in floriculture industry.

- Immature markets: cut flowers are predominantly used for funerals and special occasions such as wedding and theme days (name days, All saints, Christian festivals). This market is supplied by a basic assortment of modest quality by local and regional growers/retailers. When no structural market change happens, these markets remain stable.
- *Emerging markets*: the market grows through the expansion of the gift and own use segment. The absolute size of the funerals and special occasions segment remains constant, the relative size decreases. The current mature market went through this development from the early 1970s to the mid- 1980s, and resulted in a series and prosperous expansion of the Dutch flower industry. This development was fuelled by economic growth and cultural characteristics in the Dutch and German-speaking countries. The second transition from immature to emerging markets took place in the late 1980s and 1990s and resulted in a massive

expansion of the European market with annual-double digit growth figures and high prices.

- *Mature markets*: In addition, the demand for a year round supply grew in emerging and mature markets. This development triggered floriculture industry in non-traditional production countries such as Israel, Africa and Latin America. As emerging markets continue to grow, then the market for own use or gifts has higher standards than the market for funerals and special occasions, ratio-prices and vase-life become more and more critical (Theon et al, 2000).

2.2.1.2 **Quality and Consistence**

Quality is perhaps the foremost issue in the main consumer market, EU. In developed countries consumers are becoming more demanding questing for superior qualities. Van Lamiet (1999) states this as:

> *Only top-quality flowers are traded internationally because of the increasing quality-consciousness of the customers. Competition is such that anything less than top-quality flowers can at best be sold to less-demanding domestic customers. Quality has several dimensions. Flowers should be free from plagues and diseases and they should be undamaged. These elements can be judged on visual inspection. Other quality aspects, however, are more difficult to judge. For instance, it is hard to see whether flowers have been correctly handled once cut. Yet this is an important determinant of vase life and whether or not the bud will open. It is the reason why reputation is so important and why growers who have consistently delivered high-quality produce fetch higher prices than little known or irregular suppliers.*

It is important to realize that quality does not only refer to product quality, which is by itself extremely important, but also to management quality or the ability to supply a certain amount, timorously, at an agreed-upon rate, with the cold chain and other logistics well organized, and the ability to supply to the demands of the market. All these factors contribute to being able to build up a long-term relationship. This is the quintessential requirement of doing business in the EU. Exporters in developing countries thus have to

build up a good reputation with their respective importers in main consumer market (Theon et al, 2000).

2.2.1.3 **Logistic and Cold Chain Management.**

Flower distribution is a highly transport- and logistics-dependent operation, and it is often the single most expensive and crucial element of being a successful exporter of cut flowers. Often it is essential to be located within a short distance from an international airport to have access to international freight carriers, although there is limited scope for transporting produce in cold-storage trucks from a small distance (SADC, 2005). Still, the key to being able to maintain the quality and therefore the value of the produce lies in a complete cold-chain system, which improves flowers' freshness and longevity. This is not something that can be compromised on, especially not with the stringent standards that exist in the major markets. *Even if a poor quality product is transported and handled in a perfectly maintained cold chain, quality will not improve and still the supplier ends up with a poor quality product. On the other hand, a product of initially outstanding quality can end up deteriorating totally because of poor logistic handling some where in the chain* (World Bank, 2005). The general logistic chain, which consists of airport transport modularity, cab be divided into five phases (Coleacp in WB, 2005):

1. Transport from production/processing site to air port, including (cold) storage. This transport in most case done by road
2. loading onto planes
3. transport by planes
4. unloading of planes on arrival
5. Transport on land to the final consumer market.

The performance of logistic system in these all chains in fact determined by both the availability and the level of physical infrastructure/facilities and organizational aspects of the institutions/people working in the chain. Ignorance and lack of knowledge can lead to substantial delays and subsequently deterioration of the produce. The faster the produce reaches the markets, the more competitive it will be and the higher the price it is likely to

fetch. For most varieties, anywhere over four days is simply too long, thus adequate airfreight and an efficient logistics system is necessities (Mathhee, 2005).

2.2.1.4 **Prices Trend**

The Netherlands auctions become price-setting mechanism by concentrating supply and demand in the trade of world floriculture products. As different literatures indicate, average annual prices for ornamental products have been virtually constant or declining slightly in the last decade while the impact on profits of this decline has been compensated through productivity growth. However, according to EU market survey for cut flowers (2005), the following price trends are visible for cut flowers.

- *Intra-day price fluctuations* can be considerable. Owing to the nature of supply and demand, short-term price fluctuations occur frequently at the auctions. Climatic conditions can have a strong impact on short-term price levels.
- A *clear seasonal price pattern* exists. Prices are at their lowest during the summer period when production in the "northern" countries reaches its peak and highest in November and December.
- Considerable *price differences exist by quality.* Quality is to a large extent determined by vase life and the moment the bud opens up, something that is difficult to establish on visual inspection. Hence, the importance of reputation in explaining prices.
- Large *gaps between the price of new and bulk products.* This is another explanation for the differences between the prices of growers in different countries, and different suppliers in the same country. New and "special" varieties can fetch prices that are well above the average.

2.2.1.5 **Retail Chain Structure**

The European retail chain is developing into a dual market structure with, on the one hand a distribution channels controlled by mass retailers (supermarkets and DIY chains) and multiple retailers (chains of garden centers and florists); and, on the other hand, distribution channels controlled by independent florists. According to the World Bank study, the first distribution channel, which specializes in "own use" consumption, is increasing its share in retail chain by developing the following characteristics:

- High turnover rates;
- Standardized products (bouquets);
- Guaranteed quality;
- Fresh without keeping the stock;
- Private label (reflecting store image).

In this chain, mass/multiple chain, fee for suppliers is performance-based and the main performance criteria are (i) to meet the sales/margin target per meter square display space; and (ii) to meet the formula image in terms of consistency, quality, and accuracy As the result of the growing market share of mass/multiple retailers, the market for mainstream flower products is shrinking for independent florists (Theon et al, 2000).

The major change in retail chain is the increased influence of supermarkets in some European countries. The number of supermarkets that sell flowers has increased and so has the quality of the flowers for sale. In the past the selection of flowers for sale in supermarkets was small and a low price was considered more important than high quality, today supermarkets are setting the trend in certain areas. Because of their market power they are having a significant influence on growing and trading practices (CBI, 2005).

The chain, containing supermarkets is characterized by short path (buying directly from producers), long-contract and focus more on quality than price, all leading to high requirement and monitoring in the chain. Leimt put this as:

Supermarkets want to buy large quantities of cut flowers through long-term contracts, directly from known producers. Buying directly is the shortest route from grower to shop (the product is fresher and this favorably affects vase life). And it is essential for the vase life guarantee: the producer's code is marked on the written guarantee so that any problem can be traced back to the grower. Buying directly is also important because supermarkets want to have certainty about the conditions under which the flowers that they sell are being produced. However, buying directly and regularly through long-term contracts makes it difficult to source from the Netherlands where growers are obliged to sell their produce through the auctions. African producers are capable of producing large volumes and willing to sell directly at an agreed price, making them attractive to supermarkets. Shortening the chain of intermediaries between growers and retailers is a key objective for supermarkets. It gives them more control over which their suppliers are, and more information on the conditions of work at these suppliers. It lowers costs and reduces delay (and thus lengthens vase life). They are taking more of higher quality product, and there is much more emphasis on quality, not price (Leimt, 1999).

African producers appear to be the main beneficiaries of this change in purchasing habits. Supermarkets are interested in African flowers because they are inexpensive and because growers are willing to accept a set price. To the growers the arrangement is attractive because supermarkets buy large quantities at prearranged prices. But in order to live up to their side of the bargain African growers must invest in optimal production methods. Often this includes investments in greenhouses, forced ventilation and heating and, in all cases, greater attention to quality (World, bank, 2005).

2.2.1.6 **Distribution Channels**

According to the Center for Promotion of Imports from Developing Countries, CBI (2003), there are four main routes for growers and exporters to access international markets: directly through auctions, using an agent to sell your produce at an auction, via an import wholesaler, or directly to a retail chain.

1. *Auctions:* Auctions are wholesale markets created by the growers to market their products. Now a days there are about ten flower auctions in Europe of which four of them are particular interest to exporters in developing countries. The Netherlands auctions in

particular function as a pivot around which the international floriculture revolves. Through their concentration of supply and demand, they act as a price setting mechanism for the trade and have developed into a major centre for the distribution of domestic and foreign grown products to the European markets. Auctions are an attractive option in that they are able to sell anything one supply, as long as the quality is of the correct standard. Flowers are sold at the market price with secure payment, they are sold relatively quickly, and there are no quality disputes. However, auctions tend to work with larger producers of the 'mass-produced' greenhouse varieties.

To supply an auction, a supplier must have a license that stipulates a particular variety to be supplied over a specific time period. He/she also needs to have access to at least three flights a week and agree to supply a certain percentage of his/her output otherwise there is the risk losing their license (Collinson, 2000).

2. *Auction via agent*: The handling of flowers is not done by the auctions, and is therefore one of the growing roles that agents perform, including flower cutting, re-hydrating and packing. Agents thus provide a link for those exporters without representation in the Netherlands, transferring the flowers from the airport to the auctions, as well as providing consultancy services, and market and product information. They can also play a role in facilitating relationships between growers and supermarket chains or foreign importers. Agents are, however, more expensive as they have their own mark-up to factor in. They are often more suited to smaller producers with less knowledge and/or marketing ability.

3. *Via an import wholesaler*: A producer can also sell directly to wholesalers instead of going through the auctions and/or agents. When imported flowers are sold via the Netherlands auctions, handling costs can be high (20-25 percent of the auction revenue). When flowers are sent directly to other European countries, prices are not augmented by such costs. Import wholesalers often function as export wholesalers or wholesalers on the domestic market, and are able to advise and assist producers on all manner of technical and product know-how, from quality, presentation and assortment to transportation and handling matters. Wholesalers tend to conduct business at an arm's length basis and without long-term contracts, trying to source the particular products they

require. Thus big savings are to be made, both in time and money, by going directly to a wholesaler. But there are also potential problems, such as quality claims, volatile demand and payment issues. Added to this is the increasing role of e-commerce, where sales can be made online.

4. *Directly to a retail chain*: More and more retail chains, including supermarkets, DIY department stores and garden centres purchase flowers directly from growers, bypassing the auctions, agents and wholesalers altogether. This obviously requires them to co-ordinate transportation and other logistics, and set up supply chains from the growers to the various domestic markets where their stores are located. The increased importance of retail chains is particularly evident in the UK. If growers are big enough and can supply end-user products (already-made single bunches, mixed bouquets, etc.) this option could offer substantial market growth. However, their quality specifications are high and they are primarily interested in sourcing from large suppliers, who can offer both single-species bunches and mixed bouquets.

2.2.2 Market Access Requirements/License to Produce and Deliver

The relation between suppliers and buyers of fresh horticulture products in general and that of floriculture in particular is becoming more formalized in main consumer markets. Literatures indicate that these relations were based solely on general commercial low and basic quality regulations by EU legislation. This responsibility has now increasingly been overtaken by private initiatives. Due to the increasing concentration of demand at the retail chains and vulnerable nature of the horticulture products, the retail chain, especially supermarkets are formulating their own rules and regulations, which are now applied on a bilateral basis (the European retail chains versus suppliers). This private protocols can be characterized as a 'license to produce" and a "license to deliver"(World bank, 2005). The protocols apply to any supplier regardless of his/her origin or that of the product. These private protocols are based on a combination of international and national regulations. According to Collinson (2001), the most important private multilateral protocols relevant to developing country suppliers for flowers, fruits and vegetables are described as follows:

Good Agricultural Practices (EUREP-GAP)

A number of European retailers (Euro-retailer-producer working group) took the initiative to develop requirements for primary producers, EUREP-GAP. EUREP-GAP applies to all agricultural sectors in order to promote and encourage best agricultural practices. The EUREP collectively decided that EUREP-GAP should not be a competitive factor, but an absolute license to deliver. Besides food safety, the code also applies to environment, nature and labour conditions. In November 2002 the organization established its standard for floriculture products, which pays attention to compliance criteria such as traceability, environmental standards, worker health and safety (Collinson, 2001). According to this code, primary producers should demonstrate that they work on:

- Minimizing environmental emissions and maximizing respect for nature
- Reduction of chemical and fertilizers
- Improving efficiency of natural resources (fossil energy)
- Responsible attitude to health, safety and labour.

It has also additional requirements in varieties and starting material, plot history and management, fertilizers and irrigation, crop protection, post-harvest activities and social aspects for employees.

Milieu Project Sierteelt or 'Floriculture Environmental Project' (MPS)

MPS stands for Milieu Project Sierteelt or 'Floriculture Environmental Project' and is an environmental registration and classification system that aims to decrease the environmental impact of cut flower production. MPS project is an initiative of Netherlands floriculture sector including auctions. It is not only aim at environmental care, but safety, well-being and conditions of employment also play a part. It is now the most widely accepted measure of environmental accountability in floriculture production and according to World Bank study; MPS has certified approximately 85 percent of flowers in Dutch auctions with 4,300 member companies, 500 of them being non-Dutch growers. According to Flower council of Holland (2004), the costs involved in obtaining

MPS certification can reach up to € 5,000 per year. This is considerable cost for smaller exporters in developing countries as compared to company turnover.

Florimark Production

Florimark is a quality mark for those wholesalers of flowers and plants who aim to be leaders in the field of product quality. It is an acknowledged regulation that can be seen as a branch-specific elaboration of a quality management system and as a step towards ISO certification. At some specific points of importance for wholesalers of flowers and plants, the certification scheme is more detailed than ISO. The main objectives of certification scheme are to:

- Stimulate a recognizable market position of ornamental producers that effectively manages product quality and post-harvest processes
- Stimulate the improvement of quality management by the producers
- Enhance the (quality) image of the ornamental sector
- Contribute to quality management in the complete chain from production to sales (Collinson, 2001).

These official regulations and measurements are not compulsory but are increasingly being included in the procurement terms of retail chains and flower providers. According to World Bank (2005), the strategic consequence for African producers is that they should anticipate the above standards and in practice, this requires; full traceability of all products to the farm where they were grown, a professional administrative staff for comprehensive record keeping, additional facilities to separately store chemicals, fertilizers, packaging according to strict conditions, restricting the use of chemicals by using alternative substances or more advanced means of productions, minimum working standards for workers, and announced and unannounced on-farm audits. The penalty for not complying with the above requirements could be being excluded from growing mainstream standing order markets and depending on unstructured and decreasing spot markets.

The additional bilateral regulations to obtain a license to produce or deliver are generally set by the distributors and flower providers. Besides the above standards, they require consistency in volume, quality and timing; exclusion of storage risks and costs (products should be delivered at the right time to the right location, referred to as "just-in-time delivery"; all requiring investment in management and organization, technical facilities and production plan.

