

**School of Management
Curtin Business School**

**Examining the Performance of the Alternative
Cut Flower Supply Chains for Smallholder Producers
in Da Lat Using a Pluralistic Approach**

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Doctor of Philosophy
of
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Declaration

This thesis contains no material that has been accepted for the award of any other degree or diploma at any university.

To the best of my knowledge and belief, this thesis contains no material previously published by any other person except where due acknowledgement has been made.

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Abstract

Da Lat is the major cut flower production centre in Viet Nam. While a favourable growing climate and proximity to Ho Chi Minh City (HCMC) has greatly facilitated the development of cut flower production in Da Lat, various impediments currently prevent smallholder farmers from better fulfilling the needs of their downstream market intermediaries and of participating more effectively in the cut flower market.

To examine the performance of complex cut flower supply chains, a pluralistic methodology was employed to examine: the marketing margins; the gap between what supply chain actors expected and what they received from upstream suppliers and downstream customers; and the nature of the long-term relationships that existed between exchange partners.

An analysis of the marketing system revealed that most cut flower farmers in Da Lat were smallholder producers who had limited access to information and capital, limited inputs, poor cultivation techniques and poor postharvest technology. Farmers and market intermediaries arranged for the harvest, grading, bunching, packing and subsequent transport of cut flowers. As the quality of cut flowers deteriorated along the chain, due to the inherent perishability of the product and the lack of storage facilities, the marketing margin increased to cover the increasing marketing costs and losses, and the inherent uncertainty of price in a highly volatile market.

While most farmers generally understood what their customers required, they were unable to meet the customers' expectations in terms of maintaining a consistent supply of good quality flowers. Price signals did not provide a sufficient incentive to encourage farmers to improve quality. For the buyers, although smallholder farmers were able to provide flowers that were competitively priced, they were not able to deliver a wide range of good quality flowers in sufficient quantities.

As prices were generally determined after the sale had been made, all actors along the chains preferred to transact with those exchange partners with whom they had developed an enduring long-term relationship, and with whom there was a strong element of trust. Contrary to expectations, there was no evidence for the use of any coercive market power in the relationship between actors in the Da Lat cut flower supply chains.

A pluralistic approach proved to be more successfully in analysing the problems that existed in Da Lat cut flower supply chains and in proposing feasible solutions.

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Abbreviations

ACIAR	Australian Centre for International Agricultural Research
ACLH	Australian Centre for Lifestyle Horticulture
ADDA	Agricultural Development Denmark Asia
AIPH	The International Association of Horticultural Producers
ANZMAC	Australian & New Zealand Marketing Academy
AUSAID	Australian Agency for International Development
ATI	American Technology Incorporate – Viet My Company
CBI	Centre for the Promotion of Imports from developing countries
CIDSE	The Coopération Internationale pour le Développement et la Solidarité
CIRAD	Agricultural Research for Development
CMGs	Collaborative Marketing Groups
DAI	Da Lat Department of Agriculture and Industry
DANIDA	Danish International Development Agency (DANIDA)
EU	European Union
EUR	Euro
EXIM Bank	Export-Import Bank in India
FAO	Food and Agricultural Organization
HCMC	Ho Chi Minh City
KIT	Royal Tropical Institute
IOF	Investor-owned firm
IPSARD	Institute of Policy and Strategy for Agriculture and Rural Development
ITC	International Trade Centre
JETRO	Japan External Trade Organization
MARD	Ministry of Agriculture and Rural Development
M4P	Making Markets Work Better for the Poor

MOSPI	Ministry of Statistics and Programme Implementation of India
NABSO	Netherlands Agribusiness Support Office Kunming
NGO	Non-Governmental Organisation
RUDEC	Rural Development Centre
PNG	Papua New Guinea
PPPs	Public Private Partnerships
SIFsIA	Sundan Integrated Food Security Information for Action
TCE:	Transaction cost economics (TCE)
TIPS	Trade and Industrial Policy Strategies
UNCTAD	United Nations Conference on Trade and Development
UPOV	The International Union for the Protection of New Varieties of Plants
USITC	United States International Trade Commission
VINAFRUIT	Vietnam's Fruit and Vegetables Association
VND	Viet Nam Dong
WFP	World Food Programme

Chapter 1. Introduction

1.1 Background

Worldwide, the value of cut flower and potted plant sales was estimated to exceed EUR 55 billion in 2010 (AIPH and Fleurs 2011). To participate in this market, the government of Viet Nam aimed to double the cut flower production area from 4,000 ha to 8,000 ha by 2010. Production was expected to exceed 4.5 billion stems, of which one billion were destined for export (Mekong Economics 2007). The cut flower industry in Viet Nam could benefit from strong annual economic growth of over 8% per annum; a Buddhist culture which regularly uses flowers for worship; and an abundance of cheap labour in rural areas (NABSO Kunming 2008).

The major area of cut flower production in Viet Nam is in Da Lat because of its favourable growing climate and close proximity to Ho Chi Minh City (HCMC hereafter). Cut flowers are cultivated all year round and supplied mainly to the domestic market (95%) (Mekong Economics 2007). Chrysanthemums and roses are among the major cut flower crops cultivated in Viet Nam. In Da Lat, chrysanthemums cover 50% and roses cover 15% of the cut flower area (Mekong Economics 2007).

Da Lat accounts for 40% of the country's cut flower production area and 50% of the total production (FloraHolland 2011). In Da Lat, some 90% of the roses are grown under plastic greenhouses, but no comparable data is available for chrysanthemums. This differentiates production in Da Lat from that in Me Linh, Sa Pa (Danse et al. 2007b) and Ha Noi (van Wijk, Allbritton and Quang 2005).

However, Viet Nam is only a small player in the world market for cut flowers (ITC 2005). For a number of both internal (poor production and quality) and external reasons (including the global financial crisis), Viet Nam has struggled to reach its export target. As a result, greater quantities of cut flowers are being placed on the domestic market with a commensurate reduction in price.

Cut flower production and marketing in Viet Nam faces many impediments. According to NABSO Kunming (2008), the majority of flowers are produced by small scale family owned enterprises. It has been estimated that there are 3,500 cut flower farmers in Da Lat (S 2010). Farm sizes vary from less than 3,000 square metres up to 8 hectares, on which different crops, including flowers and vegetables, are cultivated (Danse et al. 2007b).

In Viet Nam, the cut flower sector is small and fragmented (NABSO Kunming 2008) and the supply chain long and protracted (Poulish 2003). The cut flower supply chain includes input suppliers, farmers, market intermediaries (traders, wholesaler and retailers) and transporters

(Mekong Economics 2007; Poulish 2003). As the quality of cut flowers is not only determined at the moment of harvest, but also by the manner in which the product is handled postharvest (Botden and Terhürne 2006a), quality control is problematic. The perishability of cut flowers and the climatic variation add to the uncertainty in the market for all participants in the chain (NABSO Kunming 2008). These chains are characterised by the lack of an organized marketing system, the lack of adequate cool storage capacity, refrigerated vehicles, and inadequate quality standards and quality control (Mekong Economics 2007; NABSO Kunming 2008). Currently, the majority of cut flowers are transported to HCMC by road without the use of refrigerated trucks. The lack of refrigeration detrimentally affects the quality of the cut flowers offered to the market, which limits the opportunities for farmers and market intermediaries to comply with the requirements of the growing retail and institutional market (Danse et al. 2007b).

In Viet Nam, three characteristics describe the nature of the current business environment: (i) the existence of a dual ideology; (ii) a weak legal system; and (iii) a cash economy. Dual ideology describes the government's response to an unresolved battle between two conflicting forces: one pushing towards the market while the other insists on retaining the traditional socialist system. It has been difficult for Viet Nam to develop a comprehensive legal system in part because of the dual ideology. As a result, a large portion of business transactions have been conducted without being backed up by the legal system. Most daily transactions are cash based because the underdeveloped banking system has prohibited the mobilization of capital (Thang 2005).

In the absence of any effective legal system, the day-to-day operation of these supply chains is deeply embedded in the prevailing social system (Concepcion et al. 2004), where the behaviour of the participants is largely determined by their position in the chain (Keizer 2006). The marketing system in Viet Nam and the marketing relationship between actors have been shaped by the institutional, historical, geographic and cultural environments (Cadilhon et al. 2003; Cadilhon et al. 2007). Buying and selling by each actor is largely done independently of the participants, resulting in high transaction costs and varied levels of performance (Batt 2004c). As working with multiple smallholder farmers entails additional transaction costs for market intermediaries, the opportunities for smallholder farmers to participate (and benefit) from high-value chains are uncertain (Wheatley, Woods and Setyadjit 2004).

Effective supply chain management suggests that building close long-term relationships with trading partners reduces uncertainty (Ellram 1990; Harland 1996), reduces costs (Hobbs 1996; Lazzarini, Chaddad and Cook 2001) and is ultimately more profitable (Martin et al. 2008). Through developing and maintaining a closer relationship between smallholder

farmers and their downstream buyers, it is possible to coordinate supply and demand, exchange price information and the specific quality requirements (Batt 2006c; Murray-Prior et al. 2006). This will reduce transaction costs and increase the opportunity for smallholder farmers to compete in the market (Sahara, Stringer and Umberger 2011). To build customers' confidence, the whole supply chain must cooperate, preferably through both horizontal and vertical chain integration. When trust in the product is restored, customers will be willing to pay more for the product (Botden and Terhürne 2006a). Furthermore, relationships between farmers and market intermediaries will improve when farmers understand and appreciate what activities market intermediaries perform.

Theoretically, an examination of supply chains will determine if improved linkages offer an opportunity to deliver increased value and more sustainable benefits to all participants; which actors will benefit from increased support or organization; and what critical technical, economic or relational constraints are currently present in the chain (Aramyan et al. 2006). A buyer's or seller's choice between a discrete transaction or relational exchange will depend on both the environment and the buyer's or seller's interpretation of the importance of the exchange (Lindgreen and Crawford 1999). From the results, participants, policy makers and investors will be better able to make informed decisions, develop strategies and allocate appropriate resources (Cadilhon et al. 2006c).

Although supply chains can be seen from several different perspectives, this study examined the performance of cut flower supply chains primarily from the smallholder farmers' perspective. However, in order to analyse the performance of supply chains, the chains must be viewed holistically (Lambert and Cooper 2000). This is best achieved through the adoption of a pluralistic approach that examines: (i) the nature of the trading transactions between buyers and sellers; (ii) the socio-economic factors suppliers and buyers use in choosing between potential trading partners; and (iii) which constructs influence the long-term trading relationships between suppliers and buyers.

1.2 Aims

This study will apply a pluralistic approach to explore the performance of alternative cut flower supply chains with a view to facilitating the development of the cut flower industry in Da Lat. The specific objectives of this study are to identify:

1. the actors and activities involved in alternative cut flower supply chains;
2. the marketing costs and margins extracted by participants in alternative cut flower supply chains;

3. the gap between what smallholder farmers want and receive from downstream market intermediaries; and
the gap between what market intermediaries want and what they receive from upstream suppliers;
4. the nature of the long-term relationships between smallholder farmers and their downstream market intermediaries in alternative cut flower supply chains; and
the nature of the long-term relationships between market intermediaries and their upstream farmers/suppliers and downstream buyers in alternative cut flower supply chains.

1.3 Significance

The government of Viet Nam is eager to improve the performance of the cut flower industry for it is a high value crop for smallholder farmers and a potential export industry (Mekong Economics 2007; RUDEC/IPSARD-FAO 2007). However, according to NABSO Kunming (2008), government plans have not always translated into real initiatives and support during the past ten years. The proportion of Da Lat flower exports remains very low compared to the number of flowers produced. Despite the huge production, the quality of Da Lat flowers seldom meets world standards and the logistics associated with export are weak.

In the cut flower industry, there is no reliable data on the cost of production, since production, consumption, market volume and trade information are mostly subjective estimates (van Wijk, Allbritton and Quang 2005). Furthermore, that data which is available largely ignores the quality aspects and seldom considers the socio-economic and relationship marketing variables, due to technical difficulties in assessing these parameters. These gaps in practice draw attention to the need for a better analysis of markets.

It is important for the government of Viet Nam to ensure that it is addressing the main problems that affect the performance of the supply chain. In the past, emphasis has been placed on improving production practices (Batt 2004b), where the analysis was only undertaken at the farm level, instead of analysing the whole value chain (Concepcion et al. 2004; van Wijk et al. 2005). Batt (2004b) points out that while the introduction of improved varieties, agronomic practices and improved postharvest handling systems may result in significant improvements in productivity per unit area, this is no guarantee that producers will benefit financially. In a market where prices are determined primarily by supply and demand, any marked increase in production may exert significant downward pressure on prices. The extent to which this eventuates will be determined by the perishability of the

product, the availability of postharvest storage systems, the consumer demand for the product, product quality, and the cost and availability of substitute products.

In Viet Nam, there is very little information available about the relationships between actors that potentially affect the performance of supply chains. The barriers to effective supply chain performance in the transitional economies, include the lack of trust and the willingness to share information, no shared goals (Batt 2004c; Martin et al. 2008); and the predominance of spot transactions over long-term buyer-seller relationships (Wheatley et al. 2004). Not surprisingly, many conclude that smallholder farmers are vulnerable to exploitation by opportunistic downstream buyers, or may even be locked into unsatisfactory relationships with downstream market intermediaries (Batt 2003e; Martin et al. 2008; Mendoza and Rosegrant 1995).

Within many countries, numerous studies have been undertaken to identify the various criteria that buyers use in their decision to purchase fresh produce (Batt 2004b). Within the last decade, two important trends within the agribusiness sector in Viet Nam have been taking place. These include diversification, which has resulted in many different agriculture sub sectors emerging, and the development of high value chains (Cadilhon et al. 2006a; Cadilhon et al. 2006c; Cadilhon et al. 2006b; Martin et al. 2008; van Wijk and Everarts 2007; van Wijk et al. 2005).

The flower industry in Viet Nam has been subject to investigation on a number of occasions (Allbritton, van Wijk and Dang 2005; Danse et al. 2008; Danse et al. 2007a; Danse and Vellema 2007; Danse et al. 2007b; Mekong Economics 2007; NABSO Kunming 2008; Poulish 2003; Quang et al. 2005a; Quang et al. 2005b; UNCTAD/WTO and Vietrade 2005; van Liemt 2000; van Wijk et al. 2005). Allbritton et al. (2005) described the activities along the rose chain from producers to customers and the extent to which these chains were able to sustain the livelihood of producers in North Viet Nam. Danse et al. (2008) indicated that environmentally friendly crop production for roses required capacity and knowledge to make the correct diagnoses and suitable institutional linkages. Danse et al. (2007b) presented the current cultivation and plant health practices used in the Da Lat region, as well as the impact of rose cultivation on the environment and human health. Van Wijk et al. (2005) quantified the impact of the rose sector in North Viet Nam on poverty reduction by net value and income. Mekong Economics (2007) identified the current advocacy demand, business associations and business development services in the cut flower industry in Lam Dong. Poulish et al. (2003) described quality issues in the supply chain for cut flowers in Viet Nam.

In most cases, these studies provide a detailed description of the Viet Nam cut flower industry, but many important aspects are missing on marketing costs and prices, and selling

and purchasing decisions regarding the choice of distribution channels or the relationships between participants.

According to Tanaya (2010), a pluralistic approach begins with the discovery of a situation requiring as much information as possible to understand the problem and to improve this situation. By adopting an interdisciplinary approach it is possible to study comprehensively complex problems. This study develops a framework for a pluralistic approach by combining a qualitative approach to gather information on existing problems and a quantitative approach that incorporates an analysis of price margins; the gap analysis and the analysis of buyer seller relationship to address the impediments and ultimately to improve the performance of Da Lat cut flower supply chains.

Policy makers or extension officers may use the results of this study to create, intervene or amend existing policies, reduce uncertainty in cut flower supply chains, and encourage innovation (Johnson 2005). In advising farmers on appropriate channel selection, extension officers can assist farmers to improve their production, the quality of products and increase their participation in supply chains, thereby increasing their market power (M4P 2005). Evaluating the performance of the entire cut flower supply chain will take into account the changes required to support the chain and to achieve desired development outcomes. This study will provide an insight into the contribution made by individual chain actors in improving the added value of the entire chain.

Farmers, especially smallholder farmers can also use this information when deciding to which channel they will sell their produce (Chalwe 2011). Reducing cost, improving quality, adding value, improving linkages with markets and maintaining long-term relationships are the primary mechanisms to improve the performance of supply chains (Chibba 2007; Demisse 2011; Fundira 2003; Sarker and Chakravorty 2005). In this study, by looking at the performance of the entire cut flower chain, all actors will be in a better position to make more informed decisions (Nawi 2009).

By analysing transaction costs, it becomes possible to identify inefficiencies in the cut flower industry and to describe how these costs may be reduced (Fundira 2003). To reduce transaction costs, actors may engage in building and maintaining long-term relationships with preferred exchange partners. Through this study, the disclosure of marketing costs and price margins is expected to reveal to all actors within the chain where they might best focus their attention to improve their competitive position (Nawi 2009).

The many decisions made by all members within the chain, both upstream and downstream, will influence not only the cost of delivery, the prices and profits derived from the sale of fresh produce, but also the quality, quantity and variety, and the reliability of delivery.

Quality is an extremely important factor that influences the competitiveness of farmers and the choice of customers. By identifying what their trading partners need, each actor can reduce the conflict in their transactions and improve their financial position. By reducing the gap between expectations and performance, cohesion and efficiency can be improved (Peterson, Wysocki and Harsh 2001). By recognising the functions that each exchange partner performs in the supply chain, participants can match their capabilities with their upstream/downstream partner's needs. In many cases, this will require them to adapt their product offer to meet a specific customer's requirements (Nawi 2009). Buyers can be assured of the necessary quantity and quality of cut flowers, delivered on time, at a designated place and a predetermined price. Suppliers know the price they will get in advance. In this way, they are no longer dependent on the buyers with their constantly shifting variations in volume and price (Claro 2004).

1.4 Thesis outline

Chapter Two provides an overview of the current situation of the cut flower industry worldwide and the Viet Nam cut flower industry in particular. Gaining an insight into the production, competitive factors and market trends is necessary to see how well the Vietnamese cut flower industry is positioned to take advantage of the emerging opportunities.

Chapter Three provides an in-depth literature review on agricultural marketing and discusses supply chain theory in agribusiness in the developing countries. It reviews the theoretical underpinnings of this study: that is, transaction cost economics, industrial purchasing behaviour, relationship marketing theory and supply chain management.

Chapter Four provides a detailed theoretical framework for using the pluralistic approach, the needs and various analysis tools (map model framework, price margin analysis, gap analysis and relationship marketing analysis). Here, the focus is on the theoretical concepts that enable smallholder farmers in the developing countries to participate in supply chains.

Chapter Five describes the preliminary research methodology employed to collect data from the potential survey respondents. The survey design is defined, the qualitative approach described, data were collected, interpreted and analysed. This chapter also provides the findings of the preliminary study undertaken to scope the various supply chains operating in Da Lat and to test the survey instrument.

Chapter Six develops and presents the main methodology employed to collect data from the various respondents. An outline of the methodology and intended analysis of the main study are involved.

Chapter Seven describes each of the actors participating in the production and marketing of cut flowers from Da Lat to HCMC and the activities that each actor undertakes.

Chapter Eight presents the results of the economic analysis of cut flower marketing costs, seasonal prices and profits across the different participants in the cut flower supply chains.

Chapter Nine presents the results of the gap analysis. This chapter identifies the differences between what farmers want and what they get from their preferred trading partners, what each subsequent actor wants and what they get from their preferred downstream buyer or upstream supplier.

Chapter Ten presents the results of an analysis of the relationships that exist between participants in the cut flower supply chain. The results discuss the differences in satisfaction, trust, commitment, communication, cooperation and power between participants in the alternative cut flower supply chains.

Chapter Eleven provides a synthesis of the findings, bringing together the results of the transaction cost analysis, gap analysis and an exploration of the long-term relationships identified in alternative supply chains.

Chapter Twelve concludes the study and discusses theoretical and practical implications.

Chapter 2. Viet Nam cut flower industry

2.1 Chapter outline

This chapter describes the worldwide cut flower industry and the Vietnamese cut flower industry in particular. This description is based on publicly available statistics and is focussed on the main production regions, trade flows and consumption. A detailed analysis of the Vietnamese cut flower industry is provided, identifying the main production areas, the types of flowers grown, export and import data, consumption and distribution, and what, if any, competitive advantage Viet Nam may have in the global flower industry.

2.2 World cut flower industry

2.2.1 Introduction

Floriculture resides within the discipline of horticulture, which refers to the cultivation of ornamental plants, flowering plants, foliage plants, cut flowers, bulbs, seeds and seedlings. Cut flowers are defined as blossoms from flowering plants sold as stems, bunches or arrangements (Gauchan et al. 2009; JETRO 2011; TIPS and AUSAID 2007; USITC 2003). Fresh cut flowers are used for decorative purposes such as vase arrangements in the home, offices and public buildings, and bouquets at formal events, weddings and funerals, and gifts for special occasions (Gauchan et al. 2009).

The floriculture industry is a rapidly changing and dynamic industry, which has achieved significant growth rates during the past few decades (Rikken and Poos 2010). The distance between production, the market and the final consumer is increasing as producers in the southern hemisphere focus on markets in the northern hemisphere. Production-driven supply chains are slowly converting to closed international market-driven supply chains. With more information, product flows are being increasingly aligned with sales demand (Botden and Terhürne 2006a).

In the floriculture industry, significant changes are occurring in relationships worldwide (Haak, Tap and Heybroek 1992). As the expansion in production (13%) has exceeded the growth in demand (11%), average prices are declining. Hence, in order to remain internationally competitive, both existing and emerging flower export nations are being forced to give increasing attention to the identification and development of those factors that will enhance and strengthen their competitive position (Batt 2001). Although much of the domestic demand in the major flower consuming countries is satisfied by domestic production, commercial cut flower production has become a highly globalised trade. The widespread use of airfreight transport and the increasing use of cold chain management

practices have seen production shift to those countries that enjoy comparative advantages in land, labour and climate (TIPS and AUSAID 2007).

Besides market competition between floricultural products, it is clear that cut flowers are also facing more and more competition from other products, especially in the gift or special occasion market (de Groot 1999). The main products competing with cut flowers in the special occasion market include chocolates, jewellery and wine, as these tend to be bought for similar purposes. If the price of flowers is too high or if flowers are of poor quality, consumers will readily switch to these competing products (Rikken and Poos 2010).

The competitive position of cut flowers is not only determined by a low cost price, but by basic production factors (material, climate, labour and capital); high grade production factors (infrastructure, skilled labour, education and information); domestic demand conditions (product and service); the network (the extent of various links in the chains); government legislation; economic variables (the ability to cooperate and management culture); and chance (unpredictable factors) (Haak et al. 1992; Rooyen et al. 2001).

In the global cut flower business, trends such as the increase in production volume, product quality, diversity and availability, up-scaling, cost reduction activities and horizontal and vertical chain integration can be observed daily (Botden and Terhürne 2006a).

Growth in the market for cut flowers depends on several key success factors. According to van Liemt (2000), to successfully grow cut flowers for the world market requires: good physical conditions (high light intensity, abundant water, clean soil and a good climate); appropriate seeds and planting materials; capital for investments and working capital; productive and skilled labour; expertise in growing techniques; good management and organization; pesticides and other chemicals; energy for heating; infrastructure; and quality consciousness along the supply chain. Cut flowers are considered to be high value agricultural products which are highly perishable and begin to deteriorate the moment they are harvested (Dolan and Sorby 2003).

2.2.2 World demand – Cut flower consumption

Market size

Worldwide, the consumption of cut flowers is estimated to be EUR 30 billion per year. Consumption is concentrated in three regions: Western Europe, North America and Japan (Auni, Latifah and Khairol 2006; Dolan and Sorby 2003; Rikken and Poos 2010).

The demand for cut flowers is highly seasonal. While flower consumption is directly related to the level of disposable income, of far greater importance is the consumer's attitude to flowers (Batt and Poole 2004). Demographic and economic factors such as population,

urbanization, age, income and consumer behaviour also determine the total market size and flower consumption (de Boon 1992; Rikken and Poos 2010).

The world's most wealthy countries are the largest consumers of cut flowers (Lanning 1999). However, the consumption of flowers is not necessarily correlated to the level of per capita income in a country. The market for cut flowers in a country depends on the consumption per capita and the number of inhabitants. The annual consumption per capita in Europe ranges from EUR 21 in France to EUR 56 in the Netherlands (AIPH and Fleurs 2011) (Table 2.1).