2.2.3 Governance Structure

Developments that have been described in previous sections and paragraphs can be best summarized by a growing demand for:

- Consistence in supply (steady volume and quality per time unit)
- Recorded and traceable product and production attributes and specifications.

According to some literatures, prior to 1990s, the vast majority of European market was supplied on a spot basis and it was characterized by a relatively unsegmented structure, fluctuating prices, unidentified sources/origins and vague quality perception. This structure of a spot market in floriculture combined with a shortage in supply led to a lucrative market expansion at producer level that attracted many developing country producers (World Bank, 2005). However, after 1990s, the market power quickly shifted from supply side to demand side. As literature indicates, the demand driven market together with other (public) developments led to implicit and explicit "license to produce". This resulted in a sharp turn to a "standing order" market characterized by buyer requirements. This also led to a more portfolio-based market that according to the Theon (2000), included:

- A steady mainstream market based on contracts, agreements (implicit and explicit) and logistics;
- A firm discount and loss leaders market as a vehicle for theme and price promotions;
- An exclusive/seasonal "catch of the day" market for incidental product range adjustments or preliminary product introductions;

- A leftover market (rudimentary spot market) as an expansion value to cope with market discrepancies.

At the distribution level, these structural market changes in the flower sector resulted in: (1) mergers between auction (only two serious auctions left) and development of direct sales departments combined with traditional auction clock sales covering the entire market; (2) a limited number of international flower providers (less than 20) covering and controlling the discount and mainstream market having access to direct sources either through the intermediary of direct sales departments of auctions; (3) a limited number of foreign integrated supply chains (less than 20) controlling production, logistics and marketing and (4) hundreds of larger and smaller international/national and regional specialized wholesalers mainly performing allocation and distribution tasks and occasionally some specific sourcing tasks. World Bank identified four types of producers successfully fit into this portfolio-based standing order market:

- Loyal, consistence and specialized producers (demonstrated by track record and certificates such as MPS, ISO) distant from consumer markets, supplying all products to either auctions or directly to flower providers that cover the complete market portfolio;
- Specialized regional producers close to consumer markets, supplying directly to smaller wholesalers and retailers and taking advantage of low distribution costs;
- Large integrated supply chains with a sufficient product basis, critical volumes, and international logistics covering complete market portfolio;
- Internationally recognized producers of exclusive specialties selling to the highest bidders.

The remainder producers are those who do not completely fit into the portfolio-based market structure. This group of producers include; smallholders piggybacking local exporters, basically viable but poorly run production facilities distant from consumer markets, basically viable production facilities distant from consumer markets that are

practicing opportunistic sales by direct sales to larger and smaller regional wholesalers in the EU.

2.3 Structure of the Chain in SSA

2.3.1 Position of the SSA Producers in the Chain

Export horticulture in general and that of floriculture in particular has been one of the bright spots of African development. It has raised production standards in agriculture, created supporting institutions, and provided considerable employment in rural areas (Dolan and Humphrey, 2001). SSA's position with regard to fresh cut flowers, starting material for cut flowers, and pot plants is currently getting strong. According to data obtained from Eurostat, average annual increase of export value for seven sub-Saharan African countries to EU from 1996 to 2002 is 13.5 percent. These countries include: Kenya, Zimbabwe, Zambia, Uganda, Tanzania, South Africa, and Côte d'Ivoire. Ethiopia is also emerging into this market recently showing rapid growth rate both in terms of value and volume. According to Eurostat, total export growth in value of Ethiopia between 2000 and 2004, is 96 %, though its share in the world trade is still insignificant. Kenya is by far the leader, with a nearly 40% share in all EU cut flower imports originating from outside of the EU. Kenya is now the third largest cut flower supplier to the European market (Collinson, 2001). Different studies have highlighted a number of factors behind Africa's horticultural boom.

- Non-interference by government in the commercial dimensions of the business.
- Preferential trade agreements such as the Lomé Convention.
- The achievement of sub-regional/cross-border economies of clustering, which provides a critical mass of activity for technical learning, market information flows, the development/spread of trend manpower.

- International technical and marketing strategic partnerships, which have assisted in technology transfer, logistics, market penetration, and the creation of a market identity for African products.
- The effective coordination of internal and international logistics at the industry level, involving intra-firm co-operation (Dolan and Humphrey, 2001).

The Dutch flower auctions have historically been the most important channels through which African flowers have reached European wholesalers and retailers. However, changing consumption patterns and retail chain, especially supermarkets supply chain; rationalizations are beginning to erode the auctions' importance. In some importing countries like UK, buying behavior has changed away from occasional towards regular flower purchasing. Specifically, Kenyan producers are strongly tied with UK supermarkets (Theon et al, 2000).

There is considerable scope for growth in the export of horticulture sector including floriculture products. The market is expanding and there are significant opportunities for African firms to become players in global market. However, inclusion in the chain is contingent up on meeting the requirements described in the above sections. These requirements have, first, favored the concentration of the export sector in the few, large firms, and, secondly, shifted production increasingly to large farms. To compete in this trade exporters need well-developed organizational capabilities, investment in post-harvest facilities, sophisticated logistics, large volumes and close relations with European importers (Dolan and Humphrey, 2001).

In general there is unbalanced power as regard to the chain linking Sub-Saharan Africa and European buyers. Due to developments, which have been taking place in the main consumer market, African floriculture producers and exporters are developed into the following category of producers. Loyal, consistence and specialized producers (demonstrated by track record and certificates such as MPS, ISO), supplying all products to either auctions or directly to flower providers that cover the complete market portfolio;

this are either foreign investors or joint venture between foreign investors and African entrepreneurs. Large integrated supply chains with a sufficient product basis, critical volumes, and international logistics covering complete market portfolio; Example Kenyan-European supply chain. These exporters are few in number and developed intense relationships with their respective buyers and exert greater control over the supply chain through their integration of logistics and importing activities. Their success in the global floriculture chain depends on meeting (and exceeding) the exacting requirements of the major buyers. There is little scope for exporters who lack the investment capability to insure a consistence, quality product that complies with regulatory requirements to participate in the market. The reminder SSA producers depend on auctions and wholesalers on the basis of arm's-length and standing order with lesser degree of coordination and dependence (World Bank, 2005; Dolan et al, 1999; Theon et al, 2000).

One of the biggest success stories in cut flower production is Kenya, which is currently the fourth-largest exporter in the world. With similar geographical, infrastructural and competitive conditions, other SSA countries have tried to emulate the success of the Kenyan industry. Sources of advantage in the region include cheap and available land, low labour costs, excellent climatic conditions, and counter-seasonality with many of the major markets (SADC, 2005). However, increasingly these advantages are not sufficient to compete on the world markets as they become ever more competitive – and traditional cost and pricing advantages are replaced by demands for exceptional quality and more efficient management systems.

2. 3.2 Structure of the Industry in Ethiopia

Historical evolution of cut flower in Ethiopia for commercial purpose goes back to 1980/81, which is now twenty years ago. According to Sisay (2001), during adaptation and trial period, about 20 species of different cut flowers were introduced into the country from abroad. Some of the species introduced include Carnations, Gladiolus, Molucella, Atriplex, Allium, Statice, Euphorbia, etc. During this time, production and export of cut flowers in Ethiopia was not commenced with well planned main objective of profit making, but foreign exchange earnings. Between 1982 and 1991 export

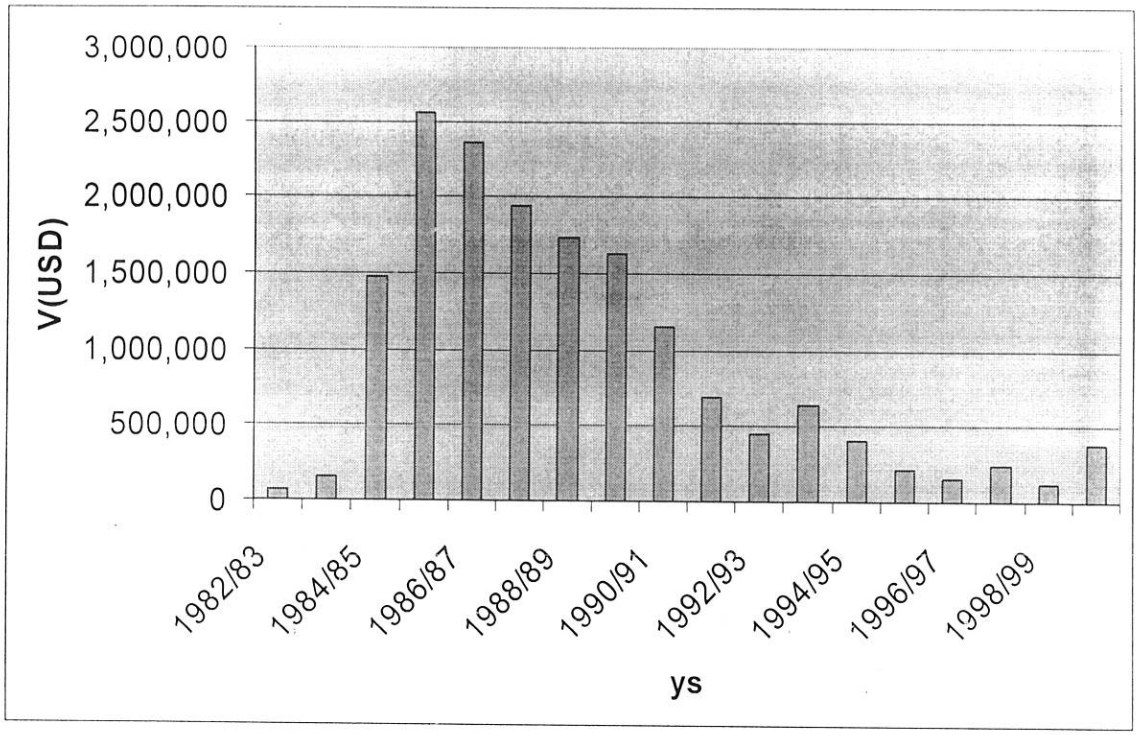
performance showed slight growth first and then declined. (see table 2.1). During this period, the whole business was run by government parastatal agency, Horticulture Development Corporation and the sector was highly subsidized (MTI, 2006).

Table 2.1 Floriculture export statistics at national level from 1982 to 2000.

Year	Quantity (Tons)	Value (US$)
1982/83	69.89	70,162
1983/84	87.98	158,044
1984/85	469.35	1,470,124
1985/86	849.26	2,557,590
1986/87	1028.80	2,360,000
1987/88	807.83	1,942,189
1988/89	1006.91	1,736,411
1989/90	785.94	1,634,211
1990/91	620.01	1,149,069
1991/92	543.19	696,423
1992/93	385.78	451,696
1993/94	266.02	641,007
1994/95	189.35	405,826
1995/96	97.07	216,158
1996/97	39.77	156,601
1997/98	98.23	246,719
1998/99	136.34	118,052
1999/00	189.14	382,346

Source: Ethiopian Customs Authority

Figure 2.1 Floriculture export trade from 1992 to 1999



Source: Constructed based on data obtained from Ethiopian customs authority

As it can be easily understood from the above graph, the industry's performance in both volume and value was characterized by a series of fluctuations during the period of 1982 to 2000. From 1982 to 1987 the export showed high growth. During this period, previous government promoted development of floriculture in the country with the main objective of not profit making but boosting its foreign exchange earnings. In addition, as literature indicates world flower market was supply driven during that period. However, as of 1988 both volume and value of export had been declining until 1998. Among the factors explaining downturn during the period are inclination of floriculture companies (government parasitals) towards production of vegetables and fruits than flowers due presence of local market, Absence of private sector, lack of necessary technologies, facilities and trained man power. Price falls from 1998 to 1992 in the world market, was also among the factors cited for low and declining performance of the industry during that period (Sisay, 2001; MTI, 2006).

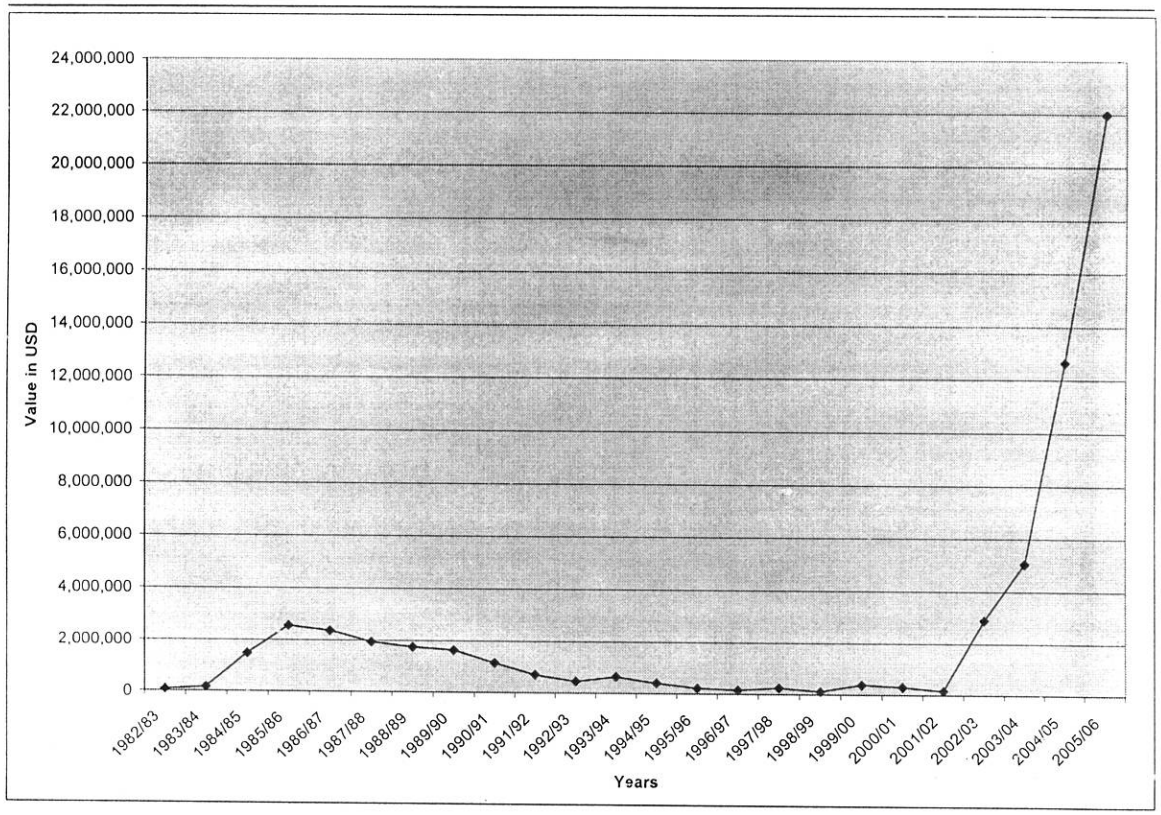
As regard to development since 1992, no basic upturn has been circumvented until 2000 despite the fact that current government has taken measures to reform policies and liberalized market. Before 1999, there were only four companies, two privately owned and two long-established government owned enterprises operating in the industry. As per the interview made with officials and experts from relevant government offices, late response of the industry was due to continued declining role of government owned enterprises on one hand and the past image and experience of the country characterized by war and instability that foreign investors were hesitant to invest in Ethiopia on the other hand. Added to this is lack of planning and institutional arrangements for the sector in agricultural development policy of the government. As data and report of different government offices show, the Ethiopian floriculture industry has been showing rapid growth in number of flower projects, amount of capital invested, employment rate, and finally volume and value of export since 2000. As per the report of Ethiopian Export Promotion Department, during 2005/2006, export value reached about 22 million USD. The industry also employed more than 20, 000 people, and majority of them being female (MTI, 2006). It showed more than 500% growth in value of export between 2000 and 2005. This is good prospect for a country, which for a long period of time depended on traditional commodities whose terms of trade are declining from time to time.

Table 2.2 Export performance floriculture in Ethiopia from 2000 to 2006.

Years	Quantity (thousands of stems)	Value in USD
2000/01	2,360	305,000
2001/02	210	159,000
2002/03	16,000	2,904,000
2003/04	32,000	5,050,000
2004/05	83,000	12,645,000
2005/06	186,400	21,967,000

Source: Ethiopian Customs Authority.

Figure 2.2 Floriculture export trends in Ethiopia from 1982 to 2006.



Source: Constructed based on data obtained from customs authority

Different literatures are suggesting that Ethiopia is becoming the recent production hotspot for many international floriculture companies, especially for Dutch's. It is becoming competent in attracting foreign growers. As narrated in SADC trade brief:

> *The EU is clearly an important market for SADC countries to attempt to penetrate. But other African countries with similar climates that are located closer, and therefore subject to lower transport costs, are seemingly gaining a comparative advantage and stealing market share away. For examples, Kenya, Uganda and Ethiopia are all rapidly growing their exports. Added to this are the recent joint ventures entered into by Dutch businessmen in Ethiopia to grow flowers to supply the EU market (SADC, 2005).*

This rapid growth and expansion of floriculture industry attributes to changes, which has taken place both at international and national levels with comparative advantages that Ethiopia naturally endowed. Among global situations that made Ethiopia preference place for investment in the sector, increase in production costs and strict environmental and other regulations in developed countries, especially in the Netherlands are the main factor (laws, 2006). Therefore, growers always look for regions with relatively low production cost and have location advantages. In addition to this, the following factors are supposed to be the main reasons behind Ethiopian floriculture industry boom.

1. Agro-climatic suitability: In addition to soils and micro-climatic conditions, which are proved to be suitable for flowers production, basic production factors such as land, and water are amply available.
2. Seasonal advantages: Summer season of Ethiopia coincides with the European winter leaving the country with heat and light conducive for faster growth of most species of flowers.
3. Manual labor availability and cost: Ethiopia has labor costs advantage over other competitor countries, for example, average daily payment for unskilled labor Ethiopia is less than US$ 0.8 where as it is above US$ 1 for Kenya and Zimbabwe.
4. Location Advantage: As higher freight costs are affecting all East African exporters, Ethiopia, 600 miles closer to the main European markets than Nairobi, is gaining a cost advantage over Kenya and is most apt to benefit from these geographical flower production shifts.
5. Improved investment guide: Through amended investment proclamation and investment incentives regulation a range of incentives are provided for investors, who wish to invest in the sector (laws, 2006; Sisay, 2001; MTI, 2006).

According to Investment proclamation No. 37/1996 (as amended) and as per Investment Incentives proclamation No. 7/1996 (as amended) the following incentives are offered for irrigated agricultural projects.

- Income tax-holiday and carrying forward losses incurred during tax-holiday period.

- Exemption from payment of customs duty for imported goods (capital goods).
- Deduction from taxable income of expenditures on research and training.
- Tax drawback privilege of customs duty paid on imported row materials (including planting materials) and components.
- Right to choose calculation of annual depreciation allowance either on the basis of straight line or accelerated methods.

Though Ethiopia has the above advantages in terms of basic production factors as compared to other countries, those advantages only do not make her competitive in the global floriculture trade. As literature indicates, the overall export opportunities, to the large extent, are also determined by the factors like market dynamics in the main consumer market, bilateral and multilateral licenses to produce, other external barriers and upgrading capacity of existing producers. However, there is no study done in this regard. Therefore, this study attempts to make a modest contribution in this regard by looking at the chain activities.

CHAPTER THREE

Presentation, Interpretation and Analysis of Data

3.1 Profile and Basic Features of Studied Floriculture Industry

3.1.1 Background and Characteristics of the Respondents

A total of seventeen questionnaires were distributed to the same number of floriculture companies to be filled by company managers. Out of that twelve questionnaires were filled and returned representing 70.60 percent of response.

Table 3.1: characteristics of the respondents

No	Categories	Responses	
		No	Percentage
1	Age		
	20-30	2	16.70
	31-40	5	41.70
	41-50	4	33.30
	51 and above	1	8.30
	Total	12	100
2	Sex		
	Male	11	91.70
	female	1	8.30
	Total	12	100
3	Marital status		
	married	8	66.70
	Unmarried	4	33.30
	Separated	-	-
	Divorced	-	-
	Widowed	-	-
	Total	12	100
4	Education		
	Secondary school	-	-
	Diploma	-	-
	Degree	9	75.00
	Masters and Above	3	25.00
	Total	12	100
5	Nationality		
	National	4	33.30
	Expatriate	8	66.70
	Total		

Source: Field survey

This section of the chapter describes characteristics of the respondents, company managers/or their delegates, which are the major subject of this study. Table 3.1 depicts the characteristics of respondents in terms of their age, sex, marital status, educational level and nationality. As it can be seen from the table, five and four out of the twelve respondents are found in the age range of 31-40 and 41-50 respectively. This shows that majority of the company managers are at adulthood age. As regard to sex, eleven of the respondents are male implying high gender disparity in managing or running the sector. Out of the total respondents eight are married while four are unmarried.

Regarding their educational level, data from the above table indicates that nine are qualified to degree level and three are at the educational level of masters and above. Majority of the respondents are qualified in the fields of social science mainly business management, which could give them good opportunity for marketing side of the business. On the other hand, there are only few professionals who come from Agriculture/horticulture fields of study implying majority of the managers lacking knowledge required in the production and farm management aspects of the industry.

Another item treated in the above table is nationality of the respondents therein it can be seen that eight of the respondents are expatriates and four are nationals. Expatriate personnel are managing all foreign direct investment and joint venture companies. Moreover, some farms owned by domestic investors employed expatriate technicians. This indicates that there is gap with respect to managerial and technical skills available in the country and what is required by the industry.

Out of the total respondents, half of them replied as they were engaged in other business, four were employees of other companies and two school graduate before getting into this business. This shows that they have used entrepreneurship skill developed in other business.

3.1.2 Land Size, Capital and Employment

Availability of suitable land at low price is the major comparative advantage of Ethiopian floriculture industry as producers elsewhere incur high cost to get land. Producers can obtain land from government or lease from farmers. Out of the total land area they hold, 580 hectares, area covered by green houses until June 2006 was only 225.5 hectares. Part of the rest 354 hectares are used for construction of offices, cooling houses, and stores while remaining area is left idle waiting for future expansion. This shows that getting land is not a problem for floriculture production. The producers can easily expand their production to reach at critical volume given that other activities of the chain are functioning well.

Size of initial capital ranges form 225 million to 30 million for those it was able to find their capital. Major sources of capital are Development Bank of Ethiopia and the investors' own equity. The amount of capital registered does not go in proportion with their land size under green house. This might be due to high investments made by some firms on facilities such as irrigation schemes, cooling halls, and other equipments taking into consideration their future expansion.

The studied firms created 4461 jobs out of which 2301 jobs are on contract basis while 2160 are casual laborers. This employment does not include those workers who are participated on the construction. Again the amount of jobs made available and size of firms in terms of registered capital and land holding is not proportional. This might arises form the classifications of jobs as contract and casual. Some firms have registered only contract workers and others registered daily laborers.

This discussion is only for the studied firms, who have started export before 2006. During 2006, many companies, which were on the construction, have started production as well as export. As a consequence, total size of land, capital and employment are on rapid increase.

Table 3.2 Profile of Floriculture Firms, Who started exporting before 2006.

No	Name of Company	Year of establishment	Year of start of export	Land size		Registered Capital in ETB in Million	Human Power				
							Contract		Temporary		Total
				Total	Covered by g.h		Male	Female	Male	Female	
1	Red Fox	2003	2004	100	24	125	6	90	-	200	296
2	Submit Agro-industry	2002	2002	75	16		-	-	300	600	900
3	Minaye Flowers	2004	2005	20	12		28	-	-	135	163
4	Joy-Teck	2004	2004	40	14.5		50	183	-	-	183
5	Golder Rose Agro-Farms	1998	1999	45	25		-	-	210	490	700
6	Ethio-Highland Flora	2004	2005	20	12.5		-	186	-	-	186
7	Oda Flower	2004	2005	20	7	30	60	140	-	-	200
8	Linson Rose Ethiopia	2003	2004	40	32	50	150	250			400
9	Ethio- Dream	1997	2002	21	8		103	14			117
10	Ethio-Rose	2003	2005	28	7	55	53	90			143
11	Top Flowers	2002	2005	23	11	90	140	138	53	8	339
12	Holeta Rose	2003	2004	22	12.5		50	125			175
13	Dire Highland	2003	2005	20	11		30	40			70
14	Garad Flowers	2003	2004	28	8		15	64			79
15	Eniye Ethio-Rose	2002	2003	30	15	70	130	9	58	106	303
16	J.J Kottar	203	2004	34	4.5	73	97				97
17	Site Agro-industry	2003	2004	13.5	5.5	50	60				60
	Total			579.5	225.5	498	972	1329	621	1539	4461

Source: Ministry of Trade and Industry (Ethiopia) g.h= green house

3.1.3 Type of Ownership

Table 3.3: Investment categories of the respondents

Category	No	Percentage
Domestic	4	33.30
Foreign (FDI)	5	41.70
Joint Venture	3	25.00
State owned	-	
Total	12	100

Source: Field survey

Table 3.3 portrays the type of investment that respondents belong to. Out of twelve respondent companies, four are domestic, five are foreign direct investment and three are owned by joint venture between Ethiopians and investors from different countries. The respondents were also asked to mention their origin of country if their company belongs to one of foreign direct investment or joint venture. Accordingly, the origin of these groups of investors found to be from Netherlands, Germany, UK and Israel. In addition, good majority of these investors were operating else were in Africa or Europe in the same industry.

From these, the following conclusion can be drawn. Firstly, the investment is the mix of subsidiaries of transnational corporations and entrepreneur capital both from local and abroad. Secondly, current development and future prospects of floriculture industry in Ethiopia is mostly contingent up on country's investment policy, particularly foreign investment and international economic relations and how this is handled. Third, most of skills and technologies developed else where are coming into the country implying good opportunity for spillover effect despite the fact that spillover effect is yet to be investigated. Last, development of joint venture could create good opportunity for Ethiopians to gain access to resources, market and skills and technologies of developed countries. Domestic growers can be characterized as educated urban entrepreneurs

implying good opportunity to access market information, support institutions, funds/loans etc.

The respondents, which belong to either foreign direct investment or who are foreign owners of joint venture, were asked to explore the most important factors making Ethiopia as some has said 'production hot spot' for foreign investors.

Table 3.4: Rank order of reasons for choosing Ethiopia for investment

Items	Rank order
Favorable climatic conditions	1
Proximity to consumer market	3
Favorable investment climate in Ethiopia	5
Availability of cheap labor	4
Low cost for land	2
A better security	6

Source: Field survey

The list of most possible factors, which were thought to be important in attracting foreign investors to invest in Ethiopia were provided to respondents to rank according to their importance. As table 3.4 above shows, the respondents feel that the most important reasons are favorable climatic conditions, low cost for land, proximity to consumer market, availability of cheap labor, favorable investment climate in Ethiopia and a better security situation in the country as compared to some African countries. From this, it appears that comparative advantage of Ethiopia to be competitive in attracting foreign investment in floriculture sector lies in its endowment with favorable natural factors.

3.1.4 Geographic Coverage of Floriculture Industries.

Most farms are located along the major asphalt roads from Addis to regional cities as well as along river basins. 1st on the way from Addis to Awassa (Ziway) and Adama, 2nd from Addis to Jima (around Sebeta), the road to Ambo (Nekemte) around Holeta, and few along the road to Northwards. The maximum and minimum distances from Addis to the farms' specific locations are 110 and 22 Kms respectively while the average distance

being 51Kms. Most farms are located just adjacent to main asphalt roads and the average distance is 3.5 Kms. Farm size ranges from 4 hectare to 24 hectare, the average being 11.35Ha. The respondents were provided with the lists of possible factors that determine their choice of specific location and the result is shown in the table 3.5.

Table 3.5: Reasons to choose specific locations

Items	Levels of responses									
	Critically important		Highly important		Fairly important		Less important		Not important	
	No	%	No	%	No	%	No	%	No	%
Its closeness to air port	2	16.70	7	58.30	-	-	3	25		
Availability of water for irrigation	11	91.70	1	8.30	-	-	-	-	-	-
Topographic and soil factors	-	-	1	8.30	3	25	5	41.70	3	25
Infrastructure & service availability	1	8.30	5	41.70	5	41.70	1	8.30	-	-
Availability of cheap labor	1	8.30	3	25	6	50	2	16.70	-	-
suitable climatic conditions	10	83.30	1	8.30	1	8.30	-	-	-	-
Availability and low price for land	4	33.30	5	41.70	2	16.70	-	-	1	8.30

Source: Field survey

As one can easily understood from the table, majority (11) of the respondents said availability of water for irrigation is critically important factor in determining their specific locations for floriculture production. Next to this, ten of them feel that suitable climatic condition is again critical whenever they made choice regarding their specific locations. Availability and low price for land stood third (four and five said critically and highly important respectively). Closeness to airport is another factor considered highly important by the majority of respondents (seven respondents). The respondents

also rated availability of infrastructure and different services between highly and fairly important factors that determine their choice of specific locations. Pedagogical factors and availability of cheap labor considered to be fairly to less important indicating that soils in Ethiopia are more or less suitable for production of floriculture and no as such significant differences in labor cost from place to place. The respondents feel that irrigation water, climatic conditions, and availability of land are priority factors, which stood from first to third in determining locations of their farm. Despite the existence of such resources as water, land and suitable growing climate in ample all over the country, most floriculture farms are located along main asphalt roads and concentrated around the capital city (average distance from Addis Ababa is 51 Kms).This shows that closeness to air port and availability of infrastructure are playing pivotal role in geographic spread or concentration of the industry.