Table 2.1 Per capita consumption of cut flowers and plants in selected countries in EUR, 2011

Countries	Per capita consumption cut flowers and plants			Estimated market value (mil. €)
	Cut flowers and plants	Cut flowers	Plants	
Austria	96	39	57	804
Belgium	69	34	36	744
Denmark	156			970
France	51	21	31	3,302
Germany	102	36	66	8,300
Italy	46	27	19	2,170
Netherlands	90	56	34	1,440
Norway	156			840
Spain	22			1,004
UK	72			4,475
Japan	61	34	27	7,726
USA	74			23,000

Source: (AIPH and Fleurs 2011)

Patterns of expenditure on cut flowers differ significantly from one country to another. Europeans consume the majority of the cut flowers produced in the world. Consumers in Norway and Denmark spent an average of EUR 156 on cut flowers and potted plants, Germany (EUR 102), Austria (EUR 96) and the Netherlands (EUR 90) (AIPH and Fleurs 2011). Conversely, consumers in China had the lowest per capita consumption at just EUR 3 in 2008 (NABSO Kunming 2008). While North Americans consume fewer cut flowers compared to their European counterparts, there are a larger number of consumers (Haak et al. 1992). According to the Dutch Flower Council, only 28% of households in the US purchase flowers, compared to Germany, the UK and France with 76%, 63% and 60% respectively (TIPS and AUSAID 2007). Japanese consumers spend an average of EUR 60 per head, but there is also a very high quality requirement in the market (Haak et al. 1992).

Market characteristics

According to the Swedish Chamber of Commerce (2011) and CBI (2007), the different national markets each have their own particular characteristics. The markets can be categorised into four stages of development: (i) *market introduction* where customer

awareness of the products and its benefits are low. The level of competition, sales and consumption per capita is low (Romania and Ukraine); (ii) *growth market* where public awareness about the product starts to increase and sales volume increases. Expenditure per person however remains relatively low. Flowers are considered a luxury item and are purchased mainly as gifts (Estonia, Hungary, Ireland, Poland and Slovakia); (iii) *a mature market* is when sales volume peaks and market saturation is reached. Flower purchases for personal uses are relatively higher. As competition increases, product differentiation and diversification are often needed to maintain or increase market share. Prices and profits tend to drop (Belgium, Denmark, Finland, Sweden and the UK); and (iv) *saturation and decline* when the market size is stable or may even in decline. Price and profitability diminish. Consumption per capita of flowers is primarily for personal use (Austria, Germany, Italy and the Netherlands).

However, these markets have been dramatically hit by the global economic crisis. In Spain, market development was completely reversed, turning strong growth into a sharp decline. Markets that were stable before the crisis, like Germany and the Netherlands, generally registered only a small decrease in consumption. Nevertheless, growth of 2 to 4% per year is expected for the Western European market and 5 to 10% for the emerging Eastern European markets during the next decade (Rikken and Poos 2010).

Market segments

According to Haak et al. (1992), cut flower purchases can be segmented as follows: about 50% are bought as gifts, 20 – 30% for the buyers own use, about 10% is for ceremonial use, and 10 – 15% for institutional use. However, the purchase of flowers often depends on what use is derived from them. Rikken and Poos (2010) and the Swedish Chamber of Commerce (2011) distinguish two main purchasing motives: (i) consumers buy cut flowers for *special occasions* such as birthdays, Valentine's Day, Mother's Day, Christmas or other festive days. Another 20% are purchased for special occasions like weddings and funerals. In general, the share of flower purchases as gifts is higher in less developed markets; and (ii) many consumers buy flowers for *own use*, often with the intention of brightening up their home, offices, lobbies or restaurants. In general, consumption for personal use is higher in those countries with higher disposable income.

It is important to recognise that consumer requirements, convenience and price setting mechanisms differ between the two segments (Rikken and Poos 2010). For special occasions, vase life is not the most important issue. Flowers must be open to present to the receiver the most beautiful stage of maturity, while for own use, the vase life is particularly important, because consumers want value-for-money (CBI 2011). Consumers generally spend more time and effort in planning and purchasing cut flower arrangements for the gift

segment, whereas they have no prior plan or intention to buy flowers for their own use (Swedish Chamber of Commerce 2011).

This distinction between the special occasion and own use segment can be recognised at all levels of the supply chain, from consumption to retail, wholesale and production level. Florists mostly target the special occasion segment by offering a wide assortment of high quality products, a handmade bouquet, nice wrapping and a card. On the other hand, supermarkets and other retail chains tend to target the own use segment with attractive arrangements and competitive prices (Rikken and Poos 2010).

These two segments differ from country-to-country. For example, the US is largely an impulse market, with most flowers being sold for use as gifts (74%) and far fewer being used for personal reasons. In the Netherlands, on the other hand, personal use accounts for nearly 55% of all sales (TIPS and AUSAID 2007), whereas in Japan, cut flowers are used for weddings and funerals, corporate gifts, hotel decorations, ikebana and other formal flower arrangements (Auni et al. 2006).

In Europe, CBI (2011) segment the market by region: *mature markets* in Northwest Europe, *developing markets* in East Europe and *well-developed markets* in Southern Europe. The frequency of purchase and the reasons why people purchase flowers differs markedly between countries, depending upon the maturity of the market (Table 2.2) (Batt and Poole 2004).

Table 2.2 Differences between immature and mature markets in the frequency of purchase and the market segments

	Immature markets	Mature markets	Source
Purchase for	The occasion days and special occasions	Own use	(de Boon 1992; Rikken and Poos 2010)
Purchase frequency	1 – 2 times per year	15 – 20 times per year	(de Boon 1992; Rikken and Poos 2010)
Type of flower	The traditional flowers (carnations, chrysanthemums and roses)	A wide range of temperate and exotic flowers are available for purchase	(de Boon 1992; Dolan and Sorby 2003)
Number of outlets	5 times less than	Greater number of outlets and diversity	(Lanning 1999)
Outlets type	Traditional outlets	Supermarkets and direct marketing (including telephone sales)	(de Boon 1992)
Florists sell	85%	40%	(de Boon 1992)
Assortment	Limited	Wider	(Batt and Poole 2004)
Price	High	Low	(Batt and Poole 2004)

Source: Synthesised from Batt and Poole (2004)

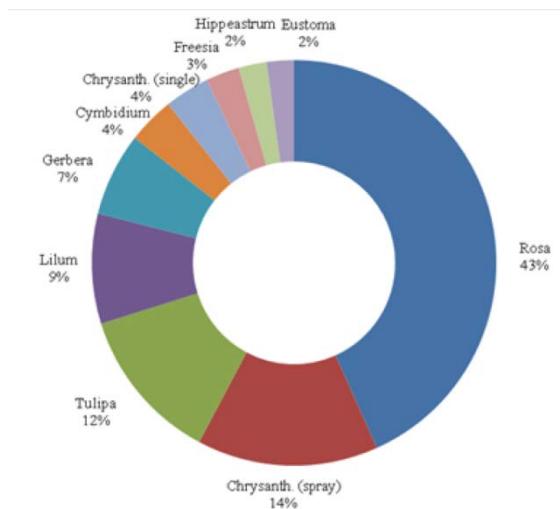
Another method of segmentation is to distinguish between the *consumer market* and *business or institutional market*. Companies and governments are key customers as they buy large quantities of flowers and plants for their offices, hotels and restaurants. The share of the

institutional market segment in the total floriculture market is estimated to be around 20% and to be rising (Rikken and Poos 2010).

Assortment

According to AIPH (2011), the top selling cut flowers are rose, spray chrysanthemum, tulips, gerbera, cymbidium and standard chrysanthemum. However, the top selling cut flowers differ from country-to-country. In the US, the top selling cut flowers are tulips, gerbera, lilies, gladioli and iris, while in Chinese Taipei, lilies, rose, chrysanthemum and gerbera are the most popular. In the EU, a summary of the turnover per type of flower in the Dutch auctions provides a good indication of which cut flower varieties are most in demand. Roses are the most important cut flower, followed by chrysanthemum, tulip, lilies and gerbera (Figure 2.1). Between 70 – 80% of all cut flowers are bought in mono bunches, which contain one variety, or bought per stem. The rest are purchased in bouquets or flower arrangements (Swedish Chamber of Commerce 2011).

Figure 2.1 Top ten cut flowers at Dutch auction, turnover in million EUR, 2009



Source: Swedish Chamber of Commerce (2011)

The production of cut flowers can be categorized as (i) all year round (chrysanthemum, rose and carnation); (ii) seasonal, for more than three months in a year (tuberose and bird of paradise); (iii) or annual flowers, one time per year at a defined time (daffodils) (Gauchan et al. 2009). Over 125 species of cut flowers are grown commercially worldwide, but roses, chrysanthemums, tulip, lilies and gerbera are the most important species (Dolan and Sorby 2003; Flower Council of Holland 2008; Rikken and Poos 2010; Wijnands 2005).

According to Abate and Peterson (2005) and Wijnands (2005), rose is the world's leading cut flower. Within the category of roses, several cultivars and colours can be distinguished. Each combination of cultivars and colours has a specific market niche (Wijnands 2005).

New varieties drive the business. Consumers' colour selection is the most significant factor in selling roses. Currently, bright, vibrant colours – orange, deep red and hot pink are in strong demand.

Roses are members of the *Rosacea* family for which at least 100 species and thousands of varieties are known to exist. The most commercially important types of roses are sweetheart (intermediate), hybrid tea and spray roses. Sweetheart roses have one small bloom per stem, generally one to five centimetres in diameter and are typically used in bridal bouquets. Hybrid tea roses also have one bloom per stem, but have a much larger flower head, ranging from 7.5 to 15 cm in diameter. Spray roses are a relatively new variety, with multiple blooms, one to five centimetres in diameter, growing on a single stem. Although most roses are red, they may be almost any colour except true blue or black. As fresh cut flowers, roses last from 3 to 7 days in the home without the use of floral preservatives, depending on the variety and environmental factors such as temperature and care. The vase life of a rose can be doubled when floral preservatives are used.

Chrysanthemum is the second most popular cut flower (Auni et al. 2006). In Asia, the increased use of different varieties of chrysanthemum for offerings on Buddhist altars, particularly for funerals, and the increased demand for spray chrysanthemums, has supported the growing trend in chrysanthemum imports (JETRO 2011).

Chrysanthemums are a genus of the *Compositae* family. The major groups grown commercially are standards and spray/pompons. Chrysanthemums may be white, yellow, red, bicoloured, or tricoloured. Standard chrysanthemums have one flower per stem (stems range from 40 to 90 cm), with the diameter of each bloom ranging from 7.5 to 20 cm. Spray chrysanthemums have four to six flowers per stem (stems range from 45 to 75 cm) with a diameter of 7.5 to 12.5 cm. As fresh cut flowers, pompons last from 10 to 14 days, and standards last from 7 to 12 days, depending on variety and temperature. Chrysanthemums have been successfully bred in a wide variety of colours, shapes and textures, making them the flower of choice for the mass-market bouquet business (Bonarriva 2003).

The types of cut flower produced vary widely by country (Wijnands 2005). Carnations, chrysanthemums and roses are the most widely available in Japan. Fresh cut roses, carnations and chrysanthemums were the principal types of cut flowers imported into the US (USITC 2003). Historically, the major markets in the EU have focused predominantly on standard roses and carnations. However, more recently, there have been some shifts in demand, with more unusual and/or speciality species finding a niche (TIPS and AUSAID 2007).

Consumption trend

Over the last few decades, important changes have occurred in consumption patterns. Rather than occasional purchases of traditional species for special occasions, flowers are becoming a regular decorative part of most middle and upper-income households. New and exotic varieties are becoming more popular as consumers look for something different (Dolan and Sorby 2003). In the Japanese cut flower market particularly, the demand for good quality, new and unfamiliar products is growing (Haak et al. 1992).

Consumers usually purchase cut flowers on the basis of quality (36%), price (13%), the species (13%) and colour (10%) (Swedish Chamber of Commerce 2011). However, their product requirements may also include a consideration of the anticipated shelf life, texture, colour diversity, cultivation technique (sustainable and organic products), convenience and favourable or unique smell (Swedish Chamber of Commerce 2011). According to Rikken and Poos (2010), quality encompasses not only freshness at the moment of purchase, but also the expectation that flowers will open up and provide a long vase life. Although price is not the main criterion, it is of importance, particularly in these days of stagnant economies. Recent innovations in value-added processing such as bouquet design, new combinations of flower varieties and particular colour schemes, are linked with contemporary design trends (Hale and Opondo 2005; Hughes 2000).

Consumers and marketers often compare alternative offers, trading off higher quality with a lower price. While the gift market places more value on the assortment and quality, flowers purchased for own use are more price sensitive (Hörmann 1978). In recent years, organic flowers, or flowers that have been grown without the use of chemical fertilizers or pesticides have appeared (JETRO 2011).

Top quality flowers and plants in fashionable colours and shapes are generally priced higher (CBI 2007). The traditional primary colours of red, yellow, white and blue always enjoy a certain demand, but the ever-changing fashions in interior decor set the trends. Consumer preferences and patterns can differ strongly between countries and even within countries by geographic region and income strata. More affluent consumers buy more bouquets with "special" flowers and are generally more interested in social and environmental aspects. Farmers play into this trend by continuously introducing new varieties and by offering value added products (Rikken and Poos 2010).

2.2.3 World supply – Cut flower production

Production size

According to AIPH estimates, globally, more than 560,000 hectares are used to cultivate cut flowers and pot plants, both in the open and under protected cropping structures. The total

value of production is believed to approach EUR 26.5 billion (AIPH and Fleurs 2011). Other sources suggest that the value of production ranges from EUR 30 billion to 50 billion a year for cut flowers alone (Rikken and Poos 2010).

The global floriculture industry is constantly changing, largely as a result of globalisation (Matthee, Naudé and Viviers 2006). According to Dolan and Sorby (2003), some 120 countries are actively producing cut flowers. Traditionally, flowers and plants are grown close to the market. For that reason, countries with large domestic markets like Japan, the US and Germany are also major flower and plant producers. From 2004 to 2010, it was evident that there was a significant change in the top 5 producers of cut flowers. Haak et al. (1992) indicated the top 5 producers were Japan, the US, the Netherlands, Italy and Germany. In 2004, Wijnands et al. (2006) indicated that China, India, the US, Mexico and Taiwan were the major producers. By 2010, India, China, Brazil, Mexico and Japan were the leading producers (Table 2.3).

Table 2.3 Top 5 producers of cut flowers in 2004 and 2010

	2004		2010	
1	China	122,000	India	183,000
2	India	65,000	China	133,767
3	USA	25,000	Brazil	51,437
4	Mexico	21,000	Mexico	23,417
5	Taiwan	12,000	Japan	18,800

Source: AIPH (2011) and Wijnands et al. (2006)

Since the 1980s, production has been moving from the markets in the Northern hemisphere towards countries where climatic conditions are more favourable and production and labour costs are lower. The new centres of production are typically developing countries such as Colombia, Kenya, Ecuador and Ethiopia (Rikken and Poos 2010). Costa Rica, Thailand, Poland, India, China and Mexico have emerged as additional production centres in the last few decades (EXIM Bank 2006).

The Asia-Pacific region currently has more than two-thirds of the world production area, for it includes India (183,000 ha) and China (133,767 ha) (Figure 2.2). However, according to Botden and Terhürne (2006a) this may not be completely reliable, since it may be influenced by errors in invoicing and incomplete statistics provided by some countries.

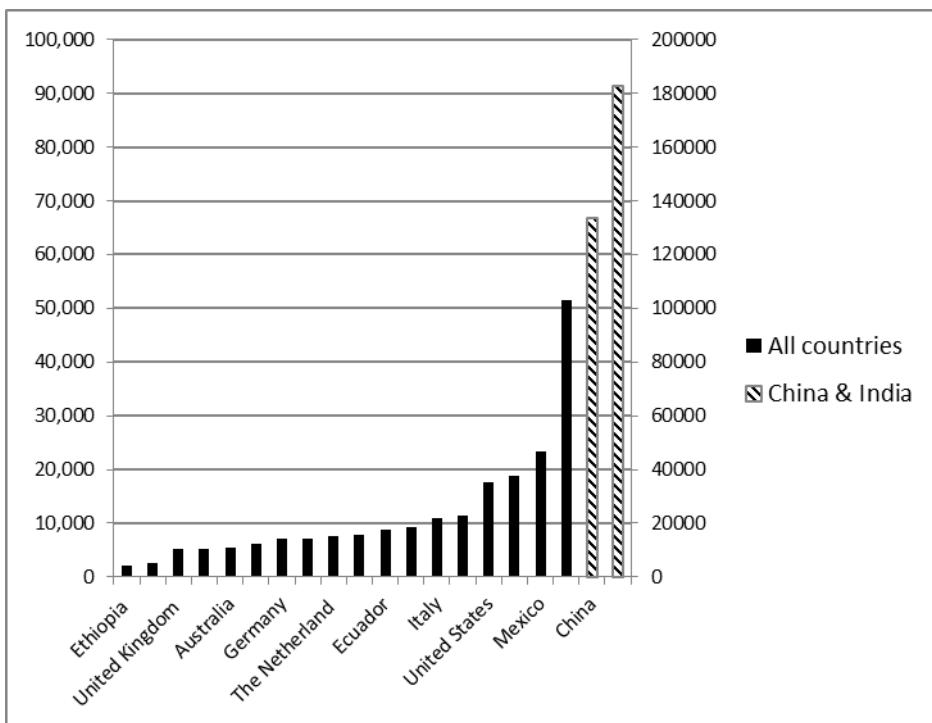
America has a 21% share of world production with Brazil and Mexico being the third and fourth largest producers. In the US, the production area continues to decline.

Europe has a 10% share of the area devoted to cut flower production. Italy has about 10,866 ha and the Netherlands around 7,664 ha. In some countries in North-West Europe, such as the UK, cut flower production is stagnating and even decreasing. In the Netherlands, Italy, Spain, Belgium, Sweden and Denmark, the number of farmers are declining, but the

remaining farms are increasing in size. As a result, production remains reasonably stable. In Eastern Europe, particularly in Poland, there is some recovery in production (Rikken and Poos 2010).

The area of flowers in Africa is very small – just 3%. Wijnands (2005) indicates that Kenya is the largest African producer, following by South Africa and Zimbabwe. More recently, the AIPH (2011) estimates that South Africa has 11,461 ha in production, Kenya around 2,180 ha and Ethiopia some 2,000 ha.

Figure 2.2 Area (ha) of flowers and pot plants for selected countries in 2009 – 2010



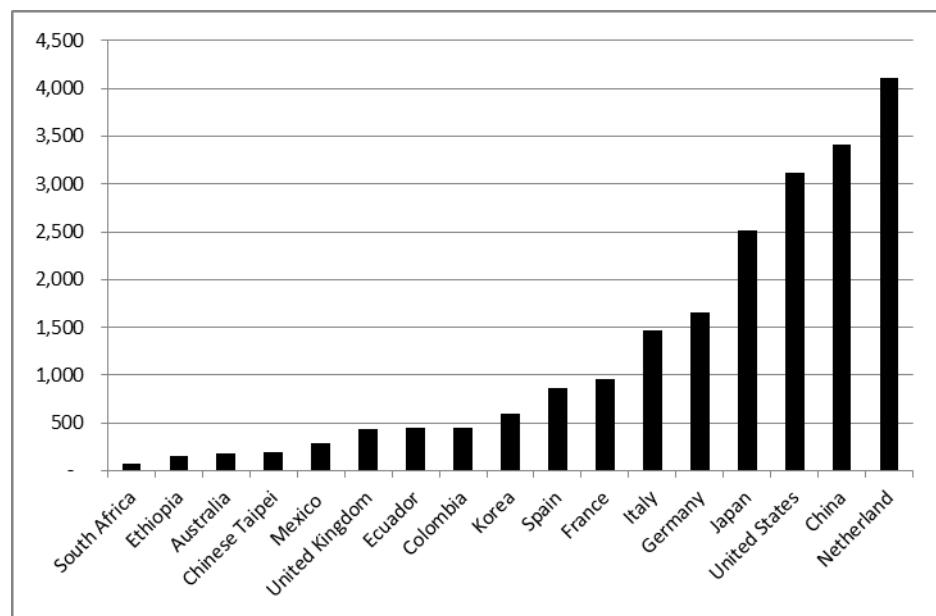
Source: AIPH (2011)

Note: Data available for Ethiopia (2008), Chinese Taipei (2008), Germany (2008), Korea (2006), Italy (2007) and South Africa (2007)

Another viewpoint from which to examine worldwide floriculture is the production value (Figure 2.3). By value, production in the EU was estimated to account for 46% of world production, whereas that of Asia was 27%, America 23% and Africa 2%.

The differences in production value can be explained by differences in the production value per hectare (Wijnands 2005). Cultivation takes places in protected environments for about 41% of the production areas in Europe, 63% in Israel and 79% in Turkey. In Japan, some 59% of the cut flowers are cultivated under protected structures, 45% in Korea and 21% in the US (Table 2.4). The European Commission (2006) suggests that the EU has the highest flower production intensity per hectare. Countries with a high ratio of protected production areas such as Denmark, Sweden or the Netherlands achieve the highest yields per hectare.

Figure 2.3 Production value (million EUR) of flowers and pot plants for selected countries in 2009 – 2010



Source: AIPH (2011)

Table 2.4 Protected and opened area for production of flower and pot plants and the ratio of protected area in selected countries in 2010

Countries	Protected area (ha)	Open area (ha)	Total area (ha)	Value of production (million EUR)	Ratio of protected area (%)
Colombia	7,900		7,900	454	100
Sweden	135		135	65	100
Norway	113		113	25	100
Guernsey	25		25	39	100
Turkey	1,046	280	1,326	27	79
Finland	148	51	199	102	74
Denmark	266	101	367	304	72
Morocco	113	52	165	344	68
Israel	1,700	1,000	2,700	214	63
Netherland	4,779	2,885	7,664	4,110	62
Japan	11,000	7,800	18,800	2,512	59
Austria	232	187	419	160	55
Spain	1,446	1,247	2,693	858	54
Hungary	340	300	640	33	53
Ecuador	4,287	1,606	8,893	450	48
Italy	4,956	6,362	10,866	1,467	46
Belgium	568	704	1,272	229	45
Korea	3,232	3,953	7,185	598	45
Switzerland	229	279	517	276	44
Portugal	420	616	1,036	218	41
EU	79,245		146,194	12,000	41
France	2,400	3,232	6,052	956	40
Ethiopia	700	1,300	2,000	149	35
Greece	363	732	1,094	176	33
Germany	2,256	4,911	7,167	1,652	31
Poland	1,417	3,176	4,593	101	31
United States	3,757	13,780	17,537	3,115	21
United Kingdom	556	4,690	5,246	441	11
Australia	309	5,026	5,335	175	6
Korea	3,232	3,953	7,185	598	
China			133,767	3,406	
Chinese Taipei			5,294	199	
India			183,000		
South Africa			11,461	73	
Mexico			23,417	281	
Others			81,122	3,364	
			560,000	26,500	

Source: AIPH (2011)

Production trends

In the global cut flower business, trends such as an increase in production volume, product quality, diversity and availability and up-scaling can be observed. In the past, flower quality was mostly defined by product quality. However, today, flower quality is defined more by process quality (Botden and Terhürne 2006a).

Although the consumption of flowers and plants is still increasing, farmers face numerous problems: (i) continuous downward pressure on their margins because of stagnant prices and

rising costs; (ii) increasing supply; and (iii) more competition because of disappointing demand developments due to the economic crisis (Swedish Chamber of Commerce 2011).

While global markets offer farmers higher margins, they place them under more pressure (Dolan and Sorby 2003). A number of trends are having a significant impact on flower production, including: (i) the position of the Netherlands and EU in the cut flower industry (Riisgaard 2009a); (ii) the paradigm shift in the floriculture industry from domestic production to international production (Matthee et al. 2006); (iii) greater consumer interest in environmentally friendly production and fair labour conditions (health care and safe working conditions) (Botden and Terhürne 2006a; CBI 2011; Dolan, Opondo and Smith 2002); (iv) the increasing influence of supermarkets (Matthee et al. 2006); and (v) rigorous standards for quality (labeling and certification) (Botden and Terhürne 2006a; Dolan and Sorby 2003).

In production, farmers are scaling up and producing bulk products; increasing productivity through a strong focus on research and investment; and relocating production to reduce costs (Swedish Chamber of Commerce 2011).

Developing countries compete against their developed world counterparts in terms of cheap labour and land. However, developing countries struggle to compete in terms of non-cost factors such as cultivating new varieties, image and prolonged shelf-life, and their ability to comply with several tariff (import duties) and non-tariff (health and safety regulations) barriers established by the developed countries (Matthee et al. 2006).

2.2.4 Trade

In 2010, the world floriculture market was estimated to be worth EUR 55 billion, whereas the world trade in cut flowers was worth about EUR 12 billion (AIPH and Fleurs 2011). The wholesale value of floricultural products has decreased slightly for the US from EUR 185 million in 2009 to 184 million in 2010, while it has increased by about 9% for the Netherlands (AIPH and Fleurs 2011).

While significant changes have occurred in the top 5 producing countries since 2004, there has been little change in the top 5 exporters and importers (Table 2.5). Germany, the UK, the US, the Netherlands and Russia are the top 5 importers, while the Netherlands, Colombia, Ecuador, Kenya and Belgium are the top 5 exporters.