3.2 The Floriculture Industries: A Global Commodity Chain Approach

3.2.1 Input-output Structure

As an element of global commodity chain approach, input-output structure identifies the types of inputs, products, production processes and actors involved in the production process and distribution networks. Under this section, major inputs used by the industry and their supply situation, out puts of the industry in terms of products including process of production and distribution, markets and distribution channels are dealt.

3.2.1.1 Inputs

Major inputs used by floriculture industry include planting materials/seeds and cuttings, different types of fertilizers, insecticides, fungicides, chemical for treatment, green house materials and equipments, trucks, irrigation materials and equipments, and packing materials. Most inputs are imported and few of them are available in the country.

Starting materials are the most important inputs required by the industry consuming the major part of initial investment in addition to green house and irrigation set-up. All of these inputs have been imported from abroad until recently. At the time of survey of this study, four newly established companies were found engaged in propagating planting materials and supplying for floriculture industries in the country as well as for export. Some farms propagate by their own and others either purchase from propagating companies or still import from abroad if varieties in need are not found in the country. Production of planting materials in the country is a good prospect for development of the industry; however, lack of breeding companies in the country constrained the activity since companies who are engaged in propagating starting materials are obliged to pay royalties for breeders in foreign currency.

Concerning packing materials, different factories are producing packaging materials designed for packaging floriculture products. These factories include Berguda, Golden Rose, Burayu Paper Factory, Wongi Paper Factory Ethiopia Pulp and Paper Factory, DA Packaging, and Kaliti Cartune. Despite the fact that there are many factories engaged in producing packaging materials, respondents reported that its quality especially strength and attractiveness are inherent problems. As a consequence, some of them are obliged to import this input.

Chemicals used by producers include fertilizers that include trace elements in addition to common fertilizer types (Urea, DAP and Potassium), insecticides, fungicides, nematocides and other preservatives to prolong vase-life of flowers after harvest. Most of these chemicals are imported from abroad. Adamitulu Agrochemicals plc is the only chemical factory producing some of such inputs and the major problems associated with the company are diseconomies of scale due to low level of demand/market in the country and lack of necessary raw materials.

Concerning inputs in general, locally available industries (importing companies) are oriented towards supplying general agricultural inputs while floriculture in nature requires cleaner and more soluble fertilizers, specific pesticides, and more sophisticated

packaging materials than existing industries can deliver. In this regard, the respondents reported that inputs supplied in the country are with low quality and not adequately supplied making them to rely on imported inputs, which is characterized by mounting prices that again increase production cost and deter their competitiveness in the international market. Though government at policy level allowed duty free import of such essential inputs including chemicals, lengthy processes to get license for each import from Crop Protection Department of Ministry of Agriculture and Federal Fertilizers Agency created problem in securing such inputs.

Table 3.6: Major problems related to securing inputs

Items	Levels							
	Most of the time		Some times		Occasionally		Not a problem	
	No	%	No	%	No	%	No	%
Low quality	1	8.30	6	50	5	41.70	-	-
Delay in supply	10	83.30	1	8.30	1	8.30	-	-
High price	4	33.30	6	50	2	16.70	-	-
Fluctuating price	7	58.30	4	33.30	1	8.30	-	-

Source: Field survey

The respondents were asked to forward their opinion how often they encounter the most possible problems in securing inputs used in the production. Consequently, as table 3.6 depicts, delay in supply and fluctuating prices (usually mounting) are the most prevailing problems faced frequently while high price and low quality of inputs are problems encountered some times. The general conclusion that can be drawn from this is that input supply system is not developed to the level that it well supports the industry and producers have no control over input supply system. Low level of development of input supply system coupled with lack of producers' control over inputs supply in terms of quality, consistence and volume, may put the industry at risk and dissuade its competitiveness.

Water: Availability and quality of irrigation water is paramount important for floriculture production and irrigation is perhaps the most important element of growing flowers. Water quality, irrigation techniques (overhead or drip irrigation), and drainage/run-off must all be managed correctly. Seven of the respondents in this regard, replied that they depend on borehole as source of water for irrigation whereas five use water from rivers. Almost all of the respondents use state of art drip irrigation technique, incorporating micro sprinklers during early period of seedbed. This shows production supported with irrigation technology with efficient system of water use with high resultant investment for installation, equipments, and fuel costs to run the scheme.

Protection: As regard to the protection mechanism employed to protect and control growing conditions, ten of the respondents replied that they are growing under green house while only two use open field in combination with green house. In general, Ethiopia is said to be the most favorable country for floriculture industry due to suitability of its climatic and environmental conditions. Nevertheless, despite these favorable growing conditions, most of growers are using under glass production methods because this allows them better control over daily (night-day) temperature fluctuations. It also helps to protect against adverse weather conditions such as frosts and storms, and plagues and diseases and thus ensures a better control of product quality, the attribute in determining their competitiveness. It also goes with the type of flowers to be produced. Cut flowers like roses are to be produced under green house, commonly called traditional green house products while cut flowers like Gypsophila and others (field flowers) are grown on the open fields.

3.2.1.2 Products

Production of floriculture comprises different types of flowers, plants and orchids, the most widely classifications are cut flowers, cut foliages, potted or ornamental plants, and production of planting materials. Out of the twelve respondents, ten produce cut flowers and two produce planting materials/cuttings (intermediary goods). None of them produce potted plants or cut foliage. Among cut flowers, 75 percent comprises roses and the rest

25 percent consists of different types of cut flowers like carnation, Hypericum, Lily, Gypsophila and Eryngium either in combination or as sole product. These products fall under the classification of classic (traditional green house) products such as Roses and Carnations, exotics like Lily and summer flowers like Gypsophila. No indigenous species of flowers found currently on production. As it was able to investigate by field survey, most of the farms produce classic or traditional green house products mainly different varieties of roses. Largest worldwide demand is for the classic flower varieties that are the most competitive product. Production of such a demanded product may offer a good market opportunity and increase the industry's competitiveness in the global market. However, over-emphasis on a few particular varieties could leave an industry vulnerable to sudden world demand changes. Literatures also indicate that the fastest international growth in sales is occurring in exotic or novelty flowers, including indigenous varieties.

3.2.1.3 Logistics/Cold Chain Management

In general, supply side cold chain components can be described as cooling facilities at production point, cooling facilities on the transportation from farm to airport, cold storage at airport and cold chamber in the airplane where the supply side cold chain ends up. Cut flowers are highly perishable products and are thus crucially dependent on efficient and speedy distribution channels and excellent cold-chain management systems so as to keep quality of flowers at required level and eventually get good price premium.

At the point of production, all farms have invested on the state of art methods of post harvest handling facilities that include cold room, hydro-cooling and grading equipments and halls. Post harvest activities include cutting flowers, put them in preservative solutions, transport to cold rooms where grading, sorting, punching, sleeving, draining and packing into final boxes take place. The respondents were asked to rate the conditions and adequacy of the cooling facilities at their farm. Out of the twelve respondents, ten of them replied that these facilities are excellent and two said they are very good. This shows they have made adequate investment on the facilities and management regarding post-harvest handlings.

Another component of the logistic/cold chain is means of the transportation from farm to airport and cold storage at airport. Having excellent cooling facilities only at the farm is not enough; cold system and general logistic at all points should equally be excellent in terms of keeping freshness of the products at required level, timing and carrying the required volume. The respondents asked to forward their opinions on the general efficiency of means of transportation and cold storage at airport in terms of holding the required volume/storage capacity, keeping quality of products at required level or maintaining the required temperature and timing and/or delivery of services.

Table 3.7: Conditions of cooling facilities on transportation to airport and at airport

	Items	Response	Means of transportation		Cold storage at air port	
1	↳ Capacity/volume		No	%	No	%
	⏱ Storage capacity	Excellent	2	16.70	-	-
		Adequate	10	83.30	8	66.70
		Moderate	-	-	2	16.70
		Inadequate	-	-	2	16.70
		Poor	-	-	-	-
		Total	12	100	12	100
2	Keeping quality of products at required level	Excellent	3	25	-	-
		Adequate	8	66.70	-	-
		Moderate	1	8.30	4	33.30
		Inadequate	-	-	7	58.30
		Poor	-	-	1	8.30
		Total	12	100	12	100
3	↳ Speed	Excellent	-	-	-	-
	⏱ Management and timely Delivery of service	Adequate	7	58.30	1	8.30
		Moderate	5	41.70	8	66.70
		Inadequate	-	-	3	25
		Poor	-	-	-	-
		Total	12	100	12	100

↳ = Means of transportation from farm to air port ⏱ = Cold storage at air port

Source: Field survey

Temperature and humidity controlled transportation is needed at all stages of the transportation process to ensure that the flowers arrive at their final destination in good condition. As table 3.7 above portrays, means of transportation from farm is adequate in terms of all parameters described in the table. All of the respondents have their own refrigerated trucks to transport their products, which are found in good conditions, according to the respondents. The problems related to this are bad road conditions from specific location of farms to asphalt roads, which deteriorates quality of products due to over movement and resultant mechanical damage and high cost incurred by investors who do not reach the scale of production that they use full capacity of the trucks.

Cold storage at airport is another part of the cold chain that should be managed to keep freshness of products till loaded onto airplane. Data in the table 4.3 reveals that unlike cooling facilities and logistic components at the farm and transportation from farm to airport, cold store at bole airport weighed moderate to inadequate on the scales (excellent to poor) provided to the respondents to rate for the important parameters like storage capacity, maintaining the required temperature and other qualities, management and delivery of service by the people in charge of handling it. Cooling store at airport is constructed by Ethiopian airlines to accommodate all perishables exported and transported by planes including fresh fruits, vegetables and other fresh products. All these products are stored together with the same level of temperature, humidity and compression though each product requires its own level. By keeping all the perishables together in one cold room, it is difficult to maintain compression, humidity and temperature level that required only by floriculture products. The respondents complain about this issue as far as cold room at airport is concerned. Moreover, the respondents rated the handling of this facility or in other words, service delivery to be moderate. In general the data from above table reveals that the condition of cold chain including handling and service delivery beyond the control of growers rates moderate to inadequate according to the opinions of the respondents while those facilities under their control found to be adequate in terms of the parameters listed in the table. Although growers made high investment on post-harvest handlings and logistics pertaining it, they may not

get sufficient return for that at end of the day unless equivalent investment is made in all parts of the chain and managed well.

Transportation/Air freight service: Transportation from producing country to destined country is the most important as well as decisive part of logistics in the floriculture trade. The fact that cut flowers are highly perishable products that need speedy and efficient means of transportation makes airfreight the only transportation option in the case of cross border trade like trade between Africa and Europe. Therefore, the availability of low-cost and high quality airfreight service between exporting country and country of destination is the major determinant of competitiveness and consequent success of the sending country.

Ethiopia has location advantage due to its close proximity to continental Europe, the major market for floriculture products, as compared to her fellow exporters in Sub-Saharan Africa. However, proximity to main consumer market is necessary condition, but not sufficient to be competitive. In Ethiopia Ethio-Horti-Share Company, established by floriculture exporters, is working as freight forwarder by chartering air cargo from Ethiopian airlines. Reliable, low-cost, and efficient freight service/cargo service is needed to be a successful supplier. Table 4.3 was meant to assess the view of respondents regarding the level of airfreight service made available to them.

Table 3.8 the condition of airfreight service

	Item	Levels	Responses	
			No	Percent
1	Flight frequency/timing	Excellent	-	-
		Adequate	2	16.70
		Moderate	6	50
		Inadequate	4	33.30
		Poor	-	-
		Total	12	100
2	Freight cost/charge	Excellent	-	-
		Adequate	1	8.30
		Moderate	6	50
		Inadequate	5	41.70
		Poor	-	-
		Total	12	100
3	Delivery of service	Excellent	-	-
		Adequate	6	50
		Moderate	4	33.30
		Inadequate	2	16.70
		Poor	-	-
		Total	12	100

Source: Field survey

Regarding frequency of flights, half of the respondents viewed that it is moderate and four of them said inadequate. Only two respondents said it is adequate. At the time of survey, an interview that was made with the general manager of the freight forwarding company revealed that the maximum flight per week is three charters while total volume per charter is 27 tons. Some exporters are using passengers' airplane to send their products. This shows that cargo service is not adequate either due to less frequent flight or limitation of cargo space per flight. As regard to freight rate or charge, table 3.8 reveals that half of the respondents said it is moderate while five of hem said it is inadequate. The respondents complained that freight rate has been fluctuating most often. According to one of the interviewee, average freight cost of using cargo service of Ethiopian airlines is estimated to be 30-40 percent of total cost at the destination country. In some African countries this cost could go up to 50 percent. As per the interview with

manager general of freight forwarding company and executive director of Ethiopian Horticulture Producers and Exporters Association, less frequent flight, fluctuating freight rates and cargo space limitation arise not only due to low level of efficiency and effectiveness of cargo service in the country but also due to lack of critical volume and limitation in production forecast and export plan well ahead of time from the side of exporters. Both officials said most exporters do not have export volume plan for more than a week. In general it can be said that Ethiopia has cost advantages as far as freight charge is concerned

3.2.1.4 Export and Distribution Channels

It was found that all floriculture producers considered in this study are both producers and exporters by themselves without middlemen or intermediaries in the country. Out of the total respondents, half of them export all of their products and the rest again export above 95 percent of their products to external market while only 1-5 percent of their products are sold in the local market. This shows that floriculture industry in Ethiopia is exclusively export/external market oriented implying lack of demand in the country.