Table 2.5 Top 10 cut flower importers and exporters in 2010

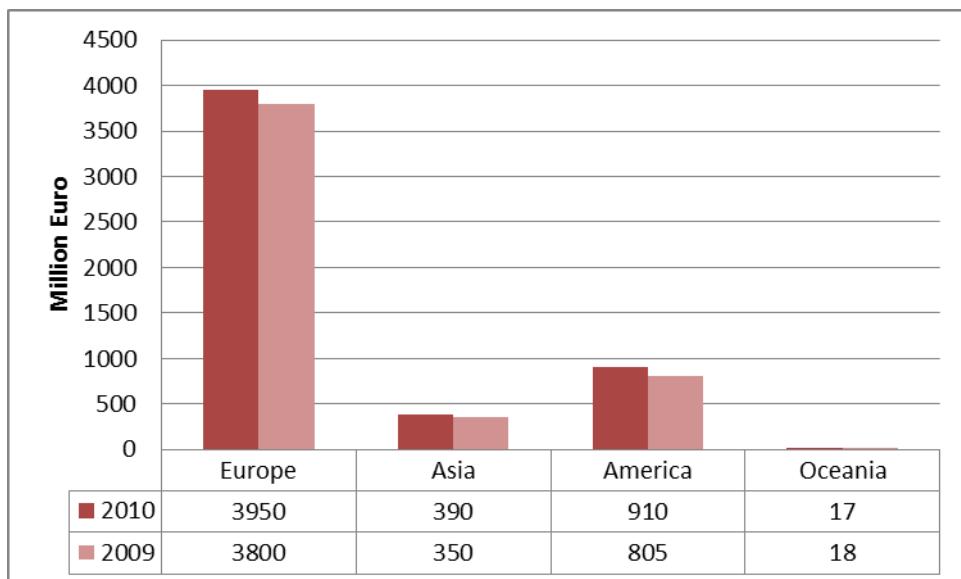
Top 5 world importers (million EUR)				Top 5 world exporters (million EUR)			
2004		2010		2004		2010	
Germany	870	Germany	777	Netherland	2,250	Netherlands	2,615
UK	742	UK	695	Colombia	602	Colombia	935
USA	615	USA	638	Ecuador	260	Ecuador	450
Netherlands	465	Netherlands	535	Kenya	200	Kenya	233
France	386	Russia	423	Israel	145	Belgium	186
		France	352			China	146
		Japan	261			Ethiopia	120
		Italy	173			Israel	118
		Switzerland	132			Thailand	62
		Canada	90			Italy/Korea	60

Source: AIPH (2011) and Wijnands et al. (2006)

Development of the import and import markets

The value of world imports of cut flowers was estimated to be EUR 5.3 billion in 2010. Import values continue to rise with an annual growth rate of around 6% (Figure 2.4). The import market is heavily dominated by the EU, with seven of the top 10 importing countries in the world (AIPH and Fleurs 2011) and no fewer than 16 countries in the top 20 (TIPS and AUSAID 2007). In 2010, the ten largest importing countries accounted for nearly 80% of global imports (AIPH and Fleurs 2011).

Figure 2.4 World import value of cut flowers in 2009 – 2010



Source: AIPH (2011)

The biggest single market for imports is Germany with 15% of the world market, followed by the UK (13%), the US (12%), the Netherlands (10%) and Russia (8%). One of the most significant facets of Dutch floriculture is that the value of exports (EUR 4.6 billion) exceeds the value of production (EUR 4.1 billion). This arises because a significant proportion of

flower imports (EUR 893 million) are re-exported. Preparing flowers for export adds value in that work is required to regrade, repack, prepare and process documentation (Batt 1993).

In Europe, the market is supplied primarily by domestic and regional production, which is supplemented by supplies from Africa (EUR 645 million), Asia (EUR 160 million); North America (EUR 76 million), South America (EUR 434 million) and Oceania (EUR 16 million) (AIPH and Fleurs 2011). According to ITC (2011), EU imports of roses from the developing countries grew from EUR 391 million in 2006 to EUR 561 million in 2010. African countries such as Kenya, Ethiopia, South Africa, Uganda and Zimbabwe are the most important non-EU suppliers to the EU, although Ecuador, Colombia and Costa Rica also rank among the top 10 suppliers to the EU (AIPH and Fleurs 2011).

The Japanese market relies mainly on domestic production, with only 20% of the market being supplied through imports from other countries (Wijnands 2005). According to JETRO (2011), cut flowers are imported into Japan from around the world. In 2010, the greatest volume of imports came from Asia: Malaysia accounted for 23% of total imports to Japan, followed by the Republic of Korea (18%) and China (14%). In terms of import value, Malaysia (24%) continues to dominate, but Columbia is the second largest importer by value (19%).

In contrast, 70% of the cut flowers sold in the US were supplied through imports, particularly from Colombia, Ecuador and other Latin American countries (Wijnands 2005). The US mainly imports from Colombia (EUR 422 million), Ecuador (EUR 104 million), Canada (EUR 58 million) and the Netherlands (EUR 38 million) (AIPH and Fleurs 2011).

The Netherlands is the largest exporter, with some 45% of the world export market in 2010 (AIPH and Fleurs 2011). However, most of these exports are to the EU (over 80%). Other large European exporters include Belgium, Italy, Germany, Spain and Denmark (AIPH and Fleurs 2011). Most of their trade is intra-EU (TIPS and AUSAID 2007).

According to Batt (2001), the Netherlands is the world leader in floricultural exports despite its cold and grey climate. This selective disadvantage has led to significant innovations in greenhouse growing techniques that have created sustainable competitive advantages for the industry and achieved differentiation based on freshness, quality and variety. The auction prices in the Netherlands are an indicator of the trends in world floriculture. The Netherlands is also the trendsetter in transport and logistics, packing and trade functions (Haak et al. 1992).

The growth in market demand has attracted an increasing number of developing countries into the global cut flower trade. Colombia, Ecuador, Kenya, China, Thailand, Uganda and Zimbabwe are strong players in the global market. The developing countries' share of world

exports has risen from approximately 41% in 2009 to over 46% in 2010, an average annual growth rate of 26% (AIPH and Fleurs 2011). The South American countries of Colombia and Ecuador are the second and third largest exporters respectively, with the majority of their product going to the US (AIPH and Fleurs 2011; Wijnands 2005).

The growth of Colombian flower exports has been attributed to several factors including: (i) an ideal climate; (ii) low costs of production (low capital costs of greenhouse; low labour costs and low cost airfreight to the US); (iii) relative proximity to the US market; (iv) substantial Government support; and (v) a favourable exchange rate (Batt 2001).

Kenya, the largest African exporter, is fourth, with a 4% share of the world market in 2010. With exports from Kenya growing faster than any of the top 10 countries (TIPS and AUSAID 2007), Kenya now accounts for 40% of EU cut flower imports by both volume and value. In comparison, Ethiopia accounted for just 10% of EU imports by volume and value. According to Gebreeyesus and Sonobe (2012), Kenya, Ethiopia, Zimbabwe, Uganda, Zambia and South Africa were among the top 10 extra-EU cut flower suppliers, accounting for about 51% of total imports (intra- and extra-EU) into the EU.

Most developing countries produce primarily for export as the domestic market is largely irrelevant. However, as not all of the flowers produced will meet the exacting standards required by fastidious buyers, having a strong domestic market is advantageous (Batt 2001).

The trade trend

In the global cut flower business, the turbulent, uncertain and highly competitive global environment is encouraging stronger coordinated supply chains to improve efficiency. Cost reduction activities and horizontal and vertical chain integration can be observed, leading to closer cooperation between producers and customers (Botden and Terhürne 2006a).

Developing countries have been able to gain a foothold in the global cut flower market by capitalising on counter-seasonality, providing a greater variety, lower tariffs and by being able to take advantage of improved transport services (refrigerated aircraft) (TIPS and AUSAID 2007).

However, there are more farmers than buyers for floricultural products. As farmers compete to become the preferred supplier, each tries to establish a presence in the market by improving product availability and quality (CBI 2011). Most of the time, buyers can choose from a set of farmers which all offer similar products and prices. Combined with the so called “soft” factors, such as farmers reliability, track record and relationships, this will result in a certain market price which farmers can expect, based on global supply and demand (Botden and Terhürne 2006a).

2.3 Viet Nam cut flower industry

2.3.1 Production

From the mid 1990's, the floriculture sector in Viet Nam has been growing rapidly, mainly to serve the domestic market (Danse et al. 2008). Due to a change in perceptions and the increase in demand, floricultural production has become an important cash crop for many rural households. The Premier's Decision No 182 QĐ/TTg of September 3, 1999, to launch the strategic "Project for Development of Vegetable, Flowers and Fruits for the Period 1999 – 2010" was the Government's first step in supporting the horticultural industry as a whole and floriculture specifically. The overall project targets were to: (i) meet the consumers demand for fresh vegetables, fruit and flowers; (ii) create about five million jobs; and (iii) raise the annual turnover from the export of vegetables, fruit and flowers to USD 1 billion (Mekong Economics 2007).

Various projects have been initiated and supported by the Vietnamese government and international donors to support the development of the cut flower industry in the Red River Delta (Allbritton et al. 2005; Danse et al. 2007a; NABSO Kunming 2008; Quang et al. 2005a; Quang et al. 2005b; van Wijk et al. 2005); and in Da Lat (Danse et al. 2007b; Mekong Economics 2007; RUDEC/IPSARD-FAO 2007). Technical support has been provided and supported by international organizations such as the FAO, DANIDA, ADDA, CIDSE and CIRAD in the form of both direct and indirect training and field visits (UNCTAD 2004). Led by the Ministry of Agriculture and Rural Development (MARD), universities, research institutes and extension centres have the responsibility of facilitating the transfer of knowledge to the sector. Training courses and workshops are provided for farmers and staff, in which universities and extension services cooperate closely. Knowledge exchange in Viet Nam focuses on increasing farmers' incomes by improving farm management.

However, government plans do not always translate into real initiatives and support. Moreover, the applied R&D infrastructure is not efficient and education not practically oriented. (NABSO Kunming 2008). According to Mekong Economics (2007), there is a need for a good policy for market development. Although many projects have been conducted in Da Lat, these projects and programmes are often short term and small scale. While the government has spent a lot of money, the impact on the development of the cut flower sector has been negligible. Projects should be long-term from five to ten years. Furthermore, there are inactive or ineffective associations/professional groups in Da Lat.

Production size – Major production regions

Of the 13,200 ha of ornamental products in Viet Nam, the cut flower production area covers some 4,500 ha (34%) (Table 2.6). The estimated sales value of domestic production is about EUR 175 million (NABSO Kunming 2008).

Table 2.6 Area (ha) of main floricultural products in Viet Nam

Products	Area (ha)	Estimated sales value (mil. €)
Chrysanthemum	800	
Rose	700	
Gladioli	300	
Carnation	150	
Other cut flowers & foliage	2,550	
Total cut flowers & foliage	4,500	45
Total plants & ornamental trees	8,700	130
Total	13,200	175

Source: NABSO Kunming (2008)

The country has two different climatic regions: (i) *tropical* in the South and Central Highlands with a wet and a dry season; and (ii) a *sub-tropical* region in the North where there is a hot summer and a cold winter. In both parts of the country, there are temperate regions at higher altitude where temperate flowers can be grown such as Sa Pa and Tam Dao in the North, and Da Lat in the South (Linh 1998).

Cut flower cultivation is concentrated in three main regions: the Red River Delta, suburban Ho Chi Minh City (HCMC) and Lam Dong (Mekong Economics 2007; van Wijk et al. 2005). There are conflicts in the data for the production of cut flowers, with different data sources giving different production areas (Table 2.7).

Table 2.7 Regions with floricultural production in Viet Nam (ha)

Main regions	Sub-regions	Production areas (ha)	Year	Source
Red River Delta	Ha Noi, Me Linh (Vinh Phuc), Hai Phong, Sa Pa (Lao Cai), Son La	1,000	2007	(Danse et al. 2007a; van Wijk et al. 2005)
		7,200	2008	(NABSO Kunming 2008)
		2,000	2009	(Tung 2010)
Suburban HCMC	Binh Chanh, Go Vap, Hoc Mon, Thu Duc, Cu Chi	Up to 200	2008	(NABSO Kunming 2008)
		700	2009	(Mekong Economics 2007; Rau Hoa Qua Viet Nam 2011)
Lam Dong	Da Lat, Lac Duong, Don Duong	960	2005	(Tung 2010)
		2,025	2008	(NABSO Kunming 2008)
		Up to 3,200	2009	(Dien 2010; Leadership Newsletter 2010; Mekong Economics 2007; Vong 2010)
Whole country		13,200	2008	(NABSO Kunming 2008)
		Up to 8,000	2010	(Mekong Economics 2007; Tung 2010)

The number of different temperate cut flowers being produced is increasing. In recent years, a number of new rose, anthurium, chrysanthemum, carnation and orchid varieties have been introduced, most of which were quickly accepted by the local market (Linh 1998).

The type of cut flowers grown in Viet Nam depends largely on the region. Temperate flowers are cultivated all year round in Lam Dong and in the winter months (October – February) in the Red River Delta (Table 2.8).

Table 2.8 Regions with cut flower types in Viet Nam

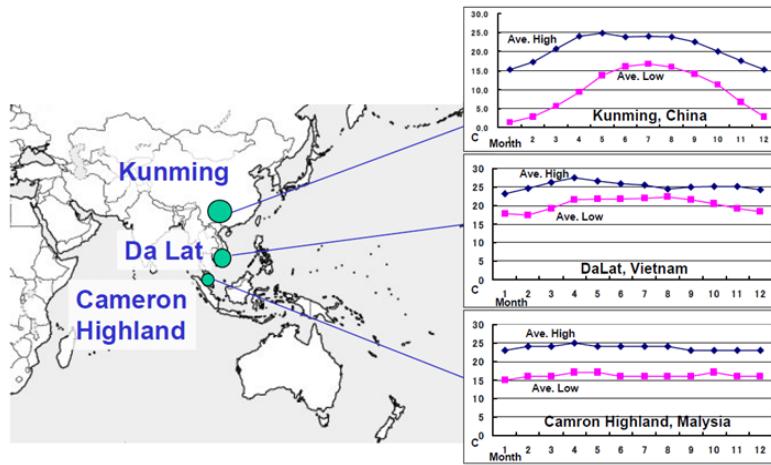
	Cut flower types	Products	Sources
Red River Delta	Temperate cut flowers (winter seasons)	Roses, chrysanthemums, cherry blossom, gladioli, carnation	(Allbritton et al. 2005; Danse et al. 2007a; Linh 1998; Mekong Economics 2007)
HCMC	Tropical cut flowers	Asters, tagetes, chrysanthemum, tuberosa, rose	(Mekong Economics 2007; Rau Hoa Qua Viet Nam 2011)
	Orchids	Phaleanopsis, Oncidium, Dendrobium, Mokara	
Lam Dong	Temperate cut flowers	Chrysanthemum, rose, lily, eustoma, gerbera, gladioli, cymbidium, carnation, baby's breath, limonium, statice...	(Duong 2010; Linh 1998; Mekong Economics 2007)
Viet Nam		Rose, chrysanthemum, orchids (10%), the other valuable cut flower (carnation, gerbera, gladioli...)	(Mekong Economics 2007)

In Viet Nam, labour is abundant and the cost of labour competitive (Vong 2010). The wage rates currently paid in Viet Nam; from VND 500,000 – 1 million/month (EUR 18 – 37/month) (Allbritton et al. 2005) or from VND 1.5 million to 1.8 million/month (EUR 55 – 66/month) (Mekong Economics 2007), are internationally competitive. Therefore, a number of foreign and local flower producers have emerged that are developing large-scale production enterprises (Mekong Economics 2007). Furthermore, labour skills are improving. Foreign investment is also advantageous as local farmers have gained access to new technologies (Allbritton et al. 2005; Danse et al. 2007b; Mekong Economics 2007).

The central highlands of Lam Dong, where Da Lat is situated, is the key production area. At an altitude of 900 – 1,600 m, the conditions are very suitable for the cultivation of temperate vegetables and floricultural products all year round. Topographically, Da Lat is a plateau, with suitable day and night temperatures and enough flat land for large-scale production. With daytime temperatures averaging 21°C and night temperatures seldom falling below 10°C, Da Lat provides an ideal location for the intensive cultivation of most temperate flower crops including chrysanthemum, rose, carnation, gerbera and lilies (Mekong Economics 2007). According to Ando (2009), the most suitable production areas for cut

flowers in Asia are Kunming (China); Da Lat (Viet Nam); and the Cameron Highlands (Malaysia) (Figure 2.5).

Figure 2.5 Suitable production areas for cut flowers in Asia



Source: Ando (2009)

Situated just 300 km from HCMC and its international airport, Da Lat is well placed to take advantage of the growth in cut flower consumption in both domestic and export markets (NABSO Kunming 2008). Currently, cut flower production in Da Lat covers more than 3,500 ha, 40% of the country's total area. It accounts for more than 50% of the country's total production, supplying more than 10 million stems to both domestic and overseas markets (FloraHolland 2011). In Da Lat, there are 12 wards and 3 communes (Xuan Tho, Xuan Truong and Ta Nung). Cut flowers are mainly cultivated in Ward 3, Ward 4, Ward 5, Ward 7, Ward 8, Ward 9, Ward 11, Ward 12 and Xuan Tho (Table 2.9).

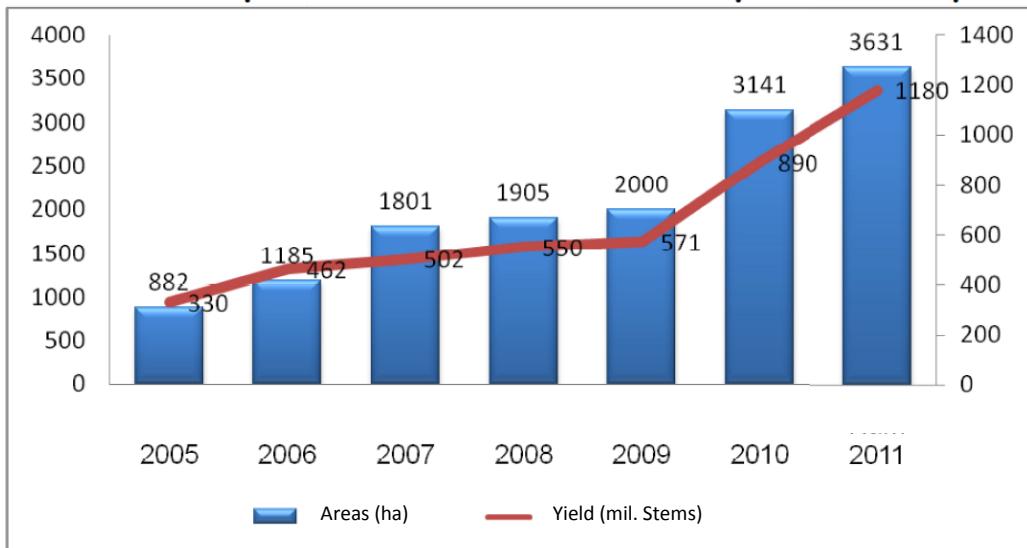
Table 2.9 Estimated cut flower production areas in Da Lat in 2010

Ward	Total areas (ha)	Cut flower types	Cut flower areas (ha)	Sub-regions
3	325	Gladioli	125	Village 4,5,6,7,8
4	257	Rose, chrysanthemum	214	An Son
5	354	Rose Other flowers	60 23	Van Thanh
7	1,100	All cut flower types	43	Village 1 – 5
8	450	All cut flower types	120	Village 2, 3, Ha Dong
9	130,242	Chrysanthemum and all cut flower types	17.5	Xuan Huong, Lu Gia, Phan Chu Trinh
11	600	Chrysanthemum and all cut flower types	160	Village 1 – 4
12	440	Chrysanthemum	120	Village 1 – 4
Xuan Tho	2,381	Gladioli	55	Da Quy, Xuan Thanh, Tuy Son
Total	136,149		920	

Source: DAI (2010)

Large areas of land are available for further expansion. Recently, some 2,288 ha of forestry land in Da Lat was cleared for conversion into agricultural land for the expansion of the flower industry. The formation of a High-Tech Agricultural Zone of over 350 ha in Lac Duong district is a further example (Mekong Economics 2007). The cut flower area in Da Lat has been steadily increasing from 2001 to 2011. While the production area has more than tripled, the yield of cut flowers has increased by nearly four times (Figure 2.6).

Figure 2.6 Increase of cut flower production areas from 2001 – 2011



Source: Lam Dong Industry and Trade Department 2012

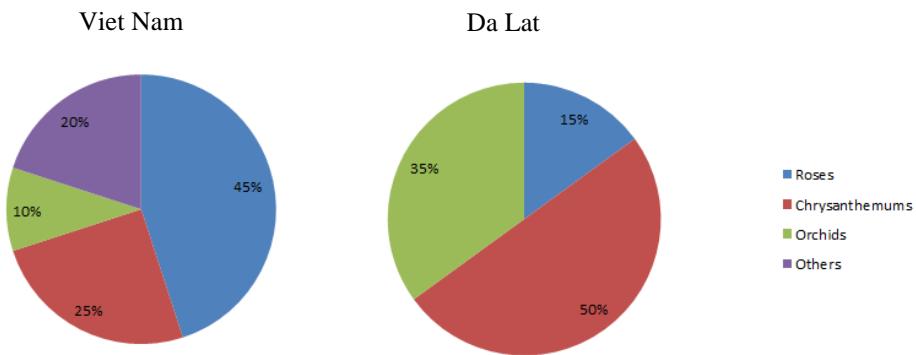
The Red River Delta (Ha Noi, Hai Phong and Vinh Phuc) and the highlands in the north (Son La and Sa Pa) produce a large volume of lower quality flowers for the domestic market in Ha Noi (NABSO Kunming 2008). In Me Linh (Ha Noi), more than 250 ha of roses are cultivated, accounting for 63% of the total cultivated area in that region. The rose cultivation area in Sa Pa is about 55 ha with one large scale farm (ATI); one mid-sized company; six cooperatives (each 3 – 7 farmers); and 26 independent and small rose farmers (NABSO Kunming 2008). Sa Pa is supplying cut flowers during the hot summer season from March to October to markets in the north of Viet Nam (van Wijk et al. 2005). Scattered fields, the lack of proper infrastructure and the hot weather in summer prevent the Red River Delta from developing an export oriented industry (NABSO Kunming 2008; van Wijk et al. 2005).

Cut flower types

Chrysanthemums and roses are the major cut flower crops cultivated in Viet Nam. According to Mekong Economics (2007), about 45% of the cut flower production area is dedicated to roses, 25% to chrysanthemums, and 10% to various orchid species (Figure 2.7). Although roses and chrysanthemums are the main cut flowers, their production differs

between the regions depending on specific climatic conditions. In Da Lat, chrysanthemums cover 50% and roses cover 15% of the cut flower production area.

Figure 2.7 The relative areas of cut flower types in Viet Nam and Da Lat



Source: Mekong Economics (2007)

Rose is the most popular cut flower in Viet Nam. It can be planted and harvested all year round in the Red River Delta, Da Lat, HCMC and other provinces. The most popular varieties are the white and red rose in Quang An; light yellow, light pink, dark yellow and dark red rose in Da Lat; and black red and creeping rose in other places (Linh 1998).

In Da Lat, roses are produced all year round. Although the temperatures are quite stable, during the rainy season (June to November), productivity is lower than during the dry season (December to May). The yield varies between 90 and 180 stems per square metre per year depending on the variety cultivated (lower for the Hybrid T varieties and higher for the sweethearts) (Danse et al. 2007a).

Chrysanthemum is also popular in Viet Nam, particularly in the Red River Delta, Da Lat, HCMC and other provinces. Popular varieties/species include *Chrysanthemum morifolium*, *C. indicum*, *C. leacanthemum*, Taiwan yellow, Japan yellow, and the Xuxi chrysanthemum (Linh 1998). Popular varieties of gladioli are white, violet, red, light pink, yellow and short pink (Linh 1998).

Even so, the lack of appropriate varieties leads to poor quality control, a seasonal supply of cut flowers and low productivity (Mekong Economics 2007; van Wijk et al. 2005). According to Poulish et al. (2003), varietal characteristics affect the quality of cut flowers such as suitability to the local growing environment (soil type and climate); resistance to disease and insect attack; and the growth habit of the plant (stem length, flower colour). According to NABSO Kunming (2008), Vietnam signed the UPOV 1991 agreement in 2006 (the International Convention that Protects Plant Breeder Rights); however, illegal propagation is still common practice. Enforcement is not done adequately and needs to be improved.

Cultivation methods

The majority of cut flower production in Viet Nam takes place in open fields or simple plastic greenhouses. However, plastic greenhouses do not protect against storms and floods, and hence the quality is adversely affected (Linh 1998). As the production facilities and utilities are simple and the cool chain is poorly developed, most of the products are of poor quality and seldom meet international standards (NABSO Kunming 2008). To date, the cut flower industry has been developed almost exclusively through private sector involvement, some innovative small farmers and some large companies (FloraHolland 2011; van Wijk et al. 2005).

Currently, there is no official data on the proportion of open field and plastic greenhouses used for cut flower production. However, some 1,000 ha are believed to be covered by plastic greenhouses in Da Lat (DAI 2010; Ngoc 2010) (Table 2.10). According to Danse et al. (2007b), about 90% of the roses in Da Lat are grown under plastic greenhouses.

However, few farmers have the capacity to invest in appropriate greenhouses (Mekong Economics 2007). The majority of greenhouses consist of a bamboo or metal structure, covered with a plastic roof and insect proof nets on the side walls. The bamboo structure usually lasts around five years, but the plastic must be replaced every two years. With limited control of the growing environment, there is a seasonal under and over supply, which makes it difficult to maintain the continuity of supply (Poulish et al. 2003).

Table 2.10 Total plastic areas for cut flowers in Da Lat in 2009

Types	Total areas (ha)	in which:		
		Plastic greenhouse (ha)	Net greenhouse (ha)	Spray irrigation areas (ha)
Vegetables	4,300	150	0	300
Cut flowers	905	650	50	400
Strawberry	60	0.5	0	5
Others	470	0	0	25
Total	5,735	801	50	730

Source: DAI (2010)

The average flower farm is smaller than 2,000 square metres (NABSO Kunming 2008). In the north, smallholder farmers practice open field cultivation on an average landholding of just 1,500 square metres. The plots are scattered among vegetable crops and rice fields (Danse et al. 2007a; van Wijk et al. 2005) and flood irrigation is still commonly practiced (Danse et al. 2008).

In Da Lat, the majority of flower farmers are small family enterprises. The farm size varies from less than 3,000 square metres up to eight hectares, on which different crops, including flowers and vegetables, are cultivated. Production practices have been heavily influenced by the Dutch-Vietnamese company Hasfarm, which commenced production in 1995. Many of

their practices have been copied by the smallholder farmers and many have built their own unsophisticated plastic greenhouses (Danse et al. 2008).

Because of the year-round intensive cultivation of flowers, the high prevalence of pests and diseases can lead to pest and disease epidemics (Mekong Economics 2007). Most cut flower production enterprises lack the technical expertise in crop management and pest control (NABSO Kunming 2008). Generally, the focus is on pesticide use rather than on diagnoses and disease prevention (Danse et al. 2007a). Poor production technology (soil quality testing and disease diagnoses) leads to poor quality control and low productivity (Mekong Economics 2007; van Wijk et al. 2005).

Although, the quantity and quality meets domestic market requirements, the unstable supply and inability to meet the standards of international customers restricts growth in export markets (Mekong Economics 2007). The lack of refrigeration and poor packaging, poor postharvest facilities and knowledge lead poor product quality and a short shelf (vase) life. The transport cost is high, and without refrigeration (NABSO Kunming 2008) there is no benefit in applying postharvest treatments to prolong the shelf life (Poulish 2003).

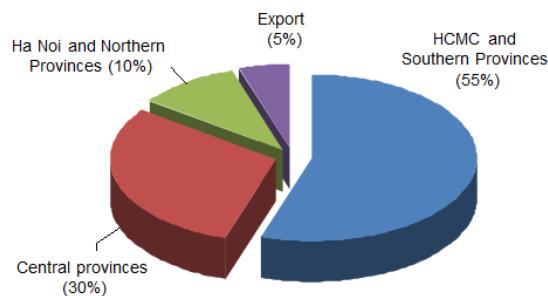
2.3.2 Consumption and distribution

Market size

Statistical information regarding the level of ornamental plant consumption in Viet Nam is not readily available, but domestic consumption is estimated to be in the region of EUR 150 million per year, or EUR 1.75 per capita (NABSO Kunming 2008).

According to RUDEC/IPSARD-FAO (2007), most of the cut flowers produced in Da Lat are consumed in the domestic market (95%), most of them for Buddhist worship. HCMC and the Southern Provinces consume the majority of the flowers produced (55%), with Ha Noi and the Central provinces consuming 40%. Only 5% are available for export (Figure 2.8).

Figure 2.8 Markets of cut flowers in Viet Nam



Source: Survey and calculation of RUDEC/IPSARD-FAO (2007)

There are many established wholesale flower markets and retail markets throughout Viet Nam. Three are located in HCMC (Dam Sen, Hau Giang and Ho Thi Ky), one in Ha Noi (Quang An) and one in Me Linh (Vinh Phu Province). The majority of consumers live in HCMC, Ha Noi and other large cities such as Da Nang, Hue and Can Tho (NABSO Kunming 2008). In HCMC, over 200 local markets play a role in distributing the product to consumers (NABSO Kunming 2008). In Da Lat, flowers are sold in the Central City Market where there are 30 permanent stall holders. Local shops also sell bunches of flowers, especially on lunar special days (Danse et al. 2007b). Flowers can also be purchased from roadside flower hawkers in most cities and towns (Poulish et al. 2003). In local retail outlets, the assortment of varieties is rather small and the conditions under which the flowers are held are very elementary. Specialised, luxury flower shops and supermarkets in the higher quality segment are scarce, although they are beginning to emerge in the big cities (NABSO Kunming 2008).

Farmers face a small and relatively unsophisticated domestic market, with significant price fluctuations. With a slowdown in the global economy, consumption may even be declining (NABSO Kunming 2008). According to Mekong Economics (2007), the domestic market appears to be saturated. Few farmers understand the dynamics of the market and even at the government level, there is a lack of reliable industry statistics to assist with planning and marketing (Mekong Economics 2007).

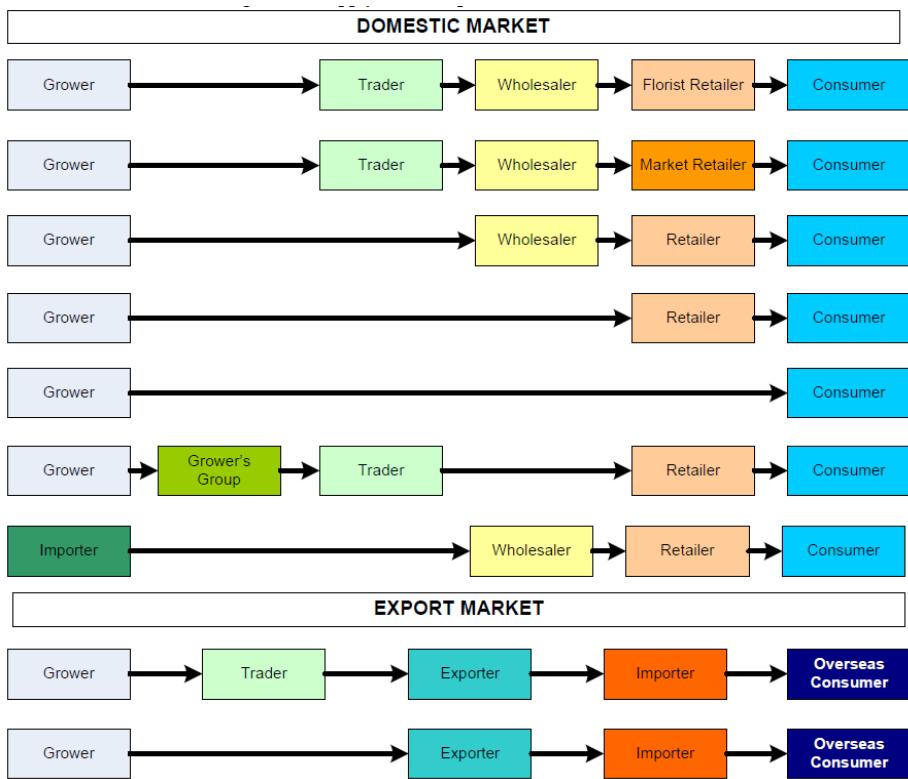
Market segments

The cut flower market in Viet Nam is organised around a network of wholesale markets and small scale yet widespread distribution networks. Traders, hawkers, flower stalls and small retail shops dominate the distribution system. Very few farmers sell their products directly to the final consumer: most flowers are sold through traders and wholesalers (Danse et al. 2007b).

Within the industry, many alternative supply chains have emerged to service different end customers (Mekong Economics 2007) (Figure 2.9). Such supply chains are typically long, loose and fragmented, involving multiple smallholder farmers delivering produce to many market intermediaries (Batt 2003e; Batt and Cadilhon 2006; Murray-Prior et al. 2006; Singgih and Woods 2004; Wheatley et al. 2004; Woods 2004). Farmers are free to produce and sell any amount of any commodity to many buyers who are free to purchase whatever quantity they desire from any seller (Batt 2003b; Birthal, Joshi and Gulati 2005).

In the domestic market, the most important channel, which handles about 60% of the flowers produced, is from farmers to traders. The second most important supply chain is from farmers to wholesalers, which handles an estimated 20% of the production volume.

Figure 2.9 Supply chain maps for cut flowers in Da Lat



Source: Mekong Economics (2007)

According to Mekong Economics (2007), some 25% of flower farmers have developed a direct relationship with the wholesale market to try to improve earnings by marketing their products through cooperatives. All other domestic channels, including that for imported flowers, share only about 10% of the total flower business.

Individual consumer demand (mainly cut flowers and flowering pot plants) is concentrated around celebrations and gift giving. Quality is not the main consideration and therefore average prices are low (NABSO Kunming 2008). Moreover, market prices fluctuate widely, reaching their peak for special events. According to Poulish et al. (2003), chrysanthemums play an important role in the Vietnamese Buddhist culture such as Lunar New Year in January – February, Lunar special days (at the beginning and middle of the moon months), holidays in the lunar calendar and condolences. In contrast, for the public holidays, Wedding days, Valentines' Day (February 14), International Women's Day (March 8), Teacher's Day (November 20) and various others, roses and bright, colourful flowers are required (Table 2.11). The Vietnamese population has yet to develop the habit of buying cut flowers for everyday use (NABSO Kunming 2008). According to Poulish et al. (2003) and Mekong Economics (2007), prices fluctuate daily, weekly and seasonally.

Table 2.11 Main celebration days in Viet Nam and traditional use

Holiday (Temporal calendar)	Date	Flower types
New Year	01 January*	Bright and colourful gladioli, chrysanthemums and roses
Valentines' Day	03 February	Rose for gifts; carnation, gypsophila, gerbera and gladioli for corporate decoration
International Women's Day	08 March	Rose for gifts; carnation, gypsophila, gerbera and gladioli for corporate decoration
Easter		All white flowers
Liberation Day	30 April*	Bright and colourful (corporate)
International Labour Day	01 May*	Bright and colourful (corporate)
Ho Chi Minh President's Birthday	19 May	Chrysanthemum and gladioli
National Day	02 September*	Bright and colourful (corporate)
Teacher's Day	20 November	Rose for gifts; carnation, gypsophila, gerbera and gladioli
Christmas	25 December	All white flowers
Holiday (Temporal calendar)		
Lunar special days (Buddhist)	1 st and 15 th of lunar months	Chrysanthemum, gladioli
Lunar New Year (Tet)	1 st -7 th of the 1 st month*	All flowers but especially: chrysanthemum, rose, gerbera, carnation, cymbidium
Buddha's Birthday	14 th -15 th of the 4 th month	Easter lily, gladioli, chrysanthemum
Other events	Season	
Gifts		NOT chrysanthemum
Weddings	November to May	Rose, Gypsophila (bouquet), Arum lily
Funerals		White flower for Catholic; yellow, white and purple for Buddhist Lily, chrysanthemum, rose
Da Lat flower festival	Once every two years from 30 December to 7 January	All flowers
	*: Public holidays	

Source: Poulish et al. (2003)

At the farm level, the cost of production for roses is between VND 250 – 500 per stem (Table 2.12).

The average return from roses varies from 8% for hybrid tea to 25% for grandiflora. Whereas the wholesaler and trader returns were from 15% for hybrid tea and 56% for grandiflora, retailers received a margin of only 20% for grandiflora and up to 60% for hybrid tea (Poulish et al. 2003).

The cost of production for chrysanthemum was VND 250 per stem in 2003. The average farmer return from chrysanthemum was just 13%, whereas wholesalers and traders received 20% and retailers received 55%. Farmer returns have dropped significantly from 2003, falling from VND 7,000 per stem in 1998 to only VND 500 in 2003 (Poulish et al. 2003).

Table 2.12 Average cost of production and market price for chrysanthemums and roses in Da Lat (VND/stem)

	Average cost of production (VND/stem)	Average farmer price (VND/stem)	Average wholesale price (VND/stem)	Average retail price (VND/stem)
Chrysanthemum	250	500	900	2,000
Rose-grandiflora	400	600	2,000	2,500
Rose-hybrid tea	250	500	800	2,000
Rose-miniature	500	1,500		4,000

Source: Poulish et al. (2003)

With the increasing incidence of pest and disease infestation, increasing input costs, labour costs and energy costs, and a decline in cut flower prices, the profitability of cut flower farming is rapidly deteriorating (Allbritton et al. 2005; NABSO Kunming 2008). Product prices are subject to the supply and demand effects of a free market (Allbritton et al. 2005). Traditionally, farmers have acted suspiciously towards the prices offered by market intermediaries, but the reality is, the prices that market intermediaries pay reflects the demand for flowers in the consumer and institutional market. The lack of any market orientation, any cooperation between buyer and sellers and the lack of any production planning leads to the production of inferior quality cut flowers and low prices (NABSO Kunming 2008; RUDEC/IPSARD-FAO 2007).

Cut flowers are seldom stored due to the high cost of cool storage (NABSO Kunming 2008; UNCTAD 2004). Similarly, farmers are reluctant to apply any chemical treatment to enhance the vase life as this raises the cost of production which they cannot pass onto buyers.

For short distances, flowers are transported on the back of motorcycles, either by the farmer or by the collector/trader, with the blooms exposed to wind and direct sunlight. For longer journeys, flowers are transported in covered trucks or enclosed vans which are seldom refrigerated (Mekong Economics 2007).

2.3.3 Trade

Viet Nam export

Worldwide, Viet Nam is considered as an emerging exporter in the global cut flower industry (de Groot 1999; van Uffelen and de Groot 2005; Vélez 2007). Government plans aim to raise the export value to one billion stems by 2010 (Mekong Economics 2007).

The growth of flower exports in the period 2006 – 2011 increased by 2.77 times compared with 2006 (Figure 2.10).

Figure 2.10 The export situation of cut flowers in Lam Dong (2006 – 2011)

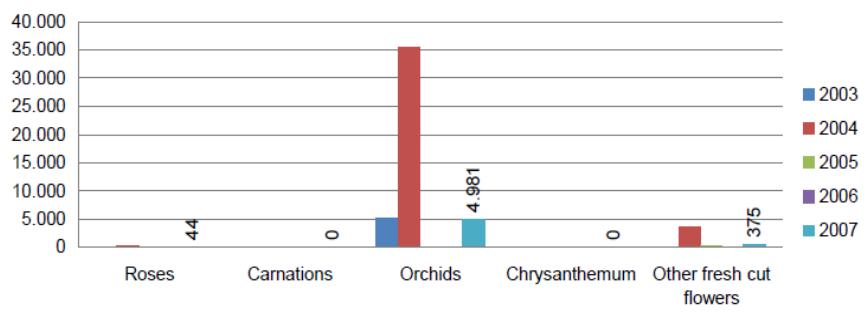


Source: Lam Dong Industry and Trade Department 2012

However, it will be difficult for Viet Nam to penetrate the North American and European markets because North America imports cut flowers from South and Central America, and Europe imports from Southern European countries and the South African continent (VINAFRUIT 2011).

According to the AIPH (2011), the export of Vietnamese ornamental plants to Europe is still in its infancy, with only 305,000 stems of orchids exported in 2010 (Figure 2.11). According to JETRO (2011), Viet Nam exported chrysanthemums and carnations worth EUR 8.5 million to Japan.

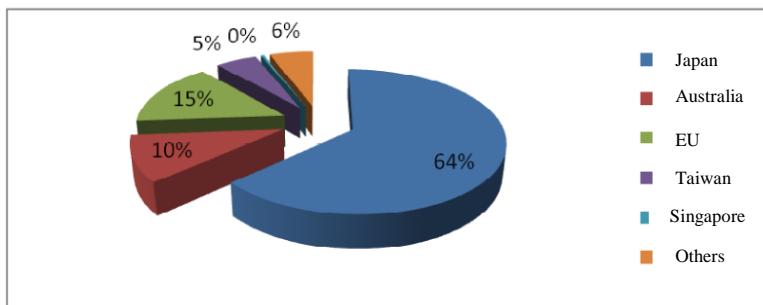
Figure 2.11 Development of EU27 import value cut flowers from Viet Nam (EUR)



Source: NABSO Kunming (2008)

Apart from domestic consumption, the Da Lat flower industry has exported to markets in Japan, Singapore, Taiwan, China, Thailand, the EU and Australia (DAI, 2012) (Figure 2.12).

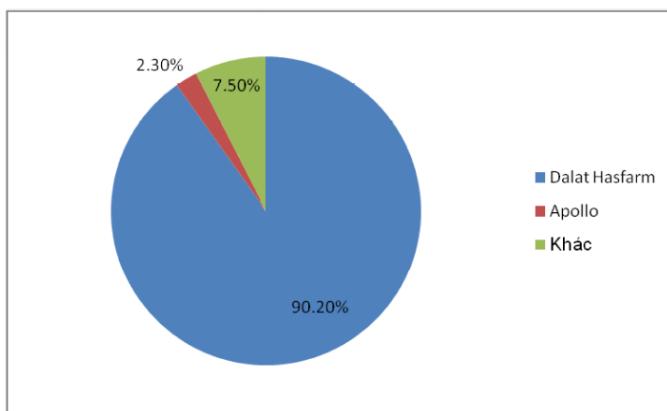
Figure 2.12 The market for Da Lat cut flower exports



Source: DAI (2012)

While cut flower exports have grown rapidly at 38% per year since 1993 (van Wijk et al. 2005), the majority of exports are conducted by a few large foreign investment companies, such as Da Lat Hasfarm (the Netherlands), and Apollo and Bonifarm (Taiwan) in the central highlands of Lam Dong Province (Figure 2.13). These companies, which have their own supply chains, account for 98% of the volume of cut flowers exported from Viet Nam. The volume requirements are high, operating costs and transport costs are high and export requires very specific logistical capabilities that most smallholder farmers do not possess (Mekong Economics 2007; NABSO Kunming 2008).

Figure 2.13 The proportion of cut flowers exported in Lam Dong



Source: Lam Dong Industry and Trade Department 2012

In the short term, the export focus was on traditional and ‘easy’ markets like China, Taiwan, Singapore and Russia, but the quantity and range of flowers was limited. The most important export products are: chrysanthemums, lilies, orchids, roses, carnations and gladioli (NABSO Kunming 2008). China has been a traditional export market for Viet Nam because of: (i) low transport costs and (ii) “easy” quarantine and environmental requirements (UNCTAD 2004). Exports of flowers to Cambodia and Laos are occasional and opportunistic, and generally

only very small quantities of cut flowers of variable quality cross the border (Mekong Economics 2007).

Export cut flowers face increasing competition from producers in neighbouring countries like Malaysia, Thailand and China (Mekong Economics 2007). China produces annual cut flowers; Taiwan specializes in Phalaenopsis and Cymbidium; Thailand and Singapore produce Dendrobium, Oncidium and Vanda (Duong 2010). China offers superior quality cut flower products that last longer at an even cheaper price. Thailand has more advantages in production, storage and processing than Viet Nam. In terms of production, they have better quality variety accessions, a better developed infrastructure, more advanced technologies, and farmers have greater market awareness (NABSO Kunming 2008).

Viet Nam imports

According to NABSO Kunming (2008), cut flowers to the value of EUR 3 million were imported into Viet Nam in 2007. Thailand, China and Japan supplied orchids and other cut flowers.

In 2009, Viet Nam imported 230 million stems of various flowers from Thailand, which were worth between EUR 29 – 37 million. Lily, carnation, baby's breath, limonium, statice and cymbidium were imported from Kunming, China, through the informal cross-border trade in North Viet Nam (Duong 2010).

Viet Nam currently imports planting materials, seeds and bulbs from Australia, the US, the Netherlands (bulbs), France (carnation), Taiwan, China (rose) and Thailand (orchids) (NABSO Kunming 2008).

2.3.4 Summary

The floricultural industry in Viet Nam is in its infancy. Da Lat, Lam Dong is the major area of cut flower production in Viet Nam due to:

- the suitable climate and cheap labour;
- proximity to the major market in HCMC and its international airport;
- experienced smallholder farmers, many of who have improved their technology by learning from corporate producers;
- an abundance of market intermediaries who are willing to cooperate with smallholder farmers;
- the support of government which has a serious ambition to expand production areas and to establish an export oriented industry (NABSO Kunming 2008).

However, the floriculture industry in Viet Nam faces many challenges:

- small and fragmented production on individual farms;

- poor postharvest technology;
- low productivity on either a land or labour basis;
- lack of good quality planting material and limited access to new varieties;
- rapid increasing costs, pest and disease problems;
- a lack of knowledge and skills among smallholder farmers;
- a lack of well-trained staff;
- limited research and extension;
- capital constraints for investment;
- a lack of reliable industry statistics and difficulties in sourcing appropriate information even at the government level which hinder planning and marketing;
- competition from neighbouring countries such as China, Thailand, Malaysia and Singapore.

Chapter 3. Marketing agricultural products¹

3.1 Chapter outline

This chapter provides an overview of the internal and external characteristics of agricultural markets. With the evolution of agricultural marketing, the need for cooperation is reviewed within the context of the supply chain management literature. These theoretical foundations will be used to explore the nature of the alternative cut flower chains in Da Lat to improve their performance.

3.2 Agricultural marketing

A market is composed of buyers who are willing and able to pay for produce, and sellers who are willing and able to supply the produce (Hilmi 2006). Marketing is the process of focusing the resources and objectives of an actor on environmental opportunities and needs. Whereas producers have previously concentrated their efforts on producing a better product, competitive forces in the market environment have demanded a shift in focus from the product to the consumer and, subsequently, to a strategic assessment of both the internal and external environments, which include the economic and social trends, and even the physical characteristics of the market (Batt 1993).

Agricultural markets play a crucial role in the process of economic development in developing countries (Barrett and Mutambatsere 2005). Kohls and Uhl (2002) list three main functions involved in the agricultural marketing process: (i) exchange functions as transaction activities (buying and selling); (ii) physical functions as marketing activities (storage, transportation and processing); and (iii) facilitating functions to improve the other two functions (standardisation, financing, risk bearing and market intelligence). Economically, the marketing system focuses on the difference between the price paid by the consumer and that earned by the producers. However, social interaction between buyers and sellers is also an issue, which demands that variables other than price be explored in understanding the dynamics of markets. This interaction leads to an improved capability for sellers to meet the buyers' needs in terms of product quality. Over time, long-term relationships may emerge between buyers and sellers which potentially reduce risk and uncertainty (Tanaya 2010).

¹ This chapter draws extensively upon Batt, P.J and Le B.N. 2010. Linking Smallholder Farmers to Market: The Need for Efficient Supply Chain Management. In: Nath, P and Gaddagimath, P. B. (eds.) *Horticulture and Livelihood Security*. India: Scientific Publishers: 428-446.

In the context of agriculture, farmers experience both internal and external risks. The sources of internal risks, like production, equipment and financial risks are located primarily within the farm. External risks, which include market and political risks, are rooted in the farm's environment, so that the management has little if any control over the incident rates of these risks (Schaper, Lassen and Theuvsen 2009).

The exercise of coercive market power is an important consideration in many agricultural markets (Myers, Sexton and Tomek 2010). According to Jøssgensen, Hafsi and Kiggundu (1986), market imperfections focus on cases in which either the number of buyers or sellers is small enough to enable them to influence the market price. These market imperfections often appear in developing countries as a result of the drive for self-sufficiency and the density of market transactions. Under perfect competition there is no room for bargaining, negotiation, remonstration or mutual adjustment. Furthermore, there is no need for the various actors that participate in the exchange to enter into recurrent or continuing relationships (Granovetter 1985).

However, for the majority of agricultural products, there are significant variations in quality which often means products cannot be directly substituted. Information asymmetry is typical and there are numerous barriers that constrain decisions marking. Internal factors include the nature of the product and production that varies with the physical and biological factors and natural resources. As a consequence, the agricultural market can be very volatile (Batt 2006b; Boehlje, Roucan-Kane and Bröring 2011; Cramer, Jensen and Southgate 2001; Sporleder and Boland 2011). The other is the structure of the market and the external factors, which include the various social, economic and political forces (Batt 2006b; Kariuki 2006), and complex and fragmented supply chains (Boehlje et al. 2011).