As regard to destinations of the export, five firms export all of their products to Europe and the rest seven send .05-5 percent of their products to different regions such as USA, Russia, and Middle East (Dubai) in addition to their major market, Europe. Among the European countries, Netherlands and Germany take the lion's share while UK, Switzerland, Italy and Spain are other destiny countries. From this we can say Ethiopian producers targeted main consumer as well as highly sophisticated and developed market. Though targeting such lucrative market gives an opportunity, its requirements in terms of quality, consistency and other environmental and social requirements load heavy burden on producers. Flowers should be fresh as much as possible, should be clean, free from diseases, and undamaged. Quality also includes management quality or ability to supply steady volume, timorously, at an agreed upon rate, with excellently managed cold chain and other logistics. To respond to these requirements, producers need to invest in production, post-harvest handlings, quality management, and logistics. They have to also

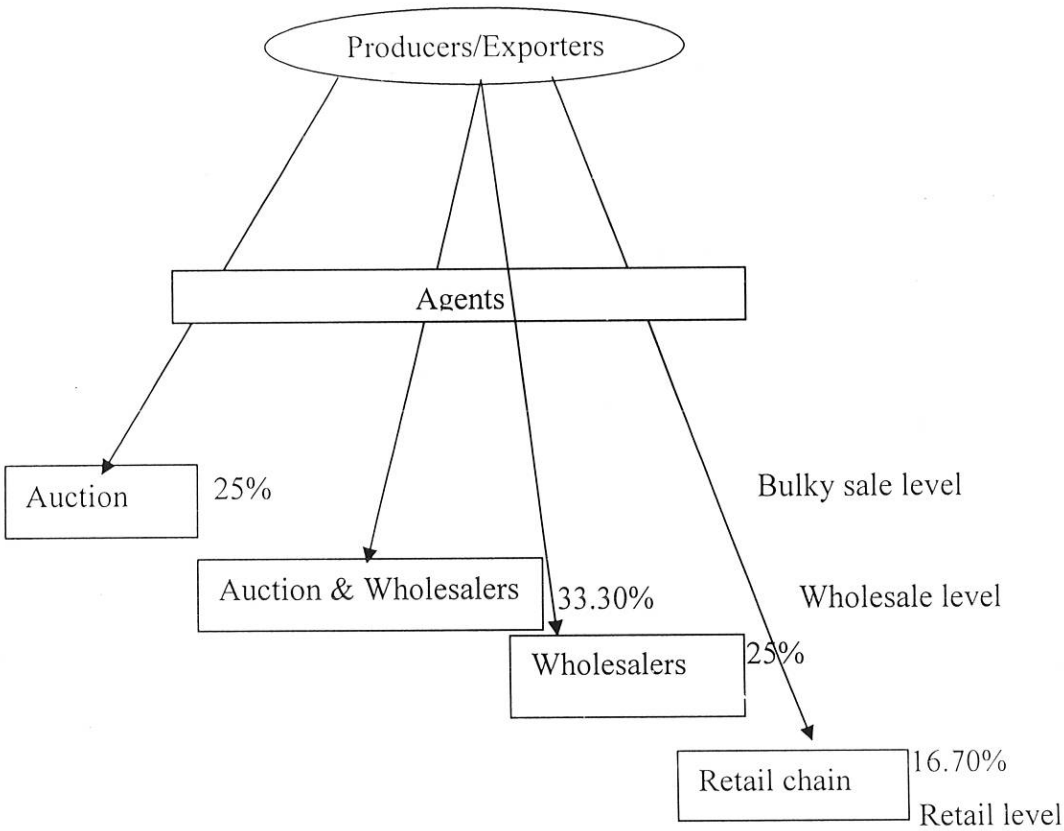
build up good reputation with their buyers. Moreover, input supply system, support institutions, and transportation should be well developed and efficient. Despite the fact that Ethiopian producers have made investment on production and post-harvest handlings including inland transportation, they are constrained by less development of input supply system, inadequate institutions, and limited capability to assume functions like marketing in the main consumer market. In addition to the above requirements, the buyers, especially at the retail level, require producers to be registered in and comply with bilateral/multilateral regulations, which are concerned with environmental regulations, employment situations and other social responsibilities. Most of producers in Ethiopia are not registered in programs concerned with these issues. That is why majority of them are selling at bulky sale level, mostly for auctions where the level of requirements is some what lesser.

Concerning distribution channels, the list of existing distribution channels in European floriculture trade was provided to the respondents to assess on which channels they relay and trends in using them. Commonly known distribution channels include auctions (mostly Dutch based), wholesalers, and retail chain. In all cases exporters from developing countries like Ethiopia use agents if they do not have representative there. This has been taken into consideration when list of options were provided to respondents. Accordingly, it was able to find that two companies export their products to a retail chain using agents, three companies send to auctions via agents, four sell parts of their products to auctions through agents and send the rest to wholesalers and the rest four firms use only wholesalers out of them two have import subsidiary near consumer market. Most started with Auctions via agents and later on started to use wholesalers and then retail chain. The reason they gave for changing distribution channels was to increase price premium which otherwise accrue to intermediaries like agents and auctions. As it can be seen from figure 3.1 below, vast majority of producers are selling at bulky sale level. This is due to the presence of such markets like auctions as an option for producers who lack capability to get into more demanding chains such a retail chain. Producers produce standard products like roses and accept the set prices at this level. However, producers claim that price is quite lower as compared to other chains.

Agents remained the connective mechanisms between producers and auctions, wholesalers and even retail chain except two companies, which have import subsidiary there. In addition to their receiving, handling and transfer of products to buyers, agents provide market and product information, provide consultancy services, thus filling the gap that local producers are lacking (in fact with high commission premium that otherwise accrues to producers). Agents transmit information from buyers such as auctions, wholesalers, and retailers, lead firms.

Those producers, who have targeted the retail chain, sale their products to supermarkets in the UK and Switzerland. Supper markets want to buy directly from capable producers through long-term contracts at an agreed price. The respondents, who are selling to retail chain, reported that supermarkets are concerned about the conditions under which flowers are grown. They want to trace back any problem related to products to growers. In order to get into supermarket chain, producers need to make high investment on production, post-harvest facilities and logistics. They should also build relationship and good reputation with their respective buyers. In this regard, it was able to identify that only foreign firms and those owned by joint venture are making a direct sale, retail level, while inexperienced Ethiopian producers depend mostly on auctions. From this, it can be said that only few producers entered into the most profitable chain, retail chain though the impact of entering into such a profitable as well as the most demanding chain needs further investigation.

Figure 3.1 Distribution Channels for Ethiopian floriculture producers



Source: Constructed based on own survey.

3.2.2 Critical Success Factors

Table 3.9 Rank orders of critical success factors

Critical success factors	Responses	
	Mean*	Rank**
Price of the product	2.83	3
Quality of the product	1.00	1
Volume of supply	5.66	6
Consistency in quality	2.58	2
Consistency in timing	5.50	5
Consistency in volume	8.00	8
Types of input used in the production process	9.00	9
Type of processes/technologies used in the production	9.75	10
Logistics	3.58	4
the way flowers are packaged	6.92	7
Innovation	11.00	11

* Mean of ranks given by each respondent. ** Order of importance (1, 2, 3....)

Source: Field survey

Table 3.9 was meant to assess the respondents view on most critical success factors in competing in the global market. The respondents were provided with most factors listed in the above table. As can be seen from the table, critical success factors comprise quality of the product, consistency in quality, price of the product, logistics of supply, consistency in timing, packaging etc. according to their rank order. The most critical success factors are related to quality, consistency and reliability in supply. Here it seems that the competitive pillars of the Ethiopian floriculture producers and exporters rest mainly on the supply of required quality on the consistent basis with well developed and secured logistics though supplying at low price is still important. It was also found that buyers set quality standards for the products. If quality is low/not to the required level, those who use auction as distribution channel replied that their products would be dumped and those who export directly answered that they will loose their trade partners.

Strict requirements like quality, consistence in quality, volume, and timing by European buyers obviously influenced structure and nature of industry in the country. To be qualified in such a situation Producers must made high investment on production, post harvest and transportation facilities. Only large-scale producers do this while small and medium farmers being structurally excluded from the industry.

3.2.3 Governance Structure

Global value chain analysis and governance therein emerged out of recognition of the role of global buyers in creating global production and marketing networks. In buyer-driven chains, large retailers or brand name companies determine how geographically dispersed production and distribution systems operate without necessarily owning manufacturing or distribution facilities. Similarly, as literature shows, in horticulture trade buyers such as wholesalers and retailers in Europe exercise a degree of control over what happens in different nodes of value chains connecting developing countries, but they take ownership of the products when it arrives in their distribution centers. The major decisions in any production system are:

- What is to be produced that refers the characteristics of products: in floriculture, product characteristics include types of species or variety of flowers, stem length, color intensity, number of buds, number of stems per kilo of flowers etc.
- How it is to be produced, definition of production process: again in floriculture production process includes types of technology and input including chemicals and fertilizers, quality management system at production, post harvest and transportation, management and handling of workers, environmental standards like use of chemicals, waste management and disposal.

In addition to the above decisions, how much and when to deliver is another important issue especially in perishables like flowers due to task complexity and time pressure.

One way of organizing a value chain by global buyers would be determination or setting parameters regarding the preceding issues. It was able to identify that characteristics of

the products produced and exported by the Ethiopian floriculture industry are mainly determined by their respective buyers such as auction centers, wholesalers and supper markets, though the degree and context vary from one to the other. Auctions develop their own standards, of course that is common to all suppliers and check compliance on the arrivals of the products. Regarding process of production they occasionally or rarely request certificates or send their agents to visit suppliers' farm if the supplier is big enough and has long contract with an auction. Concerning the logistics, auctions receive the entire amount sent to them provided that quality of product is as required. In this case, producers take prices determined at the auction centers. The markup of auctions told to be high as compared to wholesalers and retail chain. As a consequence producers who depend on auctions get less price premium than others.

Wholesalers make an agreement with exporters regarding type of flowers and tell the producer on characteristics of products and production process that they require interpreting their respective customers such as supermarkets, florists, garden centers and others. Ethiopian producers, which are sending to wholesalers mainly in Germany, receive information in all aspects of product and they mainly determine the type of process that they use in the production. Logistics that is how much and when to deliver are determined by both parties depending on amount of order by wholesaler and capacity of producer.

As far as retail chain is concerned the case is different that two producers who are supplying to supermarkets in the UK deliver their products on the basis of standing order agreement. Supermarkets specify every thing that they need: type flowers including detail characteristics, ways of packaging and concerned about production process like type of chemicals and other inputs, storage and use of chemicals including pesticides, waste management and disposal, handling and management of workers. As regard to logistics, producers enter into agreement to deliver steady volume over the agreed period of time. Supermarkets are explicitly coordinating the activities actors, who already entered their chain.

typical type of governance than market that supply and demand determines price and producers get return thereof. The case is the same in wholesale market that wholesalers determine the above parameters by interpreting requirements of buyers such as florists, supermarkets, garden centers etc. They purchase flowers from all over the world on arms-length basis and have no explicit sourcing strategies. In both cases, auctions and wholesalers, agents play pivotal role in connecting producers and buyers, transmitting requirements of buyers, advising producers to comply with those requirements and they are responsible for coordination of sourcing, control of logistics and product processing (preparing bouquets) making contract Ethiopian producers.

When it comes to a direct sale, the case is different that buyers have exclusive sourcing strategies to enhance their competitive positions by keeping high turnover rate, fresh without keeping the store, complete assortment, added value anticipating the emotions, lifestyle, trends etc, indisputable quality and guaranteed vase-life and private label (reflecting store image). A competitive strategy based on these attributes, in itself, place increased demand on the supply chain. In addition, supermarkets have come under pressure from governments and that gained increased importance in the minds of consumer to insure that their production systems are socially and environmentally sound. As the result retailers developed their own standards regarding safety of workers and environment that their suppliers should comply with. Unlike auctions supermarkets do not check whether all the requirements and standards are complied with on arrival of flowers to their store. Errors or mistakes should be traced back to the farm and systems are developed to do so. As the result supermarkets make purchasing agreements with suppliers on annual or long term contract. They also coordinate explicitly the chain by setting parameters, devising mechanisms to transmit their requirements and enforcing compliance. This is because of the presence of such parameters like vase-life and conditions on which flowers are produced in relation to labor and environmental standards. Therefore, standing order relationship and reputation are very importantbetween them and producers, they also source from large and capable producers, who can supply steady volume with agreed up on and some times added quality on continues basis. Producers were subject to audit from agents regarding their

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production and post-harvest facilities, logistics, management systems to insure quality and other labor and environmental standards as preconditions to enter into retail chain. Supermarkets also monitor the performance of floriculture producers in Ethiopia against their standards and requirements through hired consultants or agents. They also assist producers to met the standards and improve their overall production, logistics and management system so as to improve out put of the chain. Assistance comes in the form of training, consultancy and information provision. Producers who are selling to supermarkets chain said that they have to supply meeting the exact requirements of their buyers, steady volume with consistent as well as improved quality on timely basis. They have to also prepare bouquets mixing different varieties of flowers and demonstrate quality packaging. Moreover, producers should made high investment to insure all the requirements and conditions are met. This is only possible by large and capable producers while inexperienced and incapable firms depend on auctions. It was able to find that only one foreign firm and the other owned by joint venture are able to enter into a retail chain from Ethiopian floriculture producers.

From this, it can be said that floriculture chain connecting Ethiopian producers and European retail chain is exclusively coordinated by buyers, where supermarkets exercise high degree of control over the supply chain consisting Ethiopian producers. Unlike auctions and wholesalers where coordination and governance therein is implicit, supermarkets' chain is explicitly coordinated.

In the preceding discussions, it is shown that buyers mainly set parameters about the product, process and logistics though the degree of parameters setting and coordination differs among auctions, wholesalers and supermarkets. If specifications of product, process and logistics parameters require coordination, then what form or structure could it take structure of governance? The flowing section discusses this issue.

Structures	All of the time	Most of the time	A good bit of the time	Some of the time	Hardly ever	Never	Types of chains	Complexity of transactions	Codification of transactions	Supply chain Capability	Degree of explicit coordination and power asymmetry
	No	No	No	No	No	No					
Dou you export to the same party repeatedly?	2	8	2	-	-	-	Market	Low	High	High	Low
Is the cost to switch trade partners low?	-	3	5	3	1	-					
Do you supply your products according to the customer's specification?	4	7	1	-	-	-	Modular	High	High	High	
Do the importers/buyers monitor and control your production?	-	-	1	6	5	-					
Are you and your trade partner dependent on each other?	-	3	7	2	-	-	Relational	High	Low	High	
Are you dependent on large buyers?	-	-	5	2	2	3	Captive	High	High	Low	High
Are you vertically integrated into a chain?	1	-	-	-	5	6	Hierarchy	High	Low	Low	

Table 3.10: Governance structure

Source: Combined, field survey and Gereffi et al. 2003

A series of questions, which are listed in the table 3.10, were designed to assess the structure of governance and to evaluate the Ethiopian floriculture chain in the light of five elements of governance developed by Gereffi. As can be seen from empirical data, two forms of governance structures are more visible in Ethiopian floriculture chain, market and modular value chains.

The majorities of respondents export to the same party repeatedly most of the time and find that the cost involved to switch trade partner is low a good bit of the time. This is characteristics of market governance where transactional relationship between sellers and buyers could persist over time, with repeated transactions. The essential point is that the cost to switch trade partner is low for both parties. Similarly, Ethiopian floriculture producers repeatedly sale to auctions and wholesalers, but there is no asset specific investment between producers and buyers that auctions can by supplied flowers from allover the world and Ethiopian producers can send to different auctions or wholesalers at different countries. Therefore, there is low degree of explicit coordination in the chain.

Again most of respondents supply their products according to customers' specifications. In other words, a form of modular governance structure exists in Ethiopian floriculture chain. In modular value chain, producers made their products according to their customers' specification, but they limit asset specificity and cost to switch trade partner by using generic machinery. In Floriculture, producers exactly produce to customers' specification, for example, different attributes of flowers like stem length, bud number, color intensity, number of stems per kilo, packaging all done according to specifications of buyers. However, unlike industrial products producers do not use generic machinery for flexible production. Floriculture producers limit asset specificity and achieve flexibility by producing such standard products like roses that all the attributes required by major buyers are specified by auction centers. Standards of auctions for some rose varieties unified product and process specifications and reduced asset specificity and then explicit coordination where the cost to switch trade partners still remains low.