3.2.1 The internal factors

The internal factors which impact on the nature of the product and production relate to the geographic location, farming methods (APO 2003); natural shocks such as weather, pests and diseases or other natural calamities (Batt 2006b; Hewett 2003); seasonality of supply (Aliguma and Nyoro 2004; Kohls and Uhl 2002; Wijnands 2005); and the structure of agriculture (Kohls and Uhl 2002).

There is an increasing geographic concentration of production. Each region tends to specialize in the production of farm products for which its resource base is the best suited (Kohls and Uhl 2002). Geographic location influences both the farming methods and the distribution system (FAO and OECD 2011). Agriculture is one of the few industries that use land as an essential input in the production function. Even in the case of land, there is considerable variation in its natural attributes such as fertility, topographic features,

insolation, rainfall, altitude and latitude, which both affect its potential productivity and its substitutability (Batt 1993).

Agricultural products are also different from industrial products in terms of perishability, seasonality and availability (Naidu 2012; Sporleder and Boland 2011). Compared to most other products, agricultural products are both bulkier and more perishable. Bulkiness demands large storage capacity. Perishability requires rapid handling and special cool storage facilities (Kohls and Uhl 2002) to reduce product deterioration and spoilage (Briones 2009). Furthermore, the quality of fresh produce declines along the supply chain due to trimming and constant regrading (Kohls and Uhl 2002). The perishable nature of fresh produce also means that every actor along the chain has the potential to reduce the quality of the product for subsequent downstream customers (Herlambang, Batt and McGregor 2006; Hobbs and Young 2001; Wilson 1996b). Not only does this result in a substantial reduction in product quality, but as the product is handled a multiple number of times, further reductions in product quality are inevitable (Batt and Bich 2010; Sporleder and Boland 2011).

Cut flowers, as an agricultural product, are: (i) very sensitive to time (short vase life); (ii) very fragile and need careful packaging and handling; (iii) both production and demand are seasonal; (iv) the demand is fashionable and subject to changing consumer tastes (shape, colour and smell) and preferences (specific time, displays or gifts); and (v) there is much price variability (TIPS and AUSAID 2007). Unlike many other products, cut flowers seldom undergo any processing between harvesting and sale and thus farmers are essentially producing a finished product (Batt 1993; Wijnands 2005). For cut flowers, vase life is directly correlated to the quality of the flower at harvest and inversely correlated to the length of time that the cut flowers spend in the distribution channel (Blumthal and Gow 2006b).

At the farm level, the supply, in terms of both quantity and quality, will vary not only across the season, but from day-to-day in response to major weather events (Batt 1993). The often large number of farmers increases the variability in production, quality and the quantity of cut flowers available (Batt and Cadilhon 2006; Murray-Prior et al. 2006; Wijnands 2005). Poor quality is a multifaceted problem that has root causes at the farm level and post-farm gate arising from: poor quality seed, poor cultural practices, excessive insect and disease damage, inappropriate postharvest handling, the high cost of inputs and limited access to finance (Batt et al. 2007). Variations in quality may also change marketing patterns. Quality control becomes a very real and costly problem (Kohls and Uhl 2002).

The production of agricultural products is highly seasonal (Kohls and Uhl 2002). The production of cut flowers can be categorized as: (i) all year round; (ii) seasonal; or (iii) annual (Gauchan et al. 2009). Productivity will be influenced by uncontrollable factors including the rainfall, pest and disease infestation and other production-related risks caused by poor management and high input costs (Herren et al. 2011). These variations are often aggravated by the farmers' response to prices and government programs. Furthermore, temporal lags between input application and harvest, perishability and storability also affect the supply of agricultural products (Barrett and Mutambatsere 2005; Batt 2006b; FAO and OECD 2011). Most smallholder farmers are unaware of the quantities of product planted, the customers' quality requirements, preferred varieties and the seasonality of demand (Batt et al. 2007).

The structure of agriculture refers to the number, size and ownership of the farm (Kohls and Uhl 2002). In the transitional economies, the horticulture industry is characterized by a very large number of smallholder farmers (Birthal et al. 2005; Hewett 2003; Wheatley et al. 2004; Woods 2004). What constitutes a smallholder farmer is difficult to define, for it varies between different countries, geographic areas, agricultural sub-sectors and technologies (Blandon 2006).

However, in all cases, smallholder farmers have particular characteristics depending on the assets that they possess (Dolan and Sorby 2003). According to Murray-Prior (2007b), smallholder farmers have very small levels of production, high levels of illiteracy, ill health, low social and political status, little power and most live in poverty. Because of their small size and large number, smallholder farmers have little influence in the market and generally make fewer decisions than others in the system (Kohls and Uhl 2002).

As production is seldom planned, the irregularity of supply causes either a surplus or a seasonal scarcity of products in the market (Galor 1994). There are also countervailing economies of scale in procuring inputs, marketing outputs, obtaining credit and other financial services, in obtaining information on markets and technical issues, in meeting standards and certifying production, and in transacting with large-scale buyers with their exacting demands for quality, timeliness and bulk delivery (Lundy et al. 2004; Trienekens 2011; Wiggins 2009).

3.2.2 The external factors

Apart from the product and production characteristics, market characteristics also impact on the demand and the price for perishable products (Aliguma and Nyoro 2004); the production and marketing costs (Kohls and Uhl 2002); the complexity of the supply chain (Murray-Prior et al. 2004) and the various social, economic and political forces (Batt 2006b; Kariuki 2006).

According to Dixie (2005), the factors which affect the demand for fresh produce include the price, quality, tastes and preferences of the consumers; the number of buyers; consumers disposable income; the prices of competing products; and the range of products available to consumers. The market demand for agricultural products is volatile as (i) customer requirements may change rapidly and unexpectedly; (ii) markets are strongly segmented, where different customers have very different requirements for products and services; (iii) demand is highly variable; and (iv) there is increasing global competition (Jespersen and Skjott-Larsen 2005).

Seasonality of demand, supply and related prices are one of the more important aspects in the international trade for cut flowers (Batt 2001). According to Dixie (2005), the demand will vary depending on: (i) the amount of produce in the market on a particular day; (ii) short-term demand changes associated with holidays, festivals and occasion days; and (iii) early or late-season when production is lower and quality may be inferior.

Flower production can be irregular and difficult to forecast. Flower consumption can also be irregular and is influenced, for example, by the weather, seasonal patterns and the presence of personal or religious celebration days (Botden and Terhürne 2006a). Moreover, supply chains to transport perishable products from producers to consumers are inconsistent in terms of their performance. When irregular production, consumption and variable supply chain performance are combined, a very complex market place emerges where the value of reliable information become very high (Botden and Terhürne 2006b).

The demand of fresh produce also increases due to socio-economic changes such as an increase in the population or personal disposable income (FAO and OECD 2011). Flowers are luxury products, so when things get tough, demand will fall (Batt 1993). Market maturity is a key defining variable. Immature markets are characterised by a limited assortment of flowers, high prices and a propensity for consumers to purchase flowers only for the occasional days and special occasions (Batt and Poole 2004). On the other hand, in a more mature market, there is a wider assortment of flowers. Flowers are more widely available at a lower price and there is a greater propensity for consumers to purchase cut flowers for their own use.

Price is an important economic variable in a market economy. Price is the key signal that directs and coordinates the decisions of producers, consumers and marketing firms. The range of prices received by farmers is an indicator of the relative performance of market intermediaries, which includes absolute price levels and price stability (MOSPI 2010; Sharma, Kumar and Singh 2007). Price data is often used for comparison (absolute price quotations for different grades and commodities, relative prices and price indices) and

valuations (average price by unit quantity and components of price) (MOSPI 2010). In reality, prices differ by marketing channel, by market segment and by grade, and sometimes by the quantity purchased or sold. Prices also change over the season and may vary greatly over the duration of a single day's trade (M4P 2005).

From an individual firms' perspective, a certain level of price is needed to cover the activity costs and to provide some financial reward to compensate for the firm's efforts (Herlambang et al. 2006). The extent to which prices differ is determined in part by the perishability of the product. While grading can significantly improve the product price, various costs are associated with the process (Digal and Hualda 2005). Since the prices of horticultural products are determined by supply and demand, unpredictable changes in supply as a result of adverse weather conditions and disease will increase the price. Furthermore, variations in the region, the duration of harvest, time of storage, postharvest treatments applied, seasonality, varieties and the quality of the product offered for sale will lead to much variation in the retail pricing of fresh produce. This can lead to customer uncertainty and confusion (Spencer 2004). Indeed, it is possible for two or more suppliers of the same commodity to receive very different prices (Gyau and Somogyi 2012). To the extent that prices influence the share of economic activity that each participant is able to extract, price data provides the most significant economic indicator (MOSPI 2010).

Horticulture is an intensive industry which requires significant financial inputs and knowledge, and exposes farmers to high risk in both yield and price. The cost of production varies widely between regions and among farmers. Many factors such as climate, technology, farm size and managerial skills have a direct influence on production cost. Additional costs include chemicals, seeds, production equipment, labour and interest (Kohls and Uhl 2002). Smallholder farmers generally apply more labour per hectare than large scale farming enterprises (Wiggins 2009), have a higher level of cropping intensity and are more diversified (Thapa and Gaiha 2011). For large-scale farmers, economies of scale are associated with the purchase of inputs direct from manufacturers and the buying and selling of large quantities of product. For smallholder farmers, the prices realized are often insufficient to offset the costs of production (Galor 1994).

Several generic factors have a common effect on prices and costs across markets: (i) *farm production factors* (the volume and volatility of farm production, seasonality of production within a production year, and the perishability or shelf life of the product); (ii) *value-chain integration* (the increasing vertical integration of activities through the chain, increasing scale efficiency of processing and manufacturing facilities, greater concentration of processing, manufacturing and brand ownership beyond the farm-gate, the changing and diverse nature of competition and concentration at points along the value chain); (iii) *the*

marketing approach (differentiated products, quality of products); (iv) *regulation and compliance* (the increasing costs of business compliance with regulation, the increasing demand for environmental, human and animal welfare and food safety); (v) *trade impacts* (the extent to which primary and processed products are exported, the extent and timing of imported products in primary, processed or finished goods form, the influence of prevailing world commodity prices on primary production or the early stages of processing); (vi) *technology and innovation* (the increasing capital intensity, variable market prices and costs, greater investment in innovation); and (vii) *consumer and retail market dynamics* (greater demand for convenience and lifestyle solutions in the retail sector) (Spencer 2004).

The large number of participants involved in the production and marketing of agricultural products results in high transaction costs (search, negotiation and contract enforcement) and distribution costs (Batt 2003e; Batt and Cadilhon 2006; Cadilhon et al. 2006b; Hewett 2003; Martin et al. 2008; Murray-Prior 2007b; Murray-Prior et al. 2006; Singgih and Woods 2004; Wheatley et al. 2004; Wijnands 2005).

Often smallholder farmers live in remote areas, far from good roads and markets, which leads to high transport and handling costs (Martin et al. 2008; Tscharley et al. 2012). Difficulties in transport may render the farmer unable to deliver the quantity and quality as promised (Fafchamps 1996).

The geographic dispersion of smallholder farmers dramatically raises the cost of collecting, aggregating and grading the product and in the delivery of extension services (Poulton, Dorward and Kydd 2010).

Typical marketing constraints faced by smallholder farmers in the developing countries include the lack of specialized skills and difficulties in accessing appropriate technology, inputs, credit, market information and external services and resources (Lundy et al. 2004; Trienekens 2011). Smallholder farmers are basically risk averse, with little resilience, poor business skills and limited market knowledge (Irianto and Harwanto 2009; Shepherd 2007). The volatility in supply is exacerbated by the fact that smallholder farmers have poor access to technologies and generally poor management skills (FAO and OECD 2011). Smallholder farmers typically have few assets to withstand the effects of price risks and opportunism (Biénabe et al. 2007), price cuts and the cancellation of orders (Riisgaard et al. 2008), and adverse weather events (Batt and Bich 2010). Their asset base is generally insufficient to meet the volume and quality requirements of downstream customers and to accommodate the long delays often associated with payment (Biénabe et al. 2007; Fafchamps 1996). Smallholder farmers have the least access to credit and are the least able to absorb a bad harvest or loss-inducing prices (Tscharley et al. 2012).

The impacts of both environmental degradation and climate change are usually more severe for smallholder farmers on the grounds that smallholder farmers have less access to human, social and financial capital (Hazell et al. 2007). There are few opportunities to acquire reliable market information from buyers, few opportunities to access finance and in most cases, little support from buyers (Martin et al. 2008; Riisgaard et al. 2008; Spekman, Kamauff and Myhr 1998).

Poor access to information about grades and standards, prices and other market information is a major issue for smallholder farmers. Smallholder farmers often experience considerable difficulty in meeting the standards demanded by their customers, due to a lack of knowledge regarding quality requirements, postharvest handling and packaging, and the lack of capital to invest in production systems, cooling, transport and communication equipment (Batt and Bich 2010).

Most smallholder farmers are unaware of the supply and demand situation in both domestic and export markets (Batt et al. 2007). According to Riisagaard et al. (2008) and Spekman et al. (1998), the inability to accurately specify quality grades and standards leads to moral hazard problems. Smallholder farmers have a weak bargaining position (Sahara et al. 2011) and are generally price takers (Singh, Sikka and Singh 2009).

The ability of smallholder farmers to access markets is often constrained by additional external factors such as: expensive and limited access to physical inputs, credit, problems of land tenure, law and order; and the lack of government and institutional support (Irianto and Harwanto 2009; Murray-Prior 2007b; Naidu 2012; Singh et al. 2009; Trienekens 2011).

Traditionally, most of the fresh produce in the transitional economies is distributed and sold through a complex network of wholesale and retail markets (Folley 1973). Supply chains are typically long, loose and fragmented, involving multiple smallholder farmers delivering produce to many market intermediaries (Batt 2003e; Batt and Cadilhon 2006; Murray-Prior et al. 2006; Singgih and Woods 2004; Wheatley et al. 2004; Woods 2004). Relationships within the supply chain are often poor and tinged with suspicion (Hewett 2003). The key issue is the lack of transparency in the exchange. Since prices cannot always be determined in advance, payment is often made after the sale. Transactions between farmers and wholesalers are consignment based that transfer most market risk to farmers (LIVCP 2014). In situation of banana in Indonesia, growers are paid on each consignment, several weeks after delivery to the agent. In this case, buyers largely determine the prices offered to farmers, who seldom contest their decisions (Singgih and Woods 2003). With little communication and coordination between farmers and market intermediaries, there is considerable risk associated with the exchange (Nawi 2009). Actors focus on individual

rather than collective interests, which lead to low levels of trust, self-interest and a limited capacity to assume strategic initiatives as a market chain (Lundy et al. 2004). The lack of trust and the willingness to share information, limited collaboration and the predominance of spot transactions over long-term buyer-seller relationships are other barriers to effective supply chain performance (Batt 2004c; Martin et al. 2008; Matopoulos et al. 2007; Wheatley et al. 2004).

Not surprisingly, many conclude that smallholder farmers are vulnerable to exploitation by opportunistic downstream buyers, or may even be locked into relationships with downstream market intermediaries through credit arrangements (Batt 2003e; Cadilhon et al. 2006a; Martin et al. 2008; Mendoza and Rosegrant 1995; Woods 2004). Riisgaard et al. (2008), Spekman et al. (1998) and Martin (2008) indicate that in transacting with many different buyers and suppliers, actors may be exposed to moral hazard problems, with limited opportunities to acquire reliable market information, and few opportunities to access finance and other support services.

Studies of supply chains in the developing countries also focus on the lack of power, which is often linked to the lack of timely market information (Batt 2003e, 2006c; Chalwe 2011; Concepcion et al. 2006a; Shepherd 1997). Market power is determined by such interrelated factors as: (i) size, number and market concentration of actors; (ii) supply control; (iii) unequal information; (iv) diversification of products, geography and market function; (v) product differentiation; (vi) control of strategic resources; (vii) financial resources; and (viii) the ratio of fixed-to-variable costs (Kohls and Uhl 2002). Market intermediaries are usually identified as being more powerful and able to extract more value at the expense of smallholder farmers who are cash and information poor (Woods 2004). Monopoly power (by either public or private suppliers) is also a widely recognized problem that manifests itself in disadvantageous prices for producers and the lack of responsiveness to farmers' needs (Poulton et al. 2010).

3.2 Supply chain theory

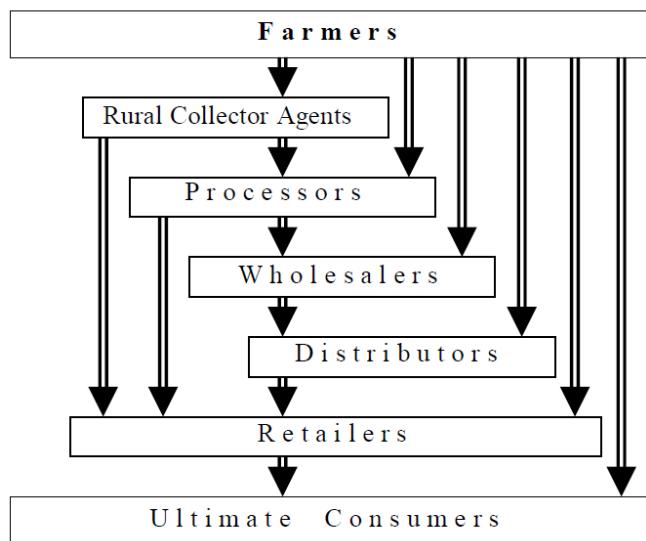
In the transitional economies, the marketing process for agricultural products may be described as in Figure 3.1. These kinds of marketing channels can be seen in many countries including Indonesia (Singgih and Wood 2003; Wei et al 2004), the Philippines (Concepcion and Digal 2006; Keizer 2006), and Viet Nam (Martin et al. 2008; van Wijk 2006).

According to Lazzarini, Chaddad and Cook (2001), a supply chain is viewed as a set of sequential, vertically organized transactions representing successive stages of value creation. A value chain is defined as “the linked set of value-creating activities all the way from basic raw material sources for component suppliers through the ultimate end-use product delivered

into the final customers' hands" (Shank 1989) (p 50). The primary difference between a supply chain and a value chain is a fundamental shift in focus from the supply base and producers to the customer base and consumers. Both ends of the chain are highly heterogeneous and require careful segmentation, for the purpose of effective resource allocation.

In most instances, supply chains focus upstream on integrating supplier and producer processes; improving efficiency, reducing waste and meeting customer value; while value chains focus unequivocally downstream, on understanding what it is that consumers' most value and then delivering as effectively, efficiently and quickly as possible. This distinction often gets lost in translation as businesses become too focused on value as defined by their own organisation and fail to recognise the importance of delivering value as defined by the final consumers of their products or services (Fearne et al. 2009).

Figure 3.1 The marketing channel of fresh farm products



Adapted from Tanaya (2010)

Many authors have developed and highlighted the necessity of theories to better understand supply chain performance. Most discuss the governance/organization of transactions between companies (Hobbs 1996; Williamson 1985; Wilson 1996b). Some studies (Robinson, Wind and Faris 1967; Sheth 1973; Webster and Wind 1972) confirm that industrial purchasing and selling theory highly related to supply chain performance. Other studies (Berry 1983; Dwyer, Schurr and Oh 1987; El-Ansary and Stern 1972; Grönroos 1995) have suggested that relationship marketing and social interactions in networks are one of the most important dimensions of supply chain performance.

Studies on supply chains in developing countries have provided valuable insights into their operations, demonstrating how supply chains develop to improve performance (upgrading) and the business environment within which chain actors operate (Tienekens 2011).

3.2.1 Transaction cost theory

Transaction cost economics (TCE) emerged as a reaction to the neoclassical theory of the firm. Coase's (1937) insights into the costs of conducting a transaction were largely ignored by economists until the late 1960s and early 1970s, when Williamson (1979) drew together the core concepts of TCE (Hobbs 1996; Wilson 1996b).

TCE describes the firm as an efficiency inducing administrative instrument that facilitates exchange between economic actors (Lieblein 2003). According to TCE, in a world without transaction costs, all activities would be carried out as exchanges between units.

TCE theory explains the role of hierarchies as an alternative governance structures to the price system (Williamson 1979). Williamson (1985) referred to three dimensions to evaluate the governance mechanisms associated with each transaction: (i) transaction specific investments, (ii) uncertainty and (iii) frequency.

The TCE approach has traditionally been the most common method to determine the drivers for different types of exchange. The theory is driven by assumptions about the nature of human behaviour and how this will impact on exchange between two parties. TCE establishes that cost minimization without analyzing the interdependence between exchange partners is not sufficient (Ji et al. 2012). Transactions costs problems arise because of information asymmetric, unaffiliated enterprises with different internal cultures, codes of communication, and capabilities (Teece 1986).

TCE assumes that various costs are incurred by trading partners in the exchange of goods and services (Hobbs 1996). These include the costs involved in the collection of market information, negotiations, defining property rights, and the monitoring and enforcement of business transactions (Banarjee and Govern 2004; Birthal et al. 2005; Hobbs 2007; Loader 1996; Wijnands 2005; Woods 2004). Uncertainty influences the costs of searching for information, screening, negotiation, bargaining and monitoring. The higher the uncertainty, the higher is the cost of renegotiating the contract (Birthal et al. 2005). Market concentration or frequency is a strong indicator of non-competitive pricing behaviour and of inefficient market performance (Mendoza and Rosegrant 1995).

In some instances, markets are considered to operate inefficiently, due to human and environmental factors. When the environment is characterized by complexity and uncertainty, then the bounded rationality of man makes it very costly to design and negotiate appropriate contracts (Håkansson 1982). Transaction costs are caused by market

inefficiencies, which are in the form of opportunism, small number games and the bounded rationality by individuals (Handfield and Bechtel 2004). The parties to most transactions have access to incomplete, imperfect or imbalanced information (Claro 2004; Håkansson 1982). The level and nature of transaction costs are the key determinants of market participation (Blandon, Henson and Cranfield 2008). While these transaction costs are typically hard to observe, they are very real (Gulati et al. 2007).

From empirical studies, it would seem that an analysis of transaction costs is not sufficient to determine the efficiency of a supply chain (Bensemann, Shadbolt and Conforte 2012; Gong et al. 2006; Hobbs 1997). TCE is criticized for ignoring the relational elements (Claro 2004; Zhang and Hu 2011). In the classical economic literature, the value of a product is thought to depend on the costs involved in producing that product. However, the prices realized for a product do not always reflect the expected value as indicated by the costs of production and marketing (Birachi 2006). Furthermore, TCE theory ignores the conflict which is so often inherent in transactions. Gyau and Spiller (2008) demonstrated how reducing transaction costs in an exchange may be very efficient, but also very ineffective in providing services that satisfy customers' need.

Studies using transaction cost economics with other approaches can be found in the literature. Batt (2004c) and Batt (2003e) worked on potato marketing in Viet Nam and the Philippines; Herlambang et al. (2006) looked at the mango supply chain in Indonesia; Keizer (2006) focussed on sweet potato supply chains; Zhang and Huang (2009), Fundira (2003) and Nawi (2009) explored fruit supply chains in China, South Africa and Australia, respectively.

Empirical evidence supports the relationship between vertical integration and a reduction in transaction costs. Environmental uncertainty undermines an organization's ability to predict future outcomes. Partners may therefore act opportunistically when circumstances change, which may cause organizations to incur additional costs related to communication, negotiation, and coordination. To reduce such transaction costs, organizations may choose to use an internal governance structure when environmental uncertainty is high (Ji et al. 2012).

3.2.2 Industrial purchasing and selling theory

To analyse market opportunities, suppliers need to understand the buying behaviour of their customers such as who buys, why they buy, when they buy, where they buy and how they buy to build an effective marketing program (Hobley 2007). Much of the research has focused on three issues: the nature and structure of the buying centre, the organisational buying process, and the factors affecting the purchasing decision (Lilien 1987).

Three conceptual models of organizational buying behaviour were published in the 1960s and 1970s (Robinson et al. 1967; Sheth 1973; Webster and Wind 1972). These three conceptual models provided checklists on the issues and interactions important in organisational buying. Robinson et al. (1967) described three buying classes including new task, straight rebuy and modified rebuy situations. They suggested that buying behaviour varied according to the newness of the problem, information needs and the consideration of alternatives. Webster and Wind (1972) identified four classes of variables determining organisational buying behaviour: (i) the individual characteristics (perceived role, motivation, cognition, learning and preference structure); (ii) social characteristics (buying centre with role expectations, role behaviour and role relationships); (iii) organizational characteristics (task, actor, structure and technology variables); and (iv) environmental characteristics (physical, technological, economic, political, legal and cultural variables). Sheth (1973) listed six situational variables, the product variables and three company variables that influenced the industrial buying process.

However, the most popular area of research in organizational buying behaviour has been the desire to gain a better understanding of the decision-making process, its antecedents, and the mediating and moderating variables. In particular, marketing scholars have tried to apply behavioural and economic concepts of power, conflict and influence to understand the group dynamics within the buying centre (Sheth 1996). However, the desire for comprehensiveness had led to the inclusion of every possible influence, thus making such models very difficult to operationalise. Furthermore, while these models concentrate on the buyers' side, very little attention is directed towards the suppliers (Batt 2003f).