Majority of producers responded that buyers monitor and control their production only some times or occasionally and they feel that they depend on large buyers only to some existent. This shows that there is little element of relational value chain in Ethiopian floriculture industry. Here, buyers specifications are not general, transactions are complex, producers are capable of producing specified products, and there is asset specificity between buyers and producers that they face significant cost to switch trade partners. This is some what visible in the case of the chain containing Ethiopian producers and supermarkets. Relatively lesser dependence exists between the respondents and their trade partners, which indicates that there is very lesser degree of captivity between Ethiopian floriculture producers and their respective buyers. And finally, most of them are not vertically integrated into a chain. That means they are not a part of organization where managerial control flows from head quarters to subsidiaries. Therefore, there is no hierarchy form of governance structure. In light of these findings, the market appears to be the main governing body in the Ethiopian floriculture chains, with the parties in the chain to a lesser extent.

From this and the preceding discussions under governance, it can be deduced that despite the fact that floriculture trade in the main consumer market is being changed to complete market portfolio characterized by standing order market and buyers coordinate supply chain particularly in Africa, Ethiopian floriculture industry has not entered yet into such explicitly coordinated global floriculture chain, a retail chain. In fact there is implicit governance stemming from high requirements by buyers at all three levels (auctions, wholesalers and supermarkets) in terms of quality, variety to be produced, and consistence in quality and timing all loading heavy burden on producers in the country and made them invest in production, handling and transportation facilities. Buyers are determining varieties to be produced including different attributes of flowers, production process and logistics. This actually determines structure of the industry in the country. First, to meet the requirements mentioned producers should made optimal investment on the production, post-harvest handlings and transportation. This can be achieved only by

large scale producers with high amount of capital and adequate knowledge. Second, to insure quality, consistence and timing, producers must control important components of supply chain such as production, logistics and exporting itself without middlemen in the country. Only large-scale producers again can do this. Therefore, it can be reasonably said that global set-up of floriculture chain and implicit governance in it promoted large-scale production and created barrier for participation of small and medium producers/farmers in the global market. Availability half net work or standard markets like auction provided an opportunity for inexperienced and incapable domestic producers who can not penetrate such demanding chains like supermarkets, to participate in international market.

3.2.4 Barriers to Entry

Table 3.11: The status of respondents as regard to registration in different programs

Items	Responses							
	Compulsory		Optional		Not necessary		Not Known	
	No	(%)	No	%	No	%	No	%
EUREP-GAP(European Good Agricultural Practice)	-	-	2	16.70	4	33.30	6	50
MPS(The Milieu Project Sierteelt), Environmental program	2	16.70	3	25	4	33.30	3	25
Florimark production	-	-	1	8.30	6	50	5	41.70
FFP	-	-	2	16.70	7	58.30	3	25

Source: own survey

The relation between suppliers and buyers of horticulture product in general and that of floriculture in particular is becoming more and more formalized. Due to increased pressures from governments and NGOs as well as increased consciousness of consumers concerning quality, safety, labor and environment during production, European buyers, especially retailers are adopting different standards as their performance criteria for selecting suppliers and set mechanism to insure these requirements are met. One mechanism is demanding certificates from known certifying agencies or programs most of which are based in Europe. Table 3.11 above treats, therefore, this issue and meant to make a brief assessment on how standards and regulations related to environment, labour, and also quality are viewed by Ethiopian floriculture producers. The listed programs are widely known and adopted by European horticulture market especially at retail level including floriculture traders. As it can be easily understood from table above, most of the respondents were found not registered in any of these programs due to either they are not aware of them or/and their respective buyers do not force them to be certified by those programs. Only few of them replied some of the programs are compulsory or optional to supply to European market. It was also found that those producers registered in the above programs are subject to inspection and audit from the agencies which offer certificate only occasionally that means there is no strong inspection and audit except strong phytosanitary inspection. It was also found that there is no local code of practice and resultant labeling developed for Ethiopian floriculture sector in relation to environment, safety of workers and quality of products except general proclamations and laws regarding environment and labor.

Not registering in or ignoring these requirements/licenses to produce and deliver will substantially decrease market penetration opportunities especially the most profitable chain is not easy to penetrate. From this, it can be reasonably said that in general Ethiopian floriculture supply chain does not fit into portfolio-based standing order market characterized by traceable truck records and certificates. It seems that they could fall under producers with basically viable production facilities distant from consumer markets that are practicing opportunistic sales by direct sales to larger and smaller regional wholesalers in the EU according to the World Bank classifications. Lack of codes of

practice in the country particularly concerning environment and related issues like use of chemicals and safety of workers primarily could hurt industry it self. This could be explained in two ways. In the first place as issues related to environment and social responsibility are becoming competitive strategies in the main consumer market, lack of known local labeling and certification hamper competitiveness or leads to incur high cost to get certificate from international agencies whenever it become compulsory. In the second place, lack of local standard might lead to exporting undesirable products by some exporters that may lead to bad image and reputation by European traders. Secondly, some irresponsible producers may cause damage on the surrounding environment and natural resources that compromise the life of present as well as future generation. In fact the impact of industry on the environment including social responsibility is to be researched yet.

3.2.5 Upgrading in the Chain

In light of buyers' requirements regarding quality, consistency, and other environmental and social issues in the European market, floriculture growers in Ethiopia should upgrade on continues basis to enter into more profitable chains or secure their present position in the chain. In this section the upgrading opportunities and capabilities of the respondents were assessed based on three main upgrading forms of global commodity chain such as product, processes and functional upgrading.

Most of the respondents (ten of them) produce products that their respective buyers add value to them before final consumption that means they are not end user's products. Activities performed by buyers concerning products include packaging, marketing/advertisings, coordinating logistics and preparing mixed bouquets (especially arranged bunch of different flowers). This shows there is room for producers to add value to their products without going into new products. All of the respondents feel that they have been upgrading their products since they started export to global market.

Table 3.12 Product upgrading activities

Items	All of the time		Most of the time		Some times		Never	
	No	%	No	%	No	%	No	%
I developed my own/new variety	-	-	-	-	1	8.30	11	91.70
I started to produce more demanded verity	-	-	2	16.70	7	58.30	3	25
I added quality required by changing size, color, or shape	5	41.70	6	50	1	8.30	-	-
I added value by changing the way flowers are packed	1	8.30	5	41.70	6	50	2	16.70
I prolonged its vase-life using some technologies			2	16.70	6	50	4	33.30

Source: Field data

In the table 3.12 above, it was able to assess the product upgrading profile of the respondents in view of items listed in the table. The result in the table reveals that most upgrading activities are related to adding quality or characters on the products through adjusting physical characteristics of flowers (mainly size of stems and color intensity of petals/sepals), improving packaging and searching for more demanded varieties mostly roses varieties. Producers do these activities in response to strong requirements of buyers. Basically product upgrading refers to moving into more sophisticated product line, with better quality, lower price; more differentiated, as well as shorter time to market; all ultimately increase unit value. In floriculture sector, this implies entering into the production of specialty flowers, which fetch higher prices. This type of product upgrading is not visible in Ethiopian floriculture industry; majority of the buyers produce standard products like roses. All respondents reported that they have shortened the time that it takes for their products to reach point of final sale after harvest. Respondents also view that problems impeding them to upgrade their products especially by innovation

include limitation of knowledge and finance, lack of infrastructure and technology required in the country, and limited information on the consumers' preferences.

Table 3.13: Process upgrading

Items	All of the time		Mostly		Some times		Never	
	No	%	No	%	No	%	No	%
Introduce new machinery/equipment	4	33.30	6	50.00	2	16.70	-	-
Employ new technology to control quality	1	8.30	4	33.30	5	41.70	2	16.70
Introduce new management system	-	-	3	25.00	6	50.00	3	25.00

Source: Field data

Process upgrading has to do with efficiency in the production and distribution systems. In the horticulture sector, it includes systems integrated to ensure quality, safe production in terms of environment and labour. As table 3.13 portrays, respondents introduced new machinery or equipment. They also employed new technologies to control quality but they worked less on introducing new management and information system that is vital to improve the whole production and distribution systems. Demand and pressure of buyers, in addition to product upgrading, calls for process upgrading at the supply basis that producers should consider the adoption of rules and regulations set at the main market. These are different social and environmental standards to be followed in the production and distribution processes. This type of process upgrading should be demonstrated through registration in and getting certificates from concerned agencies. However, it was found that Ethiopian producers have gone little in this regard.

Another issue of upgrading is functional upgrading that makes the firms assume new functions in the chain that was previously performed by other chain actors. As it has been

mentioned in product upgrading section, there are ample functions in the chain but not performed by producers giving opportunity to upgrade provided that they develop capability and competence. It was found that producers made an attempt to move both backwards and forewords in the chain. Some of the respondents expanded to backward linkages to exert control over important inputs. For example, they started to produce planting materials and fabricate packaging materials. This is to insure quality and continuity of inputs that in turn help control quality and consistency of their products as required by their buyers. On the other hand, producers have gone somewhat forward to control logistics. They have jointly established freight forwarding Share Company, Ethio-Horti-Share, which is working with Ethiopian airlines by chartering cargo and negotiating charge rates and arranging cargo services on behalf of the producers. By doing so the floriculture companies are able to partly control the supply side logistics arrangement that helps them to enhance reliability and consistency of supply. On marketing and logistics functions, it was able to find that Ethiopian producers are at different level of capability. Those producers who have entered into retail chain have assumed new functions like marketing and oversea logistics. These firms are owned by foreign investors entirely or in part as a joint venture so that they have finical, organizational and skill capabilities to assume marketing functions like promotion, participating in trade fairs and exhibitions, and advertising. They have also their own agents to facilitate logistics near the consumer market. On the other hand, inexperienced and incapable domestic floriculture firms are locked into half net-work channels such as auctions via agents with limited market information and less financial as well as organizational capacity to assume new functions.

In general upgrading, be it product, process or functional, is the result of research and innovation. In such fiercely competitive industry, producers need to invest in research and development to upgrade their position or/and secure their present position. However, it was able to find from the empirical study that respondents have gone little in doing so. Despite the fact that majority of the respondents perceive research and innovation is very important for the competitiveness of floriculture industry, results in the table 3.14 revealed that their competitive advantages are based more on natural factors than research and innovation.

Table 4.14: Rank order of competitive advantages

No	Items	Rank
1	Low price that emanates from relatively low cost for basic factors such as land, labour, etc.	1
2	Innovation/research and development	6
3	The relation that you established with your buyers	5
4	Quality due to suitability of growing environment	2
5	Government incentives and security	4
6	Duty free import by EU countries	3

Source: Field survey

It was noted that most of the respondents have been involving in the global market for less than five years that they have not net developed sufficient experience to innovate and explore all possibilities to upgrade their products, processes, or functions except few foreign firms (who were operating elsewhere). Therefore, it can be concluded from this that with present level of capability Ethiopian floriculture industry continue to grow in size and supply world market as long as there is demand in such markets and of course cheap labor, land and climatic conditions in the country. Therein lays Ethiopia's competitive advantage. To enter into more profitable chains such as supermarket chain, producers must innovate; invest on research and development so as to keep upgrading on continuous basis.

3.2.6 Infrastructure and Institutional Frame Work

Table 3.15: the availability and adequacy of infrastructure and services in the country

Items	Levels of responses									
	More than enough		Adequate		Some what adequate		Inadequate		Poor	
	No	%	No	%	No	%	No	%	No	%
Road	-	-	2	16.70	5	41.70	4	33.30	1	8.30
Telecommunication	-	-	2	16.70	4	33.30	4	33.30	2	16.70
Power/electricity	-	-	6	50.00	3	25.00	3	25.00	-	-
Customs/clearance services	-	-	2	16.70	6	50.00	3	25.00	1	8.30
Availability of institutions that support you	-	-	-	-	-	-	6	50	6	50

Source: Drawn based on field data

This section of the paper was designed to assess the views and opinions of respondents in relation to issues such as infrastructure and service that support floriculture industry and institutions. Each of them were analyzed and discussed as follows.

Regarding infrastructure and services, road, electricity/power, telecommunication, and customs and clearance services are thought to be vital for operation of the industry. Therefore, the views of the respondents were assessed concerning the level of availability of these infrastructure and services. The respondents viewed that road situation is some what adequate. It was found through interviews and data obtained from government offices that most floriculture farm are located along major asphalt roads from Addis to regional cities, which are in a good conditions. However, most of roads, which connect farms to main asphalt roads, are in difficult situations, especially during rainy seasons. This causes mechanical/physical damage on flowers during transportation. This again has great impact on quality level and eventually prices they get on final market.

Telecommunication is another important infrastructure needed by floriculture growers. Exporters must frequently communicate with their trade partners to get market information and to arrange logistics. Market information is also critically important to be competitive since floriculture is rapidly changing sector. Hence, access to means of communication is paramount importance. It was found that half of the respondents viewed telecommunication service is not adequate. The problems mentioned by the respondents include particularly poor service of mobile telephone and Internet.

Power is also important infrastructure and found to be better as compared to telecommunication. Power supply should be continues so as to keep farm-cooling facilities always functional. However, frequent power failure is the major problem and respondents use their own generators to supplement it. This increases production cost and may deter their competitiveness as they expend high amount of many for fuel.

As part of an institutional framework laws and regulations surrounding the industry are vital for the flourishing as well as development of a given industry. Here the purpose was not to discuss policy environment in detail but to obtain the views of respondents regarding regulatory environment as an institutional factor impeding or encouraging the development of floriculture industry. Accordingly, the respondents were asked about situations of laws and regulations that govern private investment in general and floriculture industry in particular. Eight of the respondents feel that they are encouraging and workable while two said highly encouraging and others two on the contrary said somewhat obstacles. This shows the policy environment related to floriculture industry is at least not impeding if not highly encouraging. These rules and regulations are related to general investment guide that includes incentives for investors regarding import of capital goods and other necessary inputs, tax related issues, land lease policy, etc.

Institutions provide support to the industry especially in business support, training, consultancy, and research areas are very limited and most of them use private foreign and

capable floriculture enterprises to get services like research, management consulting, skill training for workers and technology improvement on payment.

Although, labour is available in ample and cheap in Ethiopia, skills required, for example, in green house installation and construction, modern flower production techniques and agronomy, overall production and logistics managements are deficient in the country. Institutions, which give trainings in these regards, are also limited. Agricultural colleges and universities are offering general trainings in agronomy or horticulture, but as per executive director of EHPEA and producers themselves, students graduated from those institutions lack practical knowledge in floriculture production that entails inexistence of demonstration and practicum on floriculture production, protection and management in curriculums. Moreover, there are no consulting firms or institutions, which give short-term trainings and technical support in the sector. Agricultural research institutions are also lagging much behind as far as floriculture is concerned. Existing research centers are oriented towards cereal or pulse production and few of them work on fruits and vegetables, but none of them conduct research on floriculture. As a result, producers are obliged to use some expatriate technicians and foreign consultants with high payments that eventually affect their competitiveness by increasing production cost.

Producers also complain about financial institutions, which are providing loans. Development Bank of Ethiopia is the major source of loans for producers engaged in floriculture industry. The lengthy procedure and processes to get loan is main source of complain by producers. Development Bank provides loans on installment basis where by it monitors the performance and progress of the previous installment before it provides any next installment. This is time taking procedure and if the producers want to start construction until they get approval form the bank, the bank, according to its regulations, does not allow them to assume construction and made any investment related to that project.

Proper organization of the industry itself is paramount importance for the development of the sector in the country. Ethiopian Horticulture producers and Exporters Association is

the only organization established by horticulture producers and exporters including those engaged in production and export of vegetables and fruits with the main objective of supporting the sector. EHPEA is providing limited to member producers and exporters like representing them on national and international workshops, trade fairs, exhibitions, and other issues related to the sector. It also lobbies government for appropriate policies and actions on behalf of producers. Current market information is vital for floriculture exporters, as it provides insight into the products, varieties in demand, consumption patterns, prices, and marketing strategies. In other words, exporters and producers will be able to know trends of the changing requirements of the consumers. It was found that the majority of respondents view current market information as an essential aspect of their competitiveness (six said highly important and five of them said important). Among the sources that they use to get market information, electronic database found to be the popular among all respondents. They get market information through agents, personal visits to international trade fairs; EHPEA also provides domestic investors on market situation important websites and assist to participate on trade fairs. In addition, all exporters have integrated electronic database that enhance their competitiveness, but the level of Internet service is not as such satisfactory. On the other hand, it is not known that whether Ethiopian floriculture industry receive adequate market information and determine consumers' preferences. However, half of the respondents replied that they use the market information obtained to adjust their products to demands of current market proactively. These adjustments include changing stem lengths, changing way of packaging, etc. Dependency of many producers on auction also shows that the limited market information on other channels of distribution. As interview with executive director of EHPEA revealed, Ethiopian producers (mainly domestic investors) do make visit to trade fairs and other market places in the consumer market. This is due to either they do not have financial capability to pay such trips or they do not want to make such a significant expenditures today anticipating future benefits. As a consequence, they relay on few known agents for market information and bulk level of sale. Form this, it seems that one of the EHPEA's priority areas to support the growers is providing market information and devising mechanisms through which local growers can access market information on continues basis. However, with its limited capacity in terms of manpower,

finance and logistics; it cannot provide required market information. Moreover, it cannot provide capable services and technical support in the production, protection and overall management to improve the existing constraints.

CHAPTER FOUR

Summary, Conclusion and Recommendations

4.1 Summary of the Study

The main objective of this study was to explore challenges and opportunities of the Ethiopian floriculture industry in the global floriculture chain by describing the structure of the chain, assess governance structure and upgrading response by producers in light of requirements of global buyers. Basic questions, which were posed, were:

1. How the floriculture chain is structured?
2. Which actors defined what the chain requires?
3. How the governance structure of the chain is affecting structure of the industry in Ethiopia?
4. To what extent has Ethiopian floriculture industry shown the capacity to upgrade their products and operations?

Questionnaire method was selected as a tool to collect data form seventeen floriculture firms, which started exporting to global market before 2006. Out of that twelve firms filled and returned the questionnaires representing 70.60 percent of response. On top of this, interview was conducted with relevant people from institutions and review of related documents was done to collect additional qualitative information.

Input supply system is assumed to be a base of commodity chain particularly at supply side. Most inputs used in the floriculture production in Ethiopia are imported and few of them are available in the country. Concerning inputs in general, locally available industries (importing companies) are oriented towards supplying general agricultural inputs while floriculture in nature requires cleaner and more soluble fertilizers, specific pesticides, and more sophisticated packaging materials than existing industries can deliver. In this regard, the respondents reported that inputs supplied in the country were with low quality and not adequately supplied making them to rely on imported inputs, which has been characterized by mounting prices that again increase production cost and

deter their competitiveness in the international market. Delay in supply, high price and low quality, and fluctuating prices (usually mounting) are the most prevailing problems faced by producers as far as input supply is concerned. It was also found that floriculture production in Ethiopia is supported by irrigation technology and under green-house production implying high investment by producers to control production environment.

Another important part of commodity chain considered in this study is cold chain and logistics that include cooling facilities at production point, cooling facilities on the transportation from farm to airport, cold storage at airport and cold chamber in the airplane. All farms have invested on the state of art methods of post harvest handling facilities that include cold room, hydro cooling and grading equipments, and refrigerated trucks to transport flowers from farm to airport. The majority of respondents viewed these facilities are excellent or very good. This shows that they have made adequate investment on the facilities and management regarding post-harvest handlings. Unlike cooling facilities and logistic components at the farm and transportation from farm to airport, cold store at bole airport weighed moderate to inadequate on the scales (excellent to poor), which were provided to the respondents. As regard to freight service, data from respondents and interview with relevant people revealed that cargo service was not adequate either due to less frequent flight or limitation of cargo space per flight. Lack of critical volume and limitation in production forecast and export plan by producers were problems associated with air cargo.

It was found that all floriculture producers considered in this study were both producers and exporters by themselves without middlemen or intermediaries in the country. As regard to destinations of the export, Europe is the main destination while small amount of the export is destined to USA and Middle East (Dubai). Majority of the exporters targeted auctions and wholesalers while only two companies are sending their products to a retail chain. Those who have entered a retail chain had started with Auctions via agents and later on started to use wholesalers and then retail chain.

In global value chains like horticulture chain, governance arises from the recognition of role of global buyers in organizing and coordinating supply chain by exercising control over all facets of production and distribution systems. In Ethiopian floriculture chain, it was found that buyers set parameters regarding product, production and logistics through out the chain. Their power is mainly emanates from the understanding of consumer demand and holding market infrastructure as well as logistics built overtime as compared to producers. As to who plays the lead role, the degree of control and coordination of chain activities differs among auctions, wholesalers and retail chain. In the case of auctions and wholesalers, where the majority of Ethiopian producers are selling, there is no explicit coordination of chain activities by buyers. Auctions and wholesalers receive flowers from allover the world and have no specific sourcing strategies and standards only for Ethiopian producers. They have developed general standards for each species of flowers that they receive. In this case, market seems main governing body of the chain. This is because there is no asset specific investment between Ethiopian floriculture producers and their respective buyers while the cost to switch trade partners remains relatively low. On the other hand, for those who entered into retail chain, supermarkets exercise a high degree of control in determining what is happened in the up stream of the chain. The relation between suppliers and supermarket is so tie that producers should comply with a number of requirements like supplying steady volume, right variety, different attributes of quality, improved and value added packaging, control of logistics, and other social and environmental standards. As a consequence only two companies owned by foreigners as sole and jointly with Ethiopians, are able to penetrate this chain while majority of domestic suppliers depend on auctions. From this, it can be reasonably said that in general Ethiopian floriculture supply chain does not fit into portfolio-based standing order market characterized by contracts and explicit coordination by buyers.

Upgrading around the product were found to be limited to activities such as adding quality or characters on the products through adjusting physical characteristics of flowers (mainly size of stems and color intensity of petals/sepals), improving packaging and searching for more demanded varieties mostly roses varieties. Again process upgrading was confined to introducing some new machineries and equipments to improve production and control quality. Functionally, it was found that producers made an attempt to move both backwards and forewords in the chain. For example, they started to produce planting materials and fabricate packaging materials to insure quality and continuity of inputs that in turn help control quality and consistency of their products. On the other hand, producers have gone somewhat forward to control logistics. They have jointly established freight forwarding Share Company. Ethiopian floriculture firms are at different level of capability as far as functional upgrading is concerned. Those foreign origin and join venture firms are able to assume new functions on the areas of marketing and logistics as compared to inexperienced and incapable domestic floriculture firms. This enabled them to enter into more demanding and profitable chain, a retail chain. Though research and innovations are the key determinants of upgrading, natural or basic production factors were found to be the sole competitive advantage of Ethiopian floriculture industry.

4.2 Conclusion

Major findings were discussed under input-output structure, governance structure, institutional framework, and upgrading. In light of these findings, the following conclusion was drawn.

- To have strong supply base of a given global commodity chain, input supply system should be well developed at the up stream of the chain. However, this was not found to be the case in Ethiopian floriculture chain. Input supply system is not developed yet to the level that it insures consistent supply in quality and volume with at least predictable prices. This increases production costs or makes it difficult to produce products with consistent quality, volume and on time as might be required by the global buyers.

- Ethiopian floriculture producers are mainly depending on production and supply of traditional green house products like roses. Though traditional green house products are widely traded and sold in the global market, indigenous and special (novelty) species of flowers are increasingly fetching high price premium in the same market. There is no indigenous species of flowers found on the production by the respondents. This is partly attributed to lack of research and institutions that support development of floriculture sector in the country.

- The main issue in trading perishables like flowers is to have efficient and speedy transportation system in place and keep continuity of cold chain so as to present fresh products at final point of sell. In this regard, floriculture producers in Ethiopia made high investment on post-harvest facilities and transportation from farm to airport. Equal investment is not made on the cold chain component outside the control of producers, cold storage at airport. Moreover, producers were found to be frustrated by lack of critical volume and fluctuating freight rate as far as cargo service is concerned.

- Ethiopian floriculture producers are selling at bulk and wholesale level and do not entere into portfolio-based standing order market that is characterized by traceable truck records and certificates. This can be explained firstly, by the presence of large markets on bulky sale basis like auctions and wholesalers where buyers receive products from all over the globe without visible sourcing strategies. The risk associated with these types of buyers is immediate substitution whenever they get a better supplier elsewhere since there is no asset specificity between them. Moreover, at bulky sale level, producers get less price premium as significant percent of final sale accrues to agents, auctions or wholesalers. Secondly, producers are not able to explore such standing order market and demonstrate their capability to insure supply of right products with required quality on consistence basis. To achieve this, production must be accompanied by innovation, well developed logistics, traceable records and certificates regarding quality of products, environment and safety of employees while these issues are at the low level or totally lacking in Ethiopia.

- Governance type in the Ethiopian floriculture chain is more of implicit type and buyers do not coordinate the chain explicitly. Market is main governing body in the chain and parties in the distribution channels to a lesser extent. Although Ethiopian floriculture supply chain is not governed explicitly by buyers indicating that it is not yet entered into standing order market, parties at wholesale level impose high standards and requirements on them. These are related to quality of products (level of freshness, varieties to be produced, size, colour etc.), and timely delivery as required by consumers. To respond to these requirements, producers in Ethiopia need to make high investment in the production, post-harvest facilities, and logistics, which is impossible for small scale producers. This coupled with lack of proper organization in the country increase barriers of entry for those who lack such investment capability. As a consequence the industry remained with single structure that production, transportation and export is done by one person/company.

- Upgrading in the Ethiopian floriculture chain is limited to few activities such as changing physical characteristics of variety under production, improving packaging, and producing varieties in demand. This is to meet the product standards set by auctions and wholesalers especially for Rose varieties. They do not produce differentiated and specialty flower varieties that fetch higher price in the market. The limited number of flower and fresh cut foliage species exported by Ethiopia has led to particular dependence on the Dutch flower auctions, which accept single species and mono-color shipments, but return consequently lower per unit flower prices. Bouquet-making for European wholesalers and supermarkets requires a diversified balance of flower species, and a wide range of rose lengths and colors. As regard to functional upgrading, producers assumed some new functions in the chain; they started to produce inputs and engage in freight forwarding activities. Marketing and oversea logistics remained untouched especially for domestic firms due to organizational, financial and information limitations. Limited extent of upgrading in the Ethiopian floriculture industry is the manifestations of the low level of research and innovation in the industry and the market level that the majority of producers are selling their products.

- The industry is also constrained by lack of institutional support in the areas of research and development, technical and managerial consultancy, marketing, and market information. A lengthy and bureaucratic lending procedure of the Development Bank is another problem challenging the growers. EHPEA is the only organization established by growers in the country and supposed to provide market information for growers in addition to its other duties. However, with its present capacity in terms of manpower and logistics, it cannot provide sufficient services to member growers. As the result, the ways that producers get market information is quite fragmented making domestic producers depend on auctions and once known agents for export.

4.3 Recommendations

- Input supply system should be well developed if the Ethiopian floriculture industry is needed to be competitive in the global market. To this end, buyers should make a collaborative effort to import inputs together rather than individually. Government should also give similar attentions and incentives for those investors, who are engaged in the production of major inputs of the industry.
- Currently the major products of Ethiopian floriculture industry are different varieties of Rose. Over dependence on one type of product could leave the industry vulnerable to world demand changes. Therefore, diversification of products is to be sought.
- Cold chain and logistics are important part of the floriculture chain that should be speedy and efficient. The whole chain will be efficient if and only if investment is made on all its components and all components are managed well. Therefore, cold store at Bole International Airport should be improved to make the whole cold chain efficient.
- Ethiopian produces are exporting their products to auctions and wholesalers and do not enter into a retail chain, which is the most profitable as well as demanding chain. To enter into this chain, they should be registered in international programs and get certificates to demonstrate that their production is environmentally sound and safety of employees is given due attention. An alternative to this is to have local code of practice regarding environment and social responsibility that in fact should be developed by EHPEA in collaboration with concerned governmental and none-governmental organizations. On top of this, supportive institutions should be established and the existing ones like EHPEA should be strengthened to assist the industry in providing market information, research services, and consultancy in production and management.

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Appendix

A Questionnaire

This questionnaire is designed to collect data on "Challenges and Opportunities of Ethiopian floriculture industry in the global floriculture Chain". The study is purely for academic purpose/research, which leads to MA Degree in Regional and local development studies in Addis Ababa University. Therefore, your co-operation being genuine and frank in answering the following questions is highly indispensable. You may not need to mention your name/company name.

Thank You

Date_____

Questionnaire number_____

General Instruction

- Circle the number of your choice or write the number of your choice on spaces provided
- Write clearly on spaces provided for open questions

I. Ownership and Background of the Company:

1.1. What is the date of establishment/start of this business in Ethiopia?_____

1.2. Type of the ownership

1) Foreign (FDI) 3) Joint Venture

2) Domestic 4) others (specify) _____

1.3. If the answer for **1.1 is local, then**

1. 3.1 What is the form of investment?

1) Private Limited company 3) State owned

2) Share company 4) Cooperative

5) Other (specify) _____

1.3.2 Age of respondent(manager)_____

1) 20-30 2) 31-40 3) 41-50 4) 51 and above

1.3.3 Sex of the respondent

1) Male 2) femle

1.3.4 Marital status

1) Married 2) unmarried 3) Divorced 4) widowed

1.3.5 What is your level of education?

1) Secondary school or below 3) Degree

2) Diploma 4) Masters or above

(Mention your specific profession/fields of study)?