Supplier choice

In industrial purchasing behaviour, as supply chain effectiveness is related to how well customer needs are satisfied, suppliers must understand what their customers want and aim to satisfy those requirements more effectively than their competitors. In order to be more competitive, suppliers need to provide augmented products and services that offer their buyers more than they expect to receive or think is necessary (Nawi and Batt 2011b).

In business-to-business markets, it is widely accepted that in choosing between alternative suppliers, the key criteria are a competitive price, quality and reliable delivery (Choi and Hartley 1996; Cunningham and White 1973; Matopoulos et al. 2007; Teng and Jaramillo 2005; Weber, Current and Benton 1991; Wilson 1994). Monczka et al. (1998) describe people who are the most capable of offering quality products and services, competitive prices, reliable delivery and behave in an honest and responsible manner as preferred suppliers. In horticultural supply chains, industrial purchasing theory suggests that customers will seek to purchase goods from those suppliers who are best able to deliver the desired

quantity, within predetermined quality specifications, on time, at an agreed price (Herlambang et al. 2006). General purchasing criteria include price; product quality; consistency in supply; packaging; shelf life; customer requirements; payment form/credit terms and convenience (Chang and Griffith 2011; Norina 2004).

Ng (2006) classified the supplier purchasing criteria into four main areas: (i) supplier criteria; (ii) service criteria; (iii) product performance; and (iv) cost. While buyers normally focus on price reductions, suppliers strive to get their buyers to recognize the total value of their offer. This includes the price plus quality and delivery, as well as their technical capabilities (Nawi and Batt 2011a). However, according to Batt (2003f), organizational buyers are influenced not only by economic factors, but also by emotional factors when choosing between alternative suppliers. While the economic criteria consider price, quality and service, the emotional criteria are concerned with organizational status, security, risk elimination, and social or environmental variables.

Product performance or quality of the product has a significant influence on how the purchasing decision is made (Wilson 1994). Quality can be assessed in various ways according to several objective and subjective criteria. For perishable products, as the product quality changes during the distribution process, quality assessment becomes even more complex (Batt 2004b). While quality generally means providing customers with products that consistently meet their specifications, quality is also a measure of the way suppliers go about meeting the needs of their customers, providing the product on time, in the quantity required, correctly packaged and correctly invoiced (Batt 2006c).

Technical quality describes the products' attributes (Grönroos 1984). For fresh produce, this might include freedom from pests and diseases, freshness, variety and the manner in which the product has been packed (Murray-Prior et al. 2003). Cut flowers are complex plant organs, in which the loss of leaves or flower parts may result in rejection in the marketplace. Cut flower quality is determined by a combination of stem length, vase life and bloom appearance. Vase life is a measure of the longevity of the bloom in the consumer's home. This longevity is directly correlated to the quality of the flower at harvest and inversely correlated to the length of time that the cut flower spends in the distribution channel (Blumthal and Gow 2006b). Many commercial cut flowers are patented cultivars, characterized by specific attributes such as colour, form, disease resistance and size. Flower size, stem length, freedom from defects, maturity, uniformity and foliage quality are among the factors that are used in cut flower grading. Bunching and sleeving are used to protect the flower heads, prevent tangling and to identify the farmer or shipper. However, the most important part of maintaining the quality of harvested flowers is to ensure that they are

cooled as soon as possible after harvest and that optimum temperatures are maintained during distribution (Reid 2004).

Functional quality describes the way a supplier goes about delivering the product to the customer, when it is required, in the quantities required, at a competitive price (Batt 2003f, 2004c; Grönroos 1984). Here the efficiency of the supply chain depends on the technical ability and experience of the actors involved, and the quality of the produce (Herlambang et al. 2006). It also involves many inter-related activities such as production scheduling, storage and warehousing, logistics, ordering and invoicing (Nawi 2009).

The concept of service quality has been greatly influenced by the work of Parasuraman et al. (1985). They conceptualized service quality as the relative perceptual distance between customers' expectations and their evaluation of the service experience. Within supply chains, service quality includes the provision of technical information, training programs, the exchange of market information, product and promotional support and the extension of credit (Batt 2003f; Murray-Prior et al. 2003).

When there are numerous suppliers who can fulfil the functional requirements, attributes such as reputation, financial position, communication and attitude towards the buyer may become decisive (Choi and Hartley 1996; Dempsey 1978). According to Puto, Wesley and King (1985), buyers are strongly attracted to well known or existing suppliers, for current suppliers are perceived to be less risky.

The literature posits however, that supplier selection is a complicated and often difficult process because: (i) a list of criteria has to be considered prior to making a decision; (ii) the criteria used may vary with the buying organisation and the buying situation; and (iii) multiple participants are involved in the selection process (Ng et al. 2006).

Customer choice

Successfully managing buyer-supplier relationships is difficult without taking the supplier's satisfaction into account (Essig and Amann 2009; Hewett 2003). While a plethora of material in the business-to-business marketing literature discusses the various criteria firms employ in making their decision to select suppliers, from the suppliers perspective, the literature on customer selection is surprisingly sparse (Chalwe 2011; Garfamy 2005). Supplier satisfaction has become a topical issue to improve working relationships with customers. As most buyers transact with multiple suppliers, suppliers are in competition with several other suppliers for a share of the customer's business (Maunu 2003).

Supplier satisfaction is defined as the supplier's feeling of fairness with respect to the buyer's rewards and incentives and the suppliers' contribution to the buyer-seller relationship (Essig and Amann 2009). As suppliers play an important role in value creation,

buyers must review their expectations with the capacity and capability of the supplier in mind (Mohanty and Gahan 2011).

As the path from the farm to the final consumer becomes increasingly complex, a better understanding of the drivers of suppliers' selling decisions is necessary to increase the efficiency of supply chains and to enable improved value chain performance. Customer choice depends on the suppliers' overall business strategy, goals and activities, economic variables, relational variables and value-added variables (Bensemann et al. 2012).

Suppliers often sell to different buyers to varying degrees as a means of dealing with uncertainty (Bensemann et al. 2012). A suppliers' selling decision is dynamic and complex, for it must consider the costs of market participation (distance to buying agent, geographic markets and transport facilities); labour availability; risks associated with price and payment arrangements; farm size; human capital; physical capital; and financial capital. Generally, farmers decide to participate in a market when it is profitable to do so. They then decide how much to sell and to which channel member (Birachi 2006; Sharma et al. 2007).

While rational economic theory suggests that farmers will transact with those buyers who offer the highest price (Young and Hobbs 2002), Batt (2003e) indicated that a high price was not the only criterion to consider. Farmers also select customers based on other criteria such as prompt payment terms, the frequency and timing of delivery, the buyers demand for promotional support and other incentives, and the product quality required.

While buyers generally seek to purchase the best quality produce available for the least cost, some suppliers prefer to transact with preferred customers because it makes their selling decisions easier (Bensemann et al. 2012). Assuming that farmers take the time to grade the produce prior to sale, most farmers will have no difficulty in selling the better quality produce. However, the problem that then arises is how to dispose of the inferior quality produce, especially when the market is saturated. To overcome this problem, many farmers prefer to sell to traders and collector agents without grading (Batt, Concepcion and Digal 2006b).

Where there is the potential risk of non-payment in the transaction (Young and Hobbs 2002) or where it is necessary to extend credit, suppliers prefer to transact with those buyers who have a good reputation and with whom they have dealt in the past (Batt et al. 2006b).

From a supplier's perspective, having access to a secure and reliable market for their produce, reliable and timely market information, technical information and capital often emerge as major considerations in choosing between alternative buyers (Rankin, Dunne and Russell 2008).

3.2.3 Relationship marketing theory

The concept of relationship marketing is heavily influenced by El-Ansary and Stern's (1972) classic work on power, dependence and conflict. Relationship marketing was first described by Berry (1983) in the context of services marketing. Relationship marketing sought not only to attract new customers, but to maintain and enhance enduring long-term relationships with them. Servicing existing customers was viewed as being more cost effective than acquiring new customers.

Grönroos (1994) described relationship marketing as seeking to identify and establish, maintain and enhance relationships with customers and other stakeholders, at a profit, so that the objectives of all parties involved in the transaction could be met. This was achieved by the mutual exchange and fulfilment of promises (Grönroos 1995). More recently, Palmatier (2008) defined relationship marketing as the process of identifying, developing, maintaining, and terminating relational exchanges for the purpose of enhancing performance.

Historically, researchers have provided numerous insights into how and why relationship marketing works (Palmatier 2008). Developed from El-Ansary (1972), channel researchers initially employed a power-dependence framework to understand the relationships between channel partners in which dependence and power were considered the primary relational factors. A subsequent framework was developed by Dwyer et al. (1987), who sought to document the process of relationship development and dissolution using a number of relational constructs including trust, commitment, norms, dependence, justice, conflict, cooperation and communication. Morgan and Hunt (1994) suggested that trust and commitment were central to successful relationships rather than power. The IMP Group identifies and explains the nature and processes of buyer-seller interaction, in terms of the elements of and the process of interaction, the parties involved, the environment and the atmosphere (Håkansson 1982). Here, the dependency between firms, the evolution of their transactions over time, the adaptations that each make to meet the requirements of the other party, and the personal contact that takes place are most influential (Turnbull, Ford and Cunningham 1996).

Relationship marketing refers to a particular way of doing business that not only includes the establishment and management of personal relationships, but also how the business is defined from a social perspective (Ahmady et al. 2011). As a supply chain is best described as a network of businesses and relationships (Lambert 2008), effective and efficient supply chains require farmers, traders, wholesalers and retailers to develop and maintain close relationships with their buyers and/or suppliers (Fischer et al. 2008).

Firms are establishing relationships with their suppliers because it enables them to become more efficient and more effective. A firm pursuing a relationship marketing strategy will attempt to create more value for its customers than that which is provided by the core product itself (Batt and Miller 2004; Blandon et al. 2008; Duffy 2005). By developing long-term relationships, both buyers and sellers can achieve cost savings through: (i) reduced search and evaluation costs; (ii) reduced transaction costs; and (iii) the learning effects and relationship-specific scale economies (Batt 2006a). Buyers may become less sensitive to price competition (Blandon et al. 2008; Håkansson 1982; Naidu 2012; Sahara et al. 2011; Vasileiou and Morris 2006) and suppliers may benefit from higher prices (Herlambang et al. 2006; Palmatier 2008). However, the greatest benefit of a long-term relationship is the reduction in uncertainty (Abramson and Ai 1998; Golicic et al. 2002). By developing relationships with their suppliers, customers can anticipate improved access to markets and more reliable market information; a more reliable supply of production inputs; improved product quality and performance; and a higher level of technical interaction in the form of information exchange, potential product adaptations and technical assistance (Batt 2006a; Fischer et al. 2008; Sahara et al. 2011). Through becoming closer to customers and better understanding and satisfying customer needs, suppliers can achieve greater customer loyalty and higher repeat sales (Batt 2006a). Relationships are intangible assets that provide both parties with a source of long-term competitive advantage (Duffy 2005).

Recently, an increasing number of marketing studies have focused on the nature of long-term buyer-seller relationships and the most significant variables which contribute to the development and maintenance of these relationships in supply chains (Naidu 2012; Nawi 2009). Researchers have used a combination of theoretical perspectives to study relationships among channel partners, mostly in developed countries (Naidu 2012). Lembergen et al. (2009) suggest that relationship measures should be included in chain performance measures, because the closeness of chain relationships and types of process links may influence chain performance. Within the flower industry, the application of this theory is still limited. Claro et al. examined buyer-supplier relationships in the Dutch potted plant and flower industry (Claro 2004; Claro and Omata 2005; Claro, Zylbersztajn and Omata 2004). Blumthal and Gow (2006a) examined the factors impacting on the adoption, diffusion and success of a contract production model implemented by an Ecuadorian cut flower exporter with small local producers.

3.2.4 Supply chain management theory

Organizations today no longer compete as independent entities, but rather as chains (Lambert and Cooper 2000). A supply chain is a complex network of organisations (actors) bound together through various upstream and downstream linkages, which are involved in different

activities (production, processing and transport) to produce superior value in the form of products and services for the ultimate consumer (Ellram 1990; Fearne, Hughes and Duffy 2001; Reardon et al. 2000).

Supply chain management has received attention since the early 1980s, yet conceptually the management of supply chains is not well understood (Croom, Romano and Giannakis 2000). Christopher (1998) described supply chain management as the management of upstream and downstream relationships in order to deliver superior customer value at less cost to the supply chain as a whole. Lambert and Cooper (2000) and Tan (2001) see supply chain management as the management of multiple business activities and relationships (i) internally within an organization; (ii) with immediate suppliers, (iii) with first and second-tier suppliers; and (iv) customers along the supply chain.

Supply chain management considers the upstream and downstream flow of product, services, information and finance (Mentzer et al. 2001). The challenge in supply chain management is to ensure that all variables flow in an efficient manner, optimising the results for farmers, market intermediaries and customers. By necessity, supply chain management involves coordinating and integrating these flows both within and among trading partners (Tolani and Hussain 2013).

Linkages refer to the interdependencies that exist between the actors and the activities that they perform and how these activities are linked to each of the other actors (Ford et al. 1998). As the output of one firm becomes an input for another, in fresh produce supply chains, all participants must understand how the quality of the product will deteriorate irrevocably at each stage of the supply chain with inappropriate handling (White 2000). A weakness in one link will affect the price or attractiveness of the final product and hence all the actors will suffer (Acharya 2007). Nevertheless, the efficiency of a supply chain ultimately depends upon the efficiency of each individual actor and the linkages that are established between them (Humphrey 2005; Power 2005). Supply chain management coordinates the goals of the different actors, the different activities, and the different resources that these actors need to perform their activities (Batt 2006b).

The traditional view of supply chain management is to leverage the supply chain to achieve the lowest initial purchase prices while assuring supply (Spekman et al. 1998). The growing interest in supply chain management is moving business entities away from discrete transactions by breaking down barriers between each of the actors so as to achieve higher levels of service and substantial savings in costs (Wilson 1996b). Supply chain management is concerned with the sharing of information, in order to save time, reduce costs (manufacturing, inventory, distribution and waste), increase effectiveness (accurate targeting

of consumer needs and wants), and to add value (Fearne et al. 2001). Inventory management, logistics, purchasing and procurement, production planning and performance measures attempt to optimise sequential production processes and operations, while efficient governance mechanisms attempt to reduce transaction costs and appropriate property rights in downstream and upstream stages of the chain (Lazzarini et al. 2001). Supply chain management, within the context of an agribusiness system, refers to the coordination, planning, organization, control and alignment of materials, financial and information flows for the activities and the processes that are involved in a supply chain (Batt 2006b).

As farm production, processing and trade become more tightly aligned, the application of supply chain management principles becomes more prominent (Jayaratne 2011). The role of agricultural supply chains is to optimise the balance between production and the consumer needs (in terms of both quality and quantity) and to distribute the products quickly to the consumer to reduce quality losses (van der Vorst, Silva and Trienekens 2007). The structure of such chains is largely dependent on the market channel(s) that are chosen by the various parties. A marketing channel forms a chain for products and services that are intended for sale in a certain market and bridges the gap between producers and markets (Trienekens 2011). The actors involved in agricultural supply chains include farmers, traders, wholesalers and retailers, their input and service suppliers, and ultimately, the consumer (Wheatley and Peters 2004). The main processes (activities) are the handling, conditioning, storing, packing, transport and trading of fresh and/or processed products (Batt and Bich 2010).

Although supply chain management generates advantages, there are many barriers that make it difficult to implement. Because of the characteristics of the product and production, managing agricultural supply chains is complex (Wijnands 2005). Impediments to the effective management of supply chains include: (i) the inequitable sharing of value, (ii) the power of the buyers in controlling the price and quality; (iii) the lack of incentives within the supply chain for producers to improve product quality; (iv) conflict in the exchange process; (v) the lack of credit; (vi) the lack of strategic market information; (vii) the lack of information on production technology and marketing options; (viii) the lack of commitment due to a short-term profit orientation; (ix) the lack of knowledge of the dynamics of the market, and (x) the involvement in an excessive number of supply chains, which creates weak relationships among supply chain members (Batt 2006b; Ramayah et al. 2008). As many agricultural products are highly perishable, these factors pose unique constraints towards improving the performance of supply chains (Herlambang et al. 2008; Naidu 2012).

Performance measures designate the value outcomes and the criteria by which supply chains are evaluated (Herlambang et al. 2008). Supply chain performance indicators include market share, stakeholder's satisfaction, improved prices, improved margins and reduced waste

(Cadilhon et al. 2006a). Supply chain performance is also a function of marketing effectiveness, market efficiency (Aramyan 2007) and network function (Neely 1995). Effectiveness refers to the extent to which customer requirements are met (Herlambang et al. 2008), while efficiency is a measure of how economically the firm's resources were utilized to provide a given level of customer satisfaction (Neely 1995). The network function takes into account the potential for value creation in the network beyond the dyadic supplier-buyer relationship (Herlambang et al. 2008).

Performance measurement, therefore, can be defined as the process of quantifying the efficiency and effectiveness of action. Obtaining value from the exchange has always been the fundamental basis for all marketing activity. Numerous measures of individual actor and overall performance of a supply chain have been employed and include: effectiveness, efficiency, impact, outcomes, progress, advance, development and associated terms such as innovation (value creation) and supplier-buyer relationships (Herlambang et al. 2008; Neely 1995), and profitability (Aramyan 2007). In the context of agribusiness supply chains, an evaluation of performance is an attempt to determine how well the chain meets the expectations of the stakeholders involved (Herlambang et al. 2008).

Broadly speaking, there are two alternative approaches towards improving the performance of agricultural supply chains: to reduce costs and/or to add value (Herlambang et al. 2008). Effective supply chain management requires cutting costs, assuring greater consistency and raising product quality and diversity. Cutting costs, in turn, requires an improvement in all aspects of procurement, including production and transaction costs. This can be done by means of improvements in coordination and logistics systems, contracts between suppliers and buyers, and private standards which specify the quality, safety and volume of the products (Reardon and Berdegué 2002). Cost reduction requires impediments to be removed in terms of risk and uncertainty to reduce transaction costs.

Alternatively, supply chain management focuses on how value is created throughout the chain (Batt 2006b). Value is the worth in monetary terms of the economic, technical, service and social benefits a customer receives in exchange for the price that it pays (Anderson and Narus 1999). Added value in supply chains describes the value that is added through one actor's operational activities to a product or service (Wessely 2010). Adding value is supported by information flows up and down the chain, which link producers with the market demands such as product form, quality and quantity (Martin et al. 2008). Adding value requires actors in the supply chain to get closer to their customers and to better understand what their customers need (Herlambang et al. 2008). Value added may be related to higher quality, lower costs, desired delivery times, delivery flexibility and innovativeness, and is created at different stages by different actors throughout the value chain.

Opportunities for an actor to add value depend on a number of factors such as market characteristics (the size and diversity of markets) and their technological capabilities. Irrespective, market information on product and process requirements is essential to enable producers to deliver the desired value to the right market (Trienekens 2011).

Buyers typically consider product and supplier attributes in a manner that seeks to minimise the various problems associated with purchase and use (Wilson 1994). Batt and Bich (2010) describe how suppliers have the potential to positively (or negatively) affect customer inventories, product quality, cost and delivery times. As prudent supplier selection leads to improved buyer performance, price is becoming less important in the decision to purchase. Nevertheless, a supplier must be cost competitive even if they offer a superior quality product or more reliable delivery. Measuring supply chain performance identifies how well the chain is performing, drawing attention to where improvements are desirable and detecting additional problems. It affects decision making through the assessment of past actions and through benchmarking. Furthermore, it can facilitate the more efficient distribution of resources and assess managerial practices (Lembergen et al. 2009).

To improve the performance of the supply chain, it is necessary to overlay a coordination system that brings these multiple functions and organisations together as a part of a unified system (Arshinder, Kanda and Deshmukh 2008). To optimise performance, supply chain management should look both ways to meet both the customers and the farmers' needs. With appropriate coordination, product will move down the supply chain while information will flow back to producers, enabling resources to be allocated in ways that will bring greatest profitability to the various actors in the supply chain. However, if the supply chain is to be sustainable, there must be clear benefits for both partners. Farmers will look for high prices and a guaranteed market, while buyers look for low prices and a reliable supply. Through supply chain management, enduring long-term relationships are established and the exchange partners become increasingly interdependent (Batt 2006b).

3.2.5 Marketing coordination/evolution

In supply chains, vertical relationships exist between the various nodes in the value chain, while horizontal relationships exist between actors at the same node (Trienekens 2011). To strengthen the link between small, unskilled producers and a large institutional market, vertical market coordination is becoming more common place (Ahmadi-Esfahani and Locke 1998). Within the agri-product industry, there has been a progressive shift away from traditional procurement systems towards a rationalisation of the supplier base. In parallel, there has been a progressive shift from: (i) public standards to private standards (Fulponi 2006); (ii) spot market to vertical coordination mechanisms using contracts and the provision

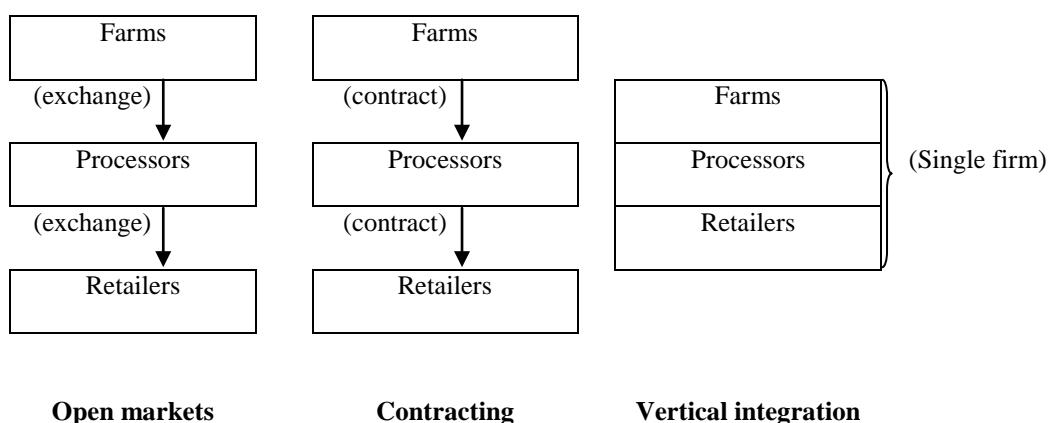
of credit or inputs (Dolan and Humphrey 2000; Maruyama and Hirogaki 2007); (iii) local procurement to centralized procurement, and (iv) a broadening of the procurement catchment area from local to national, regional and global networks (Reardon and Berdegué 2002).

These changes in global food supply chains are increasingly being driven by customer demands that require firms to deliver the desired products quickly and to be responsive, flexible and efficient. Increasingly, commodity-based supply chains are being fragmented by the expansion of differentiated products delivered through value chains (Murray-Prior et al. 2004).

Amidst this transformation of the agri-food industry, many researchers are expressing their concerns at the rise of corporate agriculture and the smallholder farmer's inability to participate in emerging markets (Kohls and Uhl 2002). Farm businesses need to be better organized at both the enterprise level and the supply chain level (Lundy et al. 2004). The increasing consumer demand for differentiated agricultural products has influenced the need for higher levels of managed coordination (Kirsten and Sartorius 2002).

Vertical coordination is particularly important in the agricultural industry because of the length of supply chains, the large number of actors involved, and the inherent uncertainty of price, supply and the variable quality of agricultural products (Kohls and Uhl 2002). There are three alternative forms of vertical coordination in agricultural markets: open markets, contracting and vertical integration (Boland, Barton and Domine 1999) (Figure 3.2).

Figure 3.2 Alternative forms of vertical coordination in the agricultural system



Source: Adapted from Kohls and Uhl 2002

In the traditional, open market system, each independent actor exchanges products freely with the others and prices are discovered at each transaction point. In the contract system, some exchanges are governed by privately negotiated legal documents, which may specify prices, markets, quantities and quality in advance of the sale (Blumthal and Gow 2006a; Glover and Kusterer 1990; Kirsten and Sartorius 2002; Melese 2010; Naidu 2012). In a

vertically integrated marketing system, two or more market stages are combined and product moves from one stage to the next by managerial decisions rather than by open market trading (Kohls and Uhl 2002).

Contract farming cannot be considered a panacea for integrating smallholder farmers into high value markets (Naidu 2012). Contract farming arrangements often fail due to conflicts arising from price, product quality, the inability to enforce contracts with farmers, unequal bargaining power between producers and traders, and monopolistic trader behaviour. The danger with some contract farming schemes is that it displaces decision-making authority from the farmer to the downstream processor or distributor, turning the farmers into quasi-employees.

Other problems with contract farming relate to the high per unit costs of contracting with smallholder farmers. As smallholder farmers often experience more problems in meeting stringent quality and food safety requirements, buyers prefer to contract with large scale farmers (Kherallah and Kirsten 2002). Most buyers prefer to transact with larger farmers because of their capacity to produce better quality crops due to more efficient and business-oriented farming methods and larger volumes of produce which reduce the cost of collection; improved traceability due to the absence of pooling; and their capacity to bear risk in the event of crop failure. Small farmers, therefore, are potentially excluded from many aspects of contract farming (Batt 2007).

To protect against exploitation, to make the best use of scarce resources and to secure the best possible return, it is suggested that smallholder farmers should come together in cooperatives (Baron 1978; Biénabe and Sautier 2005; Lele 1981; Ortmann and King 2007) or collaborative marketing groups (Axalan et al. 2012; Batt et al. 2011; Claro and Omata 2005; Crawford 2006; Montiflor et al. 2010; Murray-Prior 2007b; Musodza 2009; Sheth and Parvatiyar 1995; Spekman et al. 1998).

Horizontal cooperation may extend to marketing, purchasing, service and processing. Cooperatives bring a lot of benefits to smallholder farmers such as: (i) increased efficiency, improved market coordination, greater bargaining power; (ii) reduced costs and less risk; (iii) improved product and service quality; (iv) stable and secure markets; and (v) the opportunity to move to supply, assembly and processing (Biénabe and Sautier 2005; Kohls and Uhl 2002; Ortmann and King 2007). For the community, with an assured market, collaborative marketing groups provide greater opportunities for employment associated with land preparation, planting, harvesting and sorting, and transport. Potentially, greater cooperation brings the community closer together, making it easier for them to access public investments in infrastructure. For the environment, the adoption of low input biodynamic production

systems has resulted in a significant reduction in the use of chemical fertilisers, pesticides and herbicides (Batt et al. 2011).

Coordination is necessary for smallholder farmers to achieve economies of scale, gain access to technical support, to access basic services, to provide a more cost effective source of inputs and to achieve better prices (Min 2011; Ortmann and King 2007). Cooperation also enables farmers to better respond to the needs of institutional buyers (van der Vorst et al. 2007). However, cooperatives cannot set prices, unless they also control the supply, nor can they guarantee to recover the cost of production for the members. Cooperative membership is voluntary and therefore their success depends upon their ability to operate profitably and to satisfy both their downstream customers and the members.

The organisation of smallholder farmers into collaborative marketing groups is widely seen as a solution to smallholders' problems in dealing with buyer-driven chains. Developing organisational capacity among smallholder farmers can allow them to extract more benefits and are less risky than contract farming (Vorley 2001).

However, many cooperatives fail as a result of: (i) the lack of sufficient capital; (ii) inadequate membership support, and (iii) ineffective management (Kohls and Uhl 2002). Traditionally, cooperatives have been established for defensive reasons, but other reasons include taking advantage of government policies and for offensive reasons. Historically, in developed countries, cooperatives were formed and were most successful where there was a good defensive justification for forming a cooperative to increase bargaining power in situations of market failure and asymmetric information (Murray-Prior 2007b). Cooperatives have also been established to take advantage of government support programs and where it is more efficient for producers to invest in downstream processing and marketing (Batt 2007). In many developing countries, government support can be both a help and a hindrance. While the support remains, the cooperative continues, but once the support is removed, the cooperative is likely to collapse (Murray-Prior 2007b).

Chapter 4. A pluralistic approach for analysing the performance of supply chains

4.1 Chapter outline

This chapter describes and presents the need for and the benefits derived from a pluralistic approach to analyse the performance of cut flower supply chains. After an initial mapping of the alternative supply chains, a transaction cost approach was employed, followed by an analysis of the buying and selling criteria using gap analysis. Finally, the conceptual elements of the long-term relationships between key chain actors were expounded using six constructs: satisfaction, trust, commitment, communication, cooperation and power.

4.2 The need for a pluralistic approach to analyse the performance of supply chains

Given the many different variables that influence the exchange process in agricultural markets, the complexity of the markets, the interdependencies between variables and the manner in which exchange is embedded within the prevailing cultural and social environment, this study argues for the need to employ a pluralistic framework to analyse the performance of supply chains in a developing country.

According to Conklin and Weil (1997), complexity arises from four key criteria: (i) the problem consists of a set of interlocking issues and constraints; (ii) the problem has many stakeholders who each have their own solution to solve the problem. Because there is no right answer, having stakeholders accept whatever solution emerges is more important than the solution itself; (iii) the constraints change over time; and (iv) since there is no definitive problem, there is no definitive problem solution. The problem-solving process ends when it runs out of time, money, energy, or some other resource, not when some perfect solution emerges.

In this study, the problem was embedded within an environment of: (i) considerable risk and uncertainty in cut flower production and marketing; (ii) there were multiple actors with different interests and values that were often in conflict; and (iii) a very traditional attitude to agricultural production and marketing. These factors indicate that the choice of a pluralist approach to problem resolution was appropriate.

Supply chains are complex, multi-layered and open socio-economic systems with constraints occurring at multiple levels of the supply chain. Consequently, it is difficult to capture, measure and address these constraints. Furthermore, researchers are generally trained in disciplines that cover only a small proportion of the issues and in attempting to solve a complex problem, each operate from very different disciplinary backgrounds (Murray-Prior

2007a; Ton, Vellema and de Wildt 2011). As a result, supply chain performance will be assessed differently depending on the approach adopted and which aspects are considered (Ton et al. 2011).

Ultimately, effectiveness in a supply chain depends upon how well customer needs have been satisfied. However, if each actor in the supply chain attempts to optimize performance for itself rather than to integrate its goals and activities with other actors, the entire chain will operate at a suboptimal level of performance (Herlambang et al. 2006). Efforts to determine the pattern of linkages between actors becomes crucial, given the close connection between price, production and the trading system. Each actor has a crucial role in the chain and the performance of each actor influences the performance of very other actor (Ahmady et al. 2011).

Jackson and Keys (1984) laid the first steps for a multi-methodological approach to analyse a system. A “system of systems methodologies” was described as the interrelationship between different methodologies to solve problems in various real world contexts. Since a single methodology is ineffective in meeting the challenges of addressing the problems of complex systems in economically poor nations (Martin et al. 2008; Murray-Prior et al. 2003), utilizing a number of alternative approaches in parallel can lead to richer and more reliable solutions (Murray-Prior 2007a).

The benefits of a multiple methodological approach are to present a deeper understanding of the different problem contexts. Such approaches are becoming more widely used in rural development work because of the multidimensional and complex nature of the social, economic and technical problems faced (Jackson 1991; Mingers 1997; Mingers and Brocklesby 1997; Ross 1998).

Researchers are beginning to employ pluralistic approaches associated with alternative paradigms/philosophies that explicitly recognize subjectivity in the research process (Adamides, Papachristos and Pomonis 2012; Boyer and Swink 2008; Gundlach et al. 2006; Harriss 2002; Mangan, Lalwani and Gardner 2004; Paucar-Caceres 2008; Ross 1998). To provide flexibility, insights and potential outcomes from an intervention, or to provide prescriptions for change in agricultural supply chains, a number of models or frameworks have been proposed to analyse supply chain systems (Cadilhon et al. 2003; Martin et al. 2008; Murray-Prior et al. 2006; Vellema et al. 2006; Wheatley et al. 2004). Researchers such as Nawi (2009), Batt, Concepcion and Digal (2006b), Murray-Prior et al. (2004), Batt (2003e), Murray-Prior et al (2003) and Croom, Romano and Giannakis (2000) have employed a pluralistic approach as an alternative methodology to analyse agribusiness supply chains.

Before any intervention is contemplated, the supply chain must be examined to identify the issues along the chain (Batt 2004c). Supply chain analysis can reveal improvements to the situation not only for farmers but also for other participants along the supply chain (Tanaya 2010). According to Shadish, Cook and Campbell (2002), a pluralistic approach will anticipate the major threats to the validity of the conclusion that any intervention is expected to generate. The use of a pluralistic framework identifies the constraints in the market, clarifies the relationships among the chain actors, and highlights how the benefits might be distributed among chain actors (FAO 2010).

The analysis of agribusiness systems can be conducted at one of four levels: the first focuses on each individual actor; the second on the agribusiness system as a whole (or supply chain); the third concentrates on the physical and social links between the supply chain actors; and the final level deals with the relationships between external influences on the defined system. Therefore, any analysis of agribusiness supply chains must involve an analysis of: (i) individual business subsystems (micro-level); (ii) relationship marketing systems (meso-level) and (iii) the whole system (macro-level). This analysis at multiple levels will help to understand the characteristic of the supply chain actors (types of actors, quantity, transaction costs and trends in prices) and the nature of the relationships between the chain actors at different levels of the value chain (formal and informal linkages, product, information and financial flows). These relationships are critical for moving products from producers to end users (WFP 2011). Supply chain analysis provides a framework that can generate a better understanding of the linkages among producers, market intermediaries and markets (Murray-Prior et al. 2003; Tanaya 2010).

Methodologically, systems have been broadly categorised into hard and soft systems (Checkland 1993). Elements of both soft and hard systems analysis are combined where appropriate. A soft systems framework is used to structure and analyse complex problems and identify the relevant subsystems to develop a rich picture (McGregor, Rola-Rubzen and Murray-Prior 2001). Agri-food supply chains have a significant human activity component therefore suggesting that a soft systems framework is applicable (Tanaya 2010). In this study, an analysis of the soft system includes a literature review; field visits to the farm and the various actors engaged in the supply chain for observation and informal, semi-structured interviews. The results are then used as part of a discussion process to improve the understanding of the system and its problems.

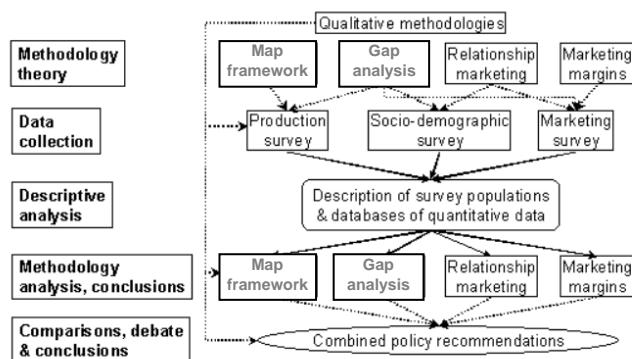
A hard systems framework investigates problems which are well-defined (Tanaya 2010). Here the performance of supply chains will be analysed using a quantitatively methodology.

Combining both approaches can provide quantifiable results of program impacts as well as explanations of the processes and intervening factors that yielded these outcomes. Combined approaches enrich the interpretation or explanation of causality (Ezemenari, Rudqvist and Subbarao 1999).

Similarly to Tanaya (2010), the term pluralistic approach in this thesis means the combination of two or more analytical approaches to solve or analyse a problem or specific issue. The word approach was deliberately used to capture the flexibility to implement the method, tools or analysis. This study applied two approaches: (i) gathering information on many factors affecting the problem situation; and (ii) designing a framework to assist in that understanding. In the latter approach, this study firstly analysed the cut flower industry in Da Lat by examining the difference between the price paid by the customers and that earned by the producers. Next it looked into the social interactions between buyers and sellers along the supply chain. This interaction leads to an improved capability for sellers to meet the buyers' needs in terms of product quality, the emergence of long-term relationships between the buyers and sellers and a reduction in risk and uncertainty. The analysis helped to identify constraints and opportunities in the chain and to identify potential solutions to improve the performance of the chain. This offered an opportunity to improve the competitiveness of the entire value chain, increase sales and productivity, and improve income and employment.

Figure 4.1 depicts the analytical framework in this study that will use map analysis, price margin analysis, gap analysis and relationship marketing to explore the effectiveness of the chains.

Figure 4.1 The pluralistic process used to combined methodologies



Adapted from (Murray-Prior et al. 2003)

4.2.1 Supply chain mapping

A supply chain map identifies the actors participating in the supply chain and the nature of the linkages between them (Gardner and Cooper 2003). These linkages show where inefficiencies are and hence where transaction costs increase (Fundira 2003). This study will

systematically map the actors participating in the production, distribution, marketing and sales of fresh flowers from Da Lat to HCMC. Mapping will identify the characteristics of actors, profit and cost structures, and the flow of product throughout the chain (WFP 2010).

Mapping the supply chain has three main objectives: (i) visualise the network in order to get a better understanding of the network and the vertical and horizontal linkage between actors and processes in the supply chain; (ii) demonstrate interdependency between actors and processes in the supply chain; and (iii) create an awareness for stakeholders to look beyond their own involvement in the supply chain (Lundy et al. 2004; M4P 2005). Mapping the chain leads to detailed descriptions of the product, information and revenue flows throughout the chain. It also provides an opportunity to examine the activities undertaken and the services performed by each actor in the supply chain, enabling all participants in the supply chain to gain a broader understanding of the way in which superior customer value is developed in the chain (Riisgaard et al. 2008; Woods 2004). A clear visual representation in a map or diagram enables information to be accessible even to disadvantaged supply chain actors. The diagrams and maps can be continually updated and refined as part of an on-going learning process (Riisgaard et al. 2008).

Supply chain mapping is considered to be the key to unlock the process gridlock and to optimise supply stream effectiveness (Maunu 2003). Once a descriptive map is produced, it provides a basis for examining the performance of the supply chain (Gardner and Cooper 2003; M4P 2005). According to Lambert and Pohlen (2001), after mapping the supply chain, each link can be analysed to describe: (i) the relationship between participants; (ii) the price margins; (iii) supply chain processes and activities; and (iv) opportunities identified where additional value can be created.

Developing a supply chain map is advisable for many reasons such as identifying the bottlenecks in the supply chain to manage supply chain risk, to measure performance at each supply chain node and reduce the overall supply chain cost. A strategic supply chain map will enhance supply chain planning, help to distribute key information efficiently, provide a base for supply chain redesign, help to understand the supply chain dynamics, and enhance monitoring and analysis. A supply chain map can be utilised as a bridge to connect the supply chain strategy and corporate strategy (Jayaratne, Styger and Perera 2012; Lundy et al. 2004). From an analysis of the map, it is possible to see where there are gaps or redundancies, and opportunities for value addition of existing activities (WFP 2010).

4.2.2 Price-margin analysis

According to Tanaya (2010), transaction costs are reflected in marketing margins, hence the analysis of marketing margins can be approached in a similar manner to transaction cost

analysis. The cost, net returns and marketing margins at each step in the supply chain have been used as a potential method for evaluating transaction costs in many agri-product supply chains (Bakucs and Fertő 2005; Bakucs and Fertő 2006; Batt 2003e, 2004c; Bojnec 2002; Mendoza and Rosegrant 1995; Saghian, Ozertan and Spaulding 2008; Wei et al. 2004a; Yangrong and Wei 2004).

All marketing functions generate costs (Crawford 2006). The presence or absence of signed agreements or legal contracts indicates the extent to which monitoring costs influence the transacting parties (Birachi 2006). Marketing costs, including direct costs, operational costs and physical loss, are incurred when a product is harvested and throughout its distribution until it is purchased by the end consumer (Bakucs and Fertő 2006; FAO and SIFSIA 2011; Harriss-White 1995; Recklies 2001; Sarker and Chakravorty 2005). These costs vary widely depending on the product, the number of market intermediaries and the distance between production areas and consumption centres (Wandschneider and Yen 2005). Costs include not only the activities of actors, but also the purchase price and the various costs associated with the failure of the product due to poor or inconsistent quality and unreliable delivery (Aujla et al. 2011; Batt and Cadilhon 2006). Marketing costs in horticulture are particularly high because of the high bulk to weight ratio, the perishable nature of the product and declining prices due to a reduction in quality (Bagchi and Raha 2011; Gangwar, Singh and Singh 2007; Tegemeo nd).

The performance of the supply chain is most often evaluated in developing countries using marketing margins (Batt 2003e). A marketing margin may be defined as the difference between the price paid by customers and that obtained by the sellers per unit. Alternatively, price can be seen as a collection of marketing services which is the outcome of the demand for and the supply of such services (Bakucs and Fertő 2006; Harriss-White 1995; Jahan 2009; Recklies 2001). Marketing margins look at the flow and the volume of the product, the activities each actor in the supply chain performs, and the costs involved to perform those activities, relative to the price received (Herlambang et al. 2006). The net margin includes returns that may be attributed to the costs of marketing, including those costs that are not explicitly captured such as managerial inputs and the costs of searching for alternative supply chain partners, and gathering information.

The margin captured by any participant in the supply chain potentially has three components: costs incurred in creating value; reward for value creating activity; and the rent that can be extracted from another participant because of a monopoly or near-monopoly position in the chain (Martin et al. 2008). The configuration of the chain, the orientation of the chain leader, the number of players at each stage of the chain, and the types of relationships between them can be useful indicators of whether and where rent is being extracted (Martin et al. 2008;

Pomeroy and Trinidad 1995; Recklies 2001). The size of the margin fluctuates with the degree of processing of the commodity, its bulk, unit values and perishability (Giroh, Umar and Yakub 2010); the number of actors involved in the exchange, the marketing services provided and the risk and uncertainty borne by each actor (Batt 2003e); the buying and selling prices and the costs of marketing (Kohls and Uhl 2002; Mendoza and Rosegrant 1995); and the seasonal price (WFP 2010).

Theoretically, an analysis of marketing costs, prices and margins will reveal information on market inefficiency, excess profits, unfair trading practices and constraints within the marketing chain (Batt 2003e; Collinson et al. 2003). The larger the margin market intermediaries are able to extract, the greater is the inefficiency in the marketing system (Sarker and Chakravorty 2005). Such analysis gives an indication of the price structure (Sarker and Chakravorty 2005); the value of the transaction costs facing actors in the supply chain; and the identification of potential bottlenecks (FAO and SIFSIA 2011). High transaction costs impede investment and hamper long-term economic growth and competitiveness (Hobbs 2007; MOSPI 2010; Sarker and Chakravorty 2005; Wijnands 2005). Results indicate the degree to which markets have been constrained in the past and how they will likely respond in the future (WFP 2011).

Measuring costs and margins enables an analyst to determine the extent to which a supply chain is accessible to the poor (WFP 2010). It identifies opportunities for the weakest actors in the supply chain to upgrade their position in the chain by making the chain more efficient (decrease costs) and more effective (increase value).

4.2.3 Gap analysis

Buying and selling decisions are not only different but independent of each other (Maunu 2003). Purchasing is defined as a systematic process of deciding what, when and how much to purchase. In parallel, the process must ensure that the products or services required are received on time, in the quantity and quality specified (Gundlach et al. 2006).

Gap analysis was developed by Parasuraman et al (1985) to compare customers' expectations with various service quality dimensions (Frost and Kumar 2000; Peterson et al. 2001; Rosen and Karwan 1994; Seth, Deshmukh and Vrat 2006). Rho et al. (2001) used gap analysis to study the gap between manufacturing strategy and implementation practices and its impact on business performance. Seth (2006) used gap analysis to identify the differences in service quality between logistic users and providers. This analysis can also be used to identify the efficiency gaps in the supply chain and to make recommendations to address them (WFP 2011).

In agribusiness, gap analysis has been widely applied as a tool to identify the extent to which alternative suppliers are able to meet the customers' needs and in turn, to access the extent to which customers are able to meet the suppliers' expectations (Batt 2003f; Murray-Prior et al. 2003; Nawi 2009; Paterson 2006). As the gaps along the chain have an important bearing on costs, quality and price, it is important to close these gaps for more effective supply chain management. A greater number of gaps or a high number of gaps illustrate that there are differences and possibly problems between the parties.

Reducing the gap provides an opportunity to add more value to the exchange (Herlambang et al. 2006). According to Concepcion (2003), a better understanding of each other's needs enables all actors to see the entire supply chain rather than to focus solely on their roles, thereby promoting greater cooperation and investment with greater confidence (Grimsdell 1996). Recognising where the problems occur offers an opportunity for actors to make improvements. However, it is equally important to identify what constraints and impediments actors face in being able to meet the demands of both upstream suppliers and downstream buyers.

4.2.4 Relationship marketing analysis

Gaining a greater understanding of buyer seller relationships is a tool to improve the performance of supply chains. All actors should realise that maintaining relationships with upstream and downstream trading partners is as important as all other aspects of the marketing mix to deliver superior value to customers (Tanaya 2010).

In the agribusiness literature, a growing number of studies deal with the management of long-term relationships (Schulze, Spiller and Wocken 2006). According to Fischer (2009), a sustainable relationship is derived from the commitment to, satisfaction with, and trust in a business partner, while relationship stability uses and applies coercive and non-coercive power, past chain experience, mutual dependence, conflict resolution and a positive history of cooperation among business partners. Trust, satisfaction and commitment strongly influence communication quality, quantity and the distribution of power along the chain (Ahmady et al. 2011; de Magistris and Gracia 2008).

Although satisfaction, trust and commitment are three distinct constructs, there are strong conceptual links between them (Schulze, Wocken and Spiller 2008). Commitment and trust continue to play critical roles, but the scope of investigations should also expand to capture a multidimensional construct formed from different dimensions of the relationship (Ahmady et al. 2011; Palmatier 2008). While Rodriguez et al. (2009) state that most contributions have found that trust has a positive impact on the level of satisfaction, Schulze et al. (2008) suggest that satisfaction is an antecedent of trust. Batt and Rexha (2000) developed a model

of the factors that contributed to a successful marketing relationship. These included the partners' satisfaction with the exchange, trust, commitment, the making of relationship-specific investments and the appropriate restraint of power. Lembergen et al. (2009) described trust; economic satisfaction and social satisfaction; dependency; non-coercive power and coercive power; reputation; and conflict as the critical relationship measures. De Magistris and Gracia (2008) measured trust, commitment and satisfaction, with the quality and frequency of the communication and personal bonds that moderate long-term relationships. Overall, the literature provides strong evidence for the growing importance of a behavioural approach to manage the relationships between primary producers and market intermediaries.

In a similar manner to gap analysis, the relational marketing variables are analysed by comparing a parties' actual performance with its potential performance (Giannakis 2007; Nawi 2009; Pels, Coviello and Brodie 1999). Using the key dimensions of satisfaction (Batt 2004c; Bejou, Wray and Ingram 1996; Duffy 2008; Naudé and Buttle 2000); trust (Batt 2004c; Bejou et al. 1996; Blandon, Henson and Islam 2009; Claro and Omta 2005; Duffy 2008; Ganesan 1994; Handfield and Bechtel 2004; Herlambang et al. 2006; Morgan and Hunt 1994; Naudé and Buttle 2000; Sahay 2003); commitment (Bejou et al. 1996; Duffy 2008; Herlambang et al. 2006; Morgan and Hunt 1994; Naudé and Buttle 2000); cooperation (Arshinder et al. 2008; Wilson 1996a); communication (Tummala, Phillips and Johnson 2006); and power (Batt 2004c; Gaski and Nevin 1985; Handfield and Bechtel 2004; Hingley 2005); relationships in Da Lat cut flower supply chains will be investigated.

Satisfaction

Satisfaction is defined as "a positive affective state resulting from the appraisal of all aspects of a firm's working relationship with another company" (Anderson and Narus 1984). Satisfaction is an overall evaluation based on the total purchase and consumption experience with the good or service over time. Satisfaction is the extent to which the supplier meets or exceeds the customer's expectations (Fischer 2009; Nawi 2009; Schiele, Veldman and Hüttlinger 2010). Therefore, satisfaction is an indicator of the benefits exchange partners obtain from their relationship (Batt and Miller 2004; Darroch and Mushayanyama 2006). Satisfaction strengthens loyalty and the commitment of the exchange partners to the relationship (Anderson and Narus 1999; Smith 1998).

In the fulfilment of expectations both social and economic criteria must be met. The social dimension is evaluated by personal interaction and perceptions of being treated fairly and equitably. Economic satisfaction requires the product, prices, reliability of delivery, logistics and service to be evaluated (Fischer 2009).

Customer satisfaction has three antecedents: perceived quality (technical quality and functional quality), perceived value (level of product quality relative to the price paid) and customer's expectations (favourable and unfavourable to the customer's prior experience with the supplier's offer and forecasts of the supplier's ability to deliver in the future) (Batt 2003f). Price satisfaction suggests that the economic outcome is important for the exchange partner and, thereby, positively affects the development of trust. Furthermore, there is a temporal dimension (short- and long-term satisfaction) as well as relative price satisfaction (which is derived by comparing the price received with the price paid by buyers) (Schulze et al. 2006). Supplier satisfaction is a condition that appears if the costs and benefits from a buyer-supplier relationship meet or exceed the supplier's expectations (Schiele et al. 2010).

Trust

Trust has often been portrayed as the key determinant of relationship marketing (Ahmady et al. 2011; Batt 2000a, 2004a; Batt and Parining 2002; Batt and Rexha 2000; Biénabe et al. 2007; Handfield and Bechtel 2004; Moorman, Zaltman and Deshpande 1992; Sahay 2003; Török and Hanf 2009).

Trust is a behavioural intention that reflects reliance on an exchange partner (Batt et al. 2006a). Anderson and Narus (1999) define trust as the firm's belief that an exchange partner will perform actions that will result in positive outcomes for the firm, and that it will not take unexpected actions that may result in negative outcomes for the firm (p.45). Moorman et al. (1992) define trust as a willingness to rely on an exchange partner (p.315). According to Rodriguez et al. (2009), trust is the willingness to accept vulnerability based on positive expectations about an exchange partner's intentions or behaviours. While these definitions view trust as a behavioural intention that reflects reliance on the other partner, both definitions, in part, capture quite different aspects of the construct. Moorman et al. (1993) defined trust as a belief, a sentiment or an expectation about an exchange partner, resulting from the partner's expertise, reliability and intentionality (p.82). This component of trust, which Ganesan (1994) described as credibility, is based on the extent to which the buyer believes that the supplier has the necessary expertise to perform the activity effectively and reliably. However, trust also relates to the focal firm's intention to rely on their exchange partner. This component was described as benevolence, because it is based on the extent to which the focal firm believes that its partner has intentions and motives beneficial to it. A benevolent partner will subordinate immediate self-interest for the long-term benefit of both parties and will not take actions that may have a negative impact on the firm (Batt and Bich 2010).

Researchers have sought to classify trust differently due to the specific research issue and study aims (Sanner 2005). In building trust, Sako (1992) categorized trust at three levels: (i)

contractual trust rests on a shared norm of honesty and promise keeping; (ii) goodwill trust exists where there is a consensus on the principle of fairness; and (iii) competence trust requires a shared understanding of professional conduct and technical and managerial standards. Trust can also be classified among strategic decision-makers as: (i) personal trust; (ii) experience-based trust; (iii) cognition-based trust, which evolves from knowledge and inference of the partner's abilities, traits, goals, norms and values; and (iv) affect-based trust, such as loyalty, care, reputation, warmth, friendship or empathy for the exchange partner (Bavorova and Hockmann 2008; Belya, Torok and Hanf 2008; Zhang and Aramyan 2009).

Trust plays a mediating role between five antecedents (environmental uncertainty, dependence, coercive power, communication and economic outcomes) (Anderson and Narus 1990; Zhang and Aramyan 2009). The individual characteristics that lead to trust are the sharing of goals, values and information; predictable processes; the partners' motives and ability to meet obligations; and the partners' consistent and predictable acts (Sahay 2003). Characteristics such as the length of the trading relationship, ordering procedures, contractual relationships, inspection, degree of dependence, technical assistance, communication, price determination and willingness to extend credit also have a significant positive effect on the level of trust between actors (Webber 2008).

Trust provides a means of coping with risk and uncertainty in exchange relationships (Batt et al. 2006a; Masuku, Kirsten and Owen 2007). Trust acts as an information resource that reduces the perceived threat of information asymmetry and performance ambiguity (Batt 2003f); trust reduces transaction cost (Batt and Parining 2002; Cadilhon et al. 2003); and reduces opportunistic trading (Achrol 1997; Batt and Miller 2004; Darroch and Mushayanyama 2006; Schulze et al. 2006).

In many chains, trust and reputation replace more integrated governance mechanism as a safeguard against opportunistic behaviour to keep transaction costs low (Trienekens 2011). Thus the lack of trust at any level of the chain will provide a major barrier to improving the performance of supply chains (Batt et al. 2006a; Duffy 2005).

Satisfaction, conflict resolution and a long-term orientation are considered as the consequences of trust (Anderson and Narus 1990; Zhang and Aramyan 2009). Trust refers to the shared belief that in the long run, rewards will be distributed fairly among partners (Batt and Parining 2002; Darroch and Mushayanyama 2006; Smith 1998; Zhang and Aramyan 2009). Trust induces desirable behaviour; reduces the need for formal contracts; facilitates dispute resolution and the transparent exchange of information (Sahay 2003). Long-term relationships and trust encourage effective communication between actors in the supply chain (Darroch and Mushayanyama 2006).

Agribusiness has been conceptualized as a system of relationships between people (Murray-Prior et al. 2004). Trust provides the cement or cohesion that holds these relationships together. Trust alters the terms of trade, generates decision flexibility, reduces transaction costs and creates additional time resources for management (Wilson 2000). A high degree of trust between actors in a supply chain relationship is conducive to coordinating behaviour (Anderson and Narus 1999). Trust encourages effective communication and information sharing (Herlambang et al. 2006). Continued interaction allows each party to collect information on the capability of the other and to build confidence (Lyon 2000).

Commitment

Relationships require trust and commitment for long-term cooperation, along with a willingness to share risks (Sahay 2003). Commitment has been found to be an important element of relationship marketing (Batt and Miller 2004; de Magistris and Gracia 2008; Garbarino and Johnson 1999; Geyskens, Steenkamp and Kumar 1999; Schulze and Spiller 2006). Commitment is important for it discriminates between the stayers and the leavers (Wilson 1995).

Moorman et al. (1992) define commitment as an enduring desire to maintain a stable long-term relationship (p316). This definition captures several dimensions of commitment including expectations of continuity that incorporate the buyers' perceptions and its exchange partners' intent to remain in the relationship (Duffy 2008). To some extent, a commitment is an act of faith by which the respective partners handle uncertainty and complexity (Batt 2003f).

Commitment encompasses a willingness to invest in the relationship. This reflects a desire to do more than just remain in the relationship (Duffy 2008). The essence of commitment in inter-organisational and interpersonal relationships is stability and sacrifice (Anderson and Barton 1992; Salam 2011). Commitment implies the adoption of a long-term orientation towards the relationship and a willingness to make short-term sacrifices in order to realise longer-term benefits (Batt 2003f). According to Hobley (2007), a long-term orientation rather than the duration of the relationship is a better indicator of commitment.

When trading partners are committed to each other, they are more willing to cooperate and to comply with each other's requests, to be flexible, share information and to engage in joint problem solving (Morgan and Hunt 1994). Committed partners are willing to invest in valuable assets specific to an exchange, demonstrating that they can be relied upon to perform essential functions in the future. The net result is improved performance in the exchange process and increased profitability for both parties (Herlambang et al. 2006; Tellefsen 2002). In turn, the anticipation of sharing risks and rewards across the chain affects

the long-term commitment of channel members (Lambert and Cooper 2000). Commitment is seen as an outcome of trust that warrants maximum effort to maintain it even if problems occur (Schulze et al. 2006).

Fischer (2009) puts forward two coexisting perspectives on commitment: manifest commitment (behaviour – willing to conduct business) and attitudinal commitment (a psychological attachment, identification or affiliation). People develop affective commitment towards organizations they feel they belong to, which provide them with assistance and support during difficult times, offer long-term security or returns and employment, and whose future and fortunes they feel they can actively participate in determining (Batt 2003a). However, attitudinal commitments alone are a precarious quantity. If a firm wishes to improve its relationship with another, then in all probability, the firm will need to commit various resources to the relationship, whether expressed in terms of managerial or sales force time, product or service development, process, financial or administrative adaptations (Batt and Miller 2004).

Communication

Communication can be defined as the formal as well as informal sharing of meaningful and timely information between firms (Anderson and Narus 1990). The content of the information relates to all aspects of the transaction (price, quality, quantity or time), process (production and logistics) and monitoring the actions of exchange partners (past and future) (Claro and Omta 2005). The amount, frequency and the quality of the information shared between exchange partners has a positive effect on the relationship (Palmatier 2008).

Within most supply chains in the transitional economies, there are multiple layers of market intermediaries that obstruct the flow of information in supply chains. Forward and backward linkages between suppliers and buyers are often weak and information is not freely exchanged among the actors in the chain (Digal and Concepcion 2004). Market failure can occur when the flow of information along the supply chain is impeded (Hobbs 2007).

Communication has been described as the glue that holds together a channel of distribution (Mohr and Nevin 1990). Communication improves supply chain performance, enhancing competitive advantage (Clements and Price 2007), improving decision making; clarifying customer needs and expectations; assisting in problem solving and conflict resolution (Tummala et al. 2006); and reducing certain types of risk perceived by either one of the parties to the transaction (Batt and Miller 2004).

The key agents for knowledge transfer vary from chain to chain. The lead actors are not always responsible for enhancing technical competence along the supply chain, as farmers sometimes receive targeted technical support from buyers or wholesalers who may provide

various incentives to meet downstream customers' requirements (Humphrey 2005). Knowledge transfer can also be driven by the farmer's themselves, for farmers have a detailed knowledge of what works best in their fields (KIT, Faida and IIRR 2006). They can share these experiences among themselves, identify best practices, establish experiments and they can make study trips to large-scale producers, research institutes and experimental centres. In this way, formal scientific knowledge will be combined with practical knowledge, which will not only boost efficiency in the chain, but make the producers more attractive business partners (Batt and Bich 2010).

Cooperation

Supply chains are complex systems with numerous activities spread over multiple organisations and sometimes over lengthy time horizons. To improve the performance of the supply chain it is necessary to overlay a cooperation system that brings these multiple functions and organisations together as a part of a unified system (Arshinder et al. 2008). Cooperation is defined as the act of managing dependencies between entities and the joint effort of entities to work together towards mutually defined goals (Malone and Crowston 1990 p361)

Cooperation in a working relationship implies a joint effort, team spirit and collaboration to achieve both intra-firm and inter-firm goals. For the exchange partners, there is an expectation of a balanced transaction, reciprocity and mutuality over time (Anderson and Narus 1990; Morgan and Hunt 1994). The extent to which firms cooperate is dependent on: (i) the degree to which the parties believe that they can simultaneously achieve their goals; (ii) the existence of mutual agreement between the parties concerning their actions in achieving individual goals; (iii) the clarity of the information processed by the exchange partners; (iv) the establishment of mutually accepted norms upon which the achievement of individual goals are approved/disapproved; and (v) the acceptance of norms of exchange which protect the exchange parties from opportunistic behaviour (Hobley and Batt 2010).

Actors in supply chains move toward closer cooperation for five reasons: (i) to produce and deliver at the right time the quality attributes demanded by the consumer; (ii) to communicate these attributes to the consumer; (iii) to ensure that actors in the supply chain are compensated for the costs involved; (iv) to meet regulatory requirements (health and environment); and (v) to meet associated concerns about product liability (Hobbs and Young 2001).

Norms of exchange are shared expectations as to how trading partners will and should behave. Cooperative norms such as flexibility, solidarity and mutuality reflect how trading partners expect to work together to be successful. Cooperative relationships establish open

lines of communication, nurture and sustain long-term relationships and develop mechanisms to solve differences by building trust (Batt and Bich 2010).

Cooperation in the chain may be established through contracts, which determine how product flows are regulated in terms of prices, quality, quantity and delivery specifications (da Silva and Filho 2007). Contracts may be formal (written and regulated by law) or informal (guaranteed by informal constraints). Contracts, whether formal or informal, reduce the uncertainty involved in the exchange relationships, but do not eliminate either uncertainty or the risk of opportunistic behaviour.

Cooperation reduces conflict and transaction costs along the entire supply chain, while at the same time, strengthening the incentives for each player to act in accordance with the strategic objectives of the channel leader, thereby limiting the cost of overseeing or monitoring the system (da Silva and Filho 2007; Matopoulos et al. 2007).

However, as the number of companies participating in the supply chain increases, the more the exchange of information becomes problematic, hindering supply chain collaboration. Company differences in terms of economic size and structure may deter cooperation due to power-trust reasons, operational complexity or technical reasons (Matopoulos et al. 2007).

The consequences of poor cooperation can lead to: inaccurate forecasts, low capacity utilization, excessive inventory, inadequate customer service, high inventory costs, slow time to market, slow order fulfilment response, poor quality, poor customer focus and poor customer satisfaction (Arshinder et al. 2008).

Power

Power is an integral construct of long-term relationships (Anderson and Narus 1999; Hingley 2005). Power resides in the ability of one firm to make another firm undertake actions that it would not ordinarily undertake on its own (Hobley 2007). In a marketing context, power is a channel member's ability to control the decision variables of another actor at a different level of the distribution chain (Gaski and Nevin 1985). Five types of power, each based on its source or origin are identified: (i) coercive; (ii) reward; (iii) expert; (iv) legitimate; and (v) referent power (Belya et al. 2008). Power relations determine how economic gains and risks are distributed among value chain actors and to what extent dominant firms may set and enforce standards with the aim of raising entry barriers for competitors and achieving market foreclosure (Webber 2008).

Many authors view power as the antithesis of trust, and thus power is only viewed in a negative sense (Handfield and Bechtel 2004; Hingley 2005; Matopoulos et al. 2007). Power and conflict are behavioural constructs that influence supply chain performance (Shepherd and Günter 2006). Power asymmetry will enable large companies to exercise their power,

imposing their rules on others, continuously increasing requirements and risk-reward sharing. This imbalance may reduce cooperation and trust (Matopoulos et al. 2007). The exercise of power, or lack thereof, can affect the level of commitment of other channel members. Forced participation will encourage exit behaviour, given the opportunity (Lambert and Cooper 2000).

However, power is not only a negative force (Hingley 2005). In a supply chain, power can be seen as a mechanism for achieving cooperation (Herlambang et al. 2008). Partners who gain the greatest share of the value created by the whole chain are, in theory, performing the most important functions in the chain. In practice, they possess the power over their suppliers and customers due to their superior position (Yangrong and Wei 2004). More powerful actors in the supply chain assume greater responsibility for the inter-firm division of labour, monitoring outcomes, linking the discrete activities between actors, and establishing and managing relationships between the various actors (Herlambang et al. 2008; Webber 2008).

However, coordination does not require a single firm to engage in these roles. Indeed, there may be a multitude of firms coordinating the flow of product and activities along the chain (Batt and Bich 2010). Asymmetry of power determines the extent to which the use of certain types of power is appropriate. Appropriate power usage will enhance commitment within the relationship, while the improper use of power will diminish commitment (Brown, Lusch and Nicholson 1995).

More recently, Johnson et al. (1993) indicate that while coercive/mediated power (reward, coercion and legal legitimate power) is present when an actor offers rewards and threatens punishment or legal action to make their trading partners commit to the relationship, its use is likely to damage relational norms, cooperation and accommodation between channel partners. Conversely, non-coercive/non-mediated power (expertise, referent, information and traditional legitimate power) enhances positive attitudes to the relationship.

Social capital and relationship marketing

In the recent years, a growing number of studies on social capital and its effects have been published worldwide. The concept of social capital was initially developed by sociologists and based on two fundamental concepts: actors and actions that explain behaviour within embedded social networks (Batt 2008; Lu 2007).

According to Putnam (1995), social capital refers to an individual's connections or social networks, the norms and trustworthiness, all of which can facilitate cooperation in society and thus have positive effects on economic performance. Social norms, like the norm of reciprocity, play a prominent role in coordinating economic activity in small, "face-to-face"

communities. When the probability of repeated interactions is high, social sanctions against cheating become extremely powerful (Fukuyama 2001).

The measurement of social capital focuses on trust, reciprocity, networks, interaction and institutions (Adler and Kwon 2002; Batt 2008). The most fundamental form of social capital is the family, the religion, friend or neighbour and the close relationships which are based on shared norms (Fukuyama 2001). There is, especially within the transitional economies, a growing recognition that economic exchange is embedded within various overarching social institutions including locality, class, ethnicity, religion, gender and age (Batt 2003d). However, the trust within such groups is often narrow and it is very difficult for people to trust those outside these narrow circles (Fukuyama 2001).

Efficient and effective communication among suppliers, manufacturers and retailers represents another form of social capital. High levels of social capital are closely aligned with the ability of business to trust (Putnam 1995). Social capital reduces transaction costs (Kherallah and Kirsten 2002) and the costs of finding information and business partners (Fafchamps 1996).

Chapter 5. Preliminary research methodology and findings

5.1 Chapter outline

This chapter describes the preliminary exploratory study that was conducted to gain a greater understanding of the prevailing cut flower production and marketing systems in Da Lat; to identify the alternative chains through which the product made its way to market, the various actors that were involved in these chains and the value-adding activities that each actor performed; to identify the factors that were most influential in each actor's decision to buy or to sell cut flowers; the determinants of any long-term buyer-seller relationship; and to test the survey instrument for the collection of quantitative data in the second stage. An overview of the survey design is provided. Qualitative data were collected, interpreted and analysed. The findings, which follow, provide a comprehensive analysis of the prevailing cut flower supply chains in Da Lat.

5.2 Research design

Before working in the field, a thorough review of the relevant literature was undertaken to identify knowledge gaps in the Da Lat cut flower industry. This was essential in designing structured interview guides and questionnaires to collect the required data. Poulish et al. (2003); RUDEC/IPSARD-FAO (2007) and van Wijk and Everarts (2007) mapped cut flower supply chains in Viet Nam. Danse et al. (2007b) and NABSO Kunming (2008) described the cut flower production system and technical aspects in Da Lat, while NABSO Kunming (2008) and van Wijk and Everarts (2007) described the cut flower market. From this initial exploration, it was evident that no previous study had been undertaken in Da Lat to examine the functions that each of the actors performed, to identify the transaction costs incurred in the exchange transactions, the decision criteria for choosing a preferred trading partner and the nature of any long-term relationships between the actors in alternative cut flower supply chains.

Many researchers highlight the importance of qualitative research (Bitsch 2005; Golicic et al. 2002; Malhotra et al. 2008; Peshkin 1993; Sofaer 1999). The qualitative approach is used to collect and understand human experiences and to discover the essential meaning of the problem situation under investigation. This approach is used to show a way of interpreting, understanding and experiencing the social world holistically rather than breaking it down (Tanaya 2010).

This study used a qualitative approach to understand how the cut flower supply chains operated and to map each of the alternative cut flower supply chains in Da Lat. The research

design included observations and semi-structured surveys, which were presented as simple descriptive statistics to describe the complexity and uncertainty present in the different cut flower supply chains. This information was essential in designing an appropriate survey instrument to collect quantitative data in the second stage. Qualitative information is also very useful in predicting, explaining and interpreting the quantitative results, and ensuring valid research conclusions could be drawn.

In-depth personal interviews were conducted. In the qualitative stage, interviews were conducted as semi-structured interviews, which provided a balance between the freedom of the interviewee to develop their own responses and the need for fixed control over the topic in an informal setting.

The qualitative stage was conducted between November 2009 and January 2010. Data was collected from 31 farmers, 16 market intermediaries, five companies and ten retailers in the cut flower chain. The snowball sampling technique was used, where one actor provided the name for the next actor in the chain, and so on. Interviews lasted from two to three hours for farmers and from one to two hours for market intermediaries and retailers. The reasons for the wide variation in time included: (i) the willingness of the interviewee to talk about each topic, (ii) the level of comfort between the interviewer and interviewee, (iii) the amount of the time available for the interview, and (v) the amount of interruptions in the workplace during the interview. Farmer interviews took place at the respondents farm, while the market intermediary interviews were conducted either on a farm for traders or on their business premises for wholesalers and retailers. After each interview, key data were summarised to help the researcher verify the information provided in the interviews (Hill and Scudder 2002).

5.3 Sample selection

The representativeness of the sample was assessed using two criteria based on regional distribution and the actors' role in the production and distribution of cut flowers. There were five survey populations of interest in this study: (i) cut flower farmers in Da Lat; (ii) traders in Da Lat; (iii) companies; (iv) wholesalers in HCMC and (v) retailers in both Da Lat and HCMC. The selection of respondents in the survey area was based on purposive sampling.

At the farmer level, seven target wards were selected for this survey (Ward 4, 5, 7, 8, 9, 11 and 12) based on the area of cut flowers cultivated and the type of cut flowers produced (roses and chrysanthemums). This information was obtained from the DAI (2010). The remaining wards and communes in Da Lat either did not grow cut flowers (Ward 1 and Ward 2), or produced other cut flowers (gladioli) and vegetables (Ward 3, Ward 10, Xuan Tho, Xuan Truong, Ta Nung and Tram Hanh). In the seven wards studied, Ward 4 and 5 were

mainly rose growing areas, while the five remaining wards were chrysanthemum growing areas. Having selected the wards of interest, smaller administrative units (villages) were randomly selected for inclusion in the study.

The population of interest were all rose and chrysanthemum farmers in Da Lat, flower traders, companies, wholesalers and retailers in the cut flower supply chain in Da Lat and HCMC. Data was collected on the participants' transactions at each supply chain level (production, trade and retail). On-site visits were carried out in the field and in the markets where the actors were located.

To improve the internal validity, respondents were asked to participate in the study if they: (i) regularly outsourced/supplied cut roses or chrysanthemum to/from other actors; (ii) had at least one year personal experience in a relationship with one or more upstream suppliers or downstream customers; or (iii) where the actors were considered to be representative of the study population (Hobley 2007).

Input suppliers and consumers were not investigated as both time and finances were limited. As production conditions in the north of Viet Nam are vastly different and the sources and proximity of supply are different in most regional markets, the findings of this study are only applicable to those areas where similar conditions prevail.

5.4 Interview format

At the beginning of the interview, the purpose of the interview, why the person had been chosen, the expected duration of the interview and permission to use a voice recorder were discussed with each respondent (Beverland, Ewing and Matanda 2006; Hobley 2007). Interviews were recorded for more detailed and accurate analysis (Hsu 2005). Most respondents permitted the conversation to be tape-recorded except for two companies. In these cases, field notes were taken during the interview.

When necessary, follow-up telephone calls were done to clarify some of the responses given. To ensure the internal consistency of the data, the responses of each participant were further explored and cross checked by asking other participants (Matopoulos et al. 2007).

5.5 Structure interview content

The qualitative study used a semi-structured questionnaire. Questions were developed from a review of the literature and other relevant qualitative research (Batt 2003f; Hobley 2007; Nawi 2009; van Wijk 2006). Three interview guides were prepared for farmers, market intermediaries and retailers (Appendix 1, Appendix 2 and Appendix 3). The interview guides were each very similar to enable comparisons to be made and to ensure complete reporting within the frame of reference for the study (Hobley 2007).

Each of the questionnaires commenced with the collection of some farm/business background information before exploring more specific production and marketing issues. The next section explored the key constraints and proposed solutions/opportunities for each actor. The last section looked into the nature of any long-term relationship between each actor and their respective downstream buyers and upstream suppliers. Even although this was only an exploratory study, the questionnaire was revised several times to improve the interview appropriateness and effectiveness.

5.6 Data collection

Primary data collection strategies were employed in this study: face-to-face interviews, observation and self-administered questionnaires. In social research, interviews are an appropriate method to collect data. Interviews offer a unique opportunity to systematically catch the respondents' subjective interpretation of the studied phenomenon. However, the researcher must accept the duality of mind and reality and recognise that what might be said in the interviews is a reflection of truth. This calls for rigor, awareness and reflection (Tanaya 2010).

In the qualitative stage, interviews were conducted as semi-structured interviews, which provided a balance between the freedom of the interviewee to develop their own responses and the need for fixed control over the topic in an informal setting.

5.7 Transcription procedure

The interview files were transferred from the voice recorder to a personal computer. Following this, the data was transcribed. This procedure produced a written version of the interview (Hancock 1998). All transcripts were edited thoroughly to ensure verbatim accuracy (Lillis 1999).

The interviews were then translated. Responses from each interview were carefully summarized in a tabular form. The transcribed data was entered into three separate files for farmers, market intermediaries and retailers. The interview content were then combined and rearranged to make across group data comparisons. The time for transcription, translation, editing and coding the 64 interviews took three months.

5.8 Data analysis techniques

Qualitative analysis differs from quantitative analysis in many aspects such as measurement and presentation. While quantitative research is focused on measuring and analysing causal relationships between variables, qualitative research is focused on interpreting reality (Malhotra et al. 2008).

The analysis of interview data was carried out in two stages: within-group analysis and between group analysis (Hobley 2007). A third method was employed to divide the data by source and to then establish whether the sources resulted in a similar pattern (Lindgreen 2001).

Each group was analysed individually to identify practices within the group. The level of analysis was selected to suit the nature of the information required for each question (Hobley 2007). Within-group analysis involved comparing the differences and similarities between respondents (Beverland et al. 2006; Lindgreen 2001). It separated the examination of the 34 farmer groups into 13 rose farmer groups and 21 chrysanthemum farmer groups, 20 market intermediary groups and 10 retailer groups. Data were then summarized for each group.

Following this, a between group analysis took place. Between group analysis examines the differences and similarities across the different groups. To gather a complete understanding of the key dimensions of the relationship between actors, the analysis tacked back and forward between the literature and the data (Beverland et al. 2006; Lindgreen 2001).

5.9 Qualitative results

5.9.1 Production and marketing

Production

Roses and chrysanthemum in Da Lat were grown in either open fields or plastic greenhouses. Open field cultivation was widely practised during the favourable growing season. Greenhouses were typically constructed of bamboo or metal, with a plastic roof and insect nets on the side walls. Depending upon their capital reserves, farmers had either sprinkler irrigation or drip irrigation.

Interviewed farmers produced 14 different rose varieties, 25 standard chrysanthemum varieties and 20 spray chrysanthemum varieties. Generally, the varieties were characterized by different colours and form. The varieties of rose were distinguished by their colour such as Red, Orange, Moon Light Yellow