_____

1.3.6 What where you doing before getting into this business

1) Engaged in other business

2) Employed in government institutions

3) Employed in other companies/institutions

4) School graduate

5) Others(specify)_____

1.3.7 Why did you get into this particular business?

1) I thought it would be profitable

2) I came from the same professional line (horticulture)

3) This was the only alternative for me

4) It is easy to get into this business

5) Others, specify_____

1.4. If the answer for **1.1 is foreign/joint venture**,

1.4.1 What is the country of origin/nationality of foreign owner/s?

_____

1.4.2 Is the company established as new company or it was operating else where and started investment in Ethiopia?

1) It is newly established

2) It was engaged in other industry

3) It was operating else where with the same industry

1.4.3 Is the manager and owner of the company the same?

1) Yes 2) No

1. 4.4 what is the nationality of general manager?

1) Ethiopian 2) Expatriate

1.4.5 What is the sex of owner (manager)?

1) Femaie 2) male

1.4.6 Why you have chosen Ethiopia for investment on this particular industry? Write them in rank order as 1,2.....

1) Favorable climatic and environmental conditions_____
2) Its proximity to main consumer market_____
3) Incentives and improved investment code_____
4) Availability of cheap labour_____
5) A better security_____
6) low cost for land_____

II. Input-out put structure and territory of production and distribution

1. Inputs

2.1 What are important inputs used for production?

No	Type of Input	Imported/locally produced (use codes) 2.1.1	Directly imported/purchased form importers (use codes) 2.1.2	Regular supplier/ purchased on spot market (use codes) 2.1.3
1	Planting materials/seeds			
2	fertilizers			
3	insecticides			
4	fungicides			
5	other chemicals			
6	green house materials and equipments			
7	tractors			
8	irrigation materials and equipments			
9	Packing materials			
10				
11				

N.B for 2.1.1 Use 1 = for Imported, 2 = for Locally produced

For 2.1.2 Use 1 = I directly import, 2 = I Purchase from other importers

For 2.2.3 Use 1 = I have regular supplier, 2 = I purchase on spot market

2.2 If imported materials are locally available, what is the reason for importing?

1) High price 3) Not adequately supplied

2) Low quality 4) Other (specify)_____

2.3 What has been the trends of prices of the major inputs you have been buying since your establishment? 1) Decreasing

2) Increasing

3) Remained stable

2.4 What are the major problems that you face in securing inputs?

(most of the time=**1**, some time=**2**, occasionally=**3**, not a problem=**4**)

7.1 Low quality_____ 7.3 High price_____

7.2 Delay in supply_____ 7.4 fluctuating price_____

2.4 What is the source of water supply for irrigation and other uses?

1) River 3) Ground water (bore hole)

2) Lake 4) from the water system supplied by government

2.5 What type of the irrigation system do you use to irrigate your farm?

1) Drip irrigation 3) Flood irrigation

2) Sprinklers 4) others (specify)_____

2.6 What is the source of power for your industry?

1) Electricity from main grid lines

2) Own generator 3) Both

2.7 If the answer above is 2 or 3, why you choose those alternatives?

1) Main grid power is not available at all

2) Main grid power is available but not sufficient

3) Due to frequent power failure

4) Other reasons(specify)_____

Protection

2.8 Which protection mechanism do you employ on your farm?

1) Shaded field 4) Shaded field and greenhouse

2) Green house 5) Hothouse and greenhouse

3) Hothouse 6) Shaded field, greenhouse & hothouse

2.9 Do you use additional light?

1) Some time 2) usually 3) not at all

Location

2.10. Location of the industry, Region_____, zone_____, Woreda_____ Kebele_____

2.11 What are the reasons for choosing your specific region/locality? (Critically important=**1,** highly important= **2,** fairly important=3, less important=**4,** not important=**5)**

2.11.1 Its closeness to air port_____

2.11.2 Availability of water for irrigation_____

2.11.3 Topographic and pedological/soil factors___

2.11.4 Infrastructure and service availability___

2.11.5 Availability of labor force_____

2.11.6 Ideal climatic condition_____

2.11.7 Availability and low price for land_____

2.12 What is the size of your farm (at start_____ha. at this time_____ha)

Products

2.13 What are your products? if your products are more than one please provide Percentages for each product

1) Cut flowers_____% 3) Potted or ornamental plants_____%

2) Cut foliage_____ % 4) Planting material (cuttings)_____%

5) Others specify_____%

2.14 If you produce cut flowers, which one of the following are your products? If more than please provide your estimate of percentage for each.

1) Roses_____ % 5) Lily_____%

2) Carnation_____ % 6) Gypsophila_____%

3) Chrysanthemum _____% 7) Gladioli_____%

4) Hypericum_____% 8) others (specify)_____%

2.15 Do you produce and export any indigenous species of flowers/foliage?

1) yes 2) no

if yes, please mention the name of species_____

2.16 Do you produce any specialty product?

1) I produce specialty product (variety) 2) Only standard product

Mention the name of specialty product if any_____

Logistics/Cold chain Management

2.17 How do you rate the condition of cooling facilities at your production point?

1) Excellent 3) Good

2) Very good 4) adequate but not complete due to various reasons

5) Poor

1.18 What do you use to transport your products from production point to airport?

1) I have my own refrigerated truck 2) I use rented one

3) I use jointly with other growers

2.19 How do you rate the efficiency of your means of transportation from production point to air port in terms of its capacity, speed(time), keeping quality of product as required? Use codes (Excellent=**1,** adequate= **2,** moderate= **3**, inadequate=4, poor=**5**)

2.19.1 Its capacity_____ 2.19.3 Keeping quality of products_____

2.19.2 Speed _____

2.20 How do you rate the condition of cold storage at air port in terms of :

use codes (Excellent=**1,** adequate= **2,** moderate= **3**, inadequate=4, poor=**5**)

2.2.1 Storage capacity_____

2.2.2 Keeping quality of products at required level,_____

2.2.3 Management and timely delivering of service to you___

2.21 How do you rate airfreight service in terms of the following parameters?

use codes (Excellent=**1,** adequate= **2,** moderate= **3**, inadequate=4, poor=**5**)

2.21.1 Flight frequency/timing_____

2.21.2 Freight cost/charge_____

2.21.1 Required volume_____

2.21.1 Timely delivery of services_____

B5. Export/market

2.23 For which market you are producing?

1) For local market only 3) for both

2) For export only

If for both (Local____% export_____%)

2.24 What is the modality of selling/exporting?

1) Sell to other exporter

2) I my self/company itself exports

2.25 Which region is your target of export? (give percentage for each if more than one)

1) Europe_____% 2) Middle east(Dubai)_____%

3) Russia_____ % 4) USA_____%

5) others, specify_____%

2.26 If Europe is the target of your export, where is the final destiny for your products? (Multiple answers is possible, give percentages of your estimates)

1) Germany_____ % 5) UK_____%

2) Netherlands____% 6) Switzerland_____%

3) Italy_____% 7) Spain_____%

4) France_____% 8) Others (specify)_____%

2.27 How many times do you export per year 1) only one 2) twice 3) three times

2.28 Do you export for seasonal markets or for year round consumption?

1) Seasonal markets 2) for year round consumption

2.29 How many days it takes for your product reach the point of final sale on average?_____

2.30 Have you made any change regarding shortening the number of days that your products reach final point of sale?

1) ye 2) no

if yes, from _____ days to _____days

2.31 What is the distribution channel for your products/ what is your direct buyer?

1) Directly to auctions
2) Auctions via agents
3) To import wholesalers
4) To a retail chain via agents
5) directly to a retail chain
6) I have import subsidiary there
7) Others, specify_____

2.32 If it is to retail chain, which among the following?

1) Supermarkets
2) DIY department stores
3) garden centers
4) florists

2.33 If you used more than one distribution channel, with which you started export?_____ and to which you are now exporting?_____

2.34 Why you changed the distribution channel/your buyer?

1) To get more price per unit of product
2) To get more market information
3) To sale more volume
4) To get technical support
5) To have continuous relationship
6) previous buyer excluded me

III. Governance

3.1 What type of transactional relationship do you have with your trade partner/buyer?

1) Spot market/
2) Arm's length/temporal relationship
3) Standing order relationship
4) Vertically integrated
5) Others forms (specify)_____

3.2 What are most critical success factors that are required by your buyers?

Please Give ranks as 1,2,3.....

critical success factors	Rank order
Price of the product	
quality of the product	
Volume of supply	
Consistency in quality	
Consistency in timing	
Consistency in volume	
Types input used in production	
Type of processes/technologies used in the production	
Logistics	
the way flowers are packaged	
Innovation	

3.3 Do your buyers require you to be certified/registered in any of the following programs, which are concerned with regulating quality, environment or safety of the employees?(compulsory=**1**, optional=**2**, not necessary=**3**, not known=**4**)

1) EUREP-GAP (European Good Agricultural Practice)

2) MPS (The Milieu Project Sierteelt), Environmental program

3) Florimark production

4) Fair Flowers and Plants (FFP)

4) Others (specify)_____

3.4 To what extent you are subject to inspection and audit from the agencies who offer certificate on above issues?

1) Strongly 3) to some extent

2) normal 4) not at all

3.5 Is there any codes of practice/label initiated in Ethiopia regarding environment, employment and safety of the workers employed in the industry?

1) Yes 2) No

3.6 Who sets the quality standards for your products?

1) You yourself 3) I produce known/standard products

2) Buyers 4) Others specify_____

3.7 What will happen to you, if your products are not as per the standard set?

_____

3.8 Do they do any monitoring or control on your program

1) Yes 2) No

3.9 Do your buyers provide you technical support?

1) yes 2) No

3.10 If the answer above is yes, what type of support you get? Multiple answers re possible.

1) Financial support 4) assist in acquiring equipments and machinery

2) They send experts 6) Introduce new technology

3) Provide training 7) consultancy in management system

3.11 Who or what determines the type of products that you produce?

1) market

2) parties involved in distribution channel(buyers)

3) You yourself

3.12 Who or what determines the type of processes that you use in production?

1) Parties involved in distribution channel (buyers)

2) You yourself 3) Both

3.13 Who or what determines the logistic arrangements (how much and when to export)?

1) Market
2) Parties involved in your distribution channel(buyers)
3) You yourself

Governance structure

Structures	All of the time	Most of the time	A good bit of the time	Some of the time	Hardly ever	Never
Dou you export to the same party repeatedly?						
Is the cost to switch trade partners low?						
Do you supply your products according to the customer's specification?						
Do the importers/buyers monitor and control your production?						
Are you and your trade partner dependent on each other?						
Are you dependent on large buyers?						
Are you vertically integrated into a chain?						

IV. Institutional framework

4.1 How do rate the availability and adequacy of infrastructure and services in the country that support your production?

(poor=1, inadequate=2, some what adequate=3, adequate=4, more than enough=5)

4.1.1 Road_____ 4.1.4 Airfreight/airport services_____

4.1.2 Telecommunication_____ 4.1.5 Customs/clearance services_____

4.1.3 Power/electricity_____

4.2 How do you see the laws or regulations that affect your business in the country?

1) Highly encouraging 3) some what obstacles

2) Workable 4) Impeding/obstacles

4.3 Have you ever received business support services from the following institutions?

1) EHPEA

2) Chamber of commerce

3) Ethiopian export promotion agency

4) Others, specify_____

4.4 Have you received the following services and how they are made available?

Types of services	Who provide services	How it is available 1=paid, 2=free
Research on variety development, soil, adaptation etc.		
Quality improvement		
Technology improvement		
Marketing		
Management consulting/training		
Legal service		
Skill training for workers		
Setting quality standards for the products		

Use these codes to fill column "**Who provide services**?"

1= Government agencies 4=Capable floriculture enterprises

2=trade organizations 5= Other private institutions

3= EHPEA

4.5 Do you think that current market information is important for your competitiveness?

1) Highly important

2) Important

3) Less important

4) Not important

4.6 Which sources do you use to get market information like color, smell and shape of the products, timing and other preferences of the consumer? use codes.

(frequently=1, often=2, some times=3, never=4)

4.6.1 Electronic database_____ 4.6.4 Medias_____

4.6.2 Telephone_____ 4.6.5 Others specify_____

4.6.3 Fax_____

4.7 Do you use the market information you obtained for adjusting your production to current market?

1) Yes 2) No

4.8 If the answer above is yes, what adjustments do you made on your production to current market?_____

4.9 Please mention how you are able to access market

_____

V. **Upgrading**

. Product upgrading

5.1 Is your product end user product or buyers add value to it?

1) End users product 2) buyers add value to it

5.2 What activities are performed by buyers?

1) Marketing 4) Processing/packaging

2) Coordinating logistics 5) Advertising

3) Quality assurance 6) Others_____

5.3 Have you made change on/upgrade your products for the last couple of time?

1) Yes 2) No

5.4 If you have been upgrading your products, what did you do on it? use codes

(all the time=1, most of the times=2, some times=3, never=4)

5.4.1 I developed my own new product/new variety_____

5.4.2 I started to produce more demanded variety_____

5.4.3 I added quality required by changing its size, shape or color by innovation___

5.4.4 I added value by changing the way it is packed/packaged___

5.4.5 I prolonged its vase-life using some technologies_____

5.4.6 Others (specify)_____

5.5 How do you rate the importance of the following as constraint to upgrade your products? use codes

(Highly constraint=1, a constraint=2, to some extent=3, not a constraint=4)

5.5.1 Limitation of knowledge_____

5.5.2 Lack of information on characters required____

5.5.3 Lack of technology or infrastructure_____

5.5.4 Limitation of finance_____

5.5.5 Others (specify)_____

. Processes Upgrading

5.6 To what extent did you undertake process upgrading/improvement?

(all of the time=1, most of the time=2, some times=3, never=4)

5.6.1 Introduce new machinery/equipment_____

5.6.2 Employ new technology to control quality_____

5.6.3 Introduce new management system_____

5.7 What are post-harvest activities that you undertake before export?

1) Grading

2) grading, packaging

3) Grading, packaging, labeling

4) Grading, packaging, labeling, preparing mixed bouquets

5) Others, specify_____

5.13 Do you produce and export any your own variety/own brand

1) Yes

2) No

5.14 If the answer for 5.2 is yes, how you come to have your own brand

1) By breeding/developing my own cultivars

2) By manipulating production processes such as size, or shape

3) By packaging in different ways

5.15 How do you value research and development for the competitiveness of the industry?

1) Highly important 3) Less important

2) Important 4) Not important

5.16 Do you undertake research activities on your firm?

1) Strongly 3) to some extent

2) adequately 4) not at all

5.17 Do you conduct research on your competitor's operations and products?

1) Strongly 3)to some extent

2) adequately 4) not at all

Why you conduct research on competitor's operation or products?

_____

5.18 Do you experience any trust and cooperation in your distribution chain with your trade partners? To what degree?

1) Strong 2) moderate 3) to some extent

4) Weak 5) Do not exist

Declaration:

This thesis is my original work and has not been presented for a degree in any other university and that all sources of material used for this thesis have been dully acknowledged.

Declared by

Name Tesiema Hitbaye

Signature _____

Date 02/05/07

Confirmed By

Name: _____

Signature _____

Date _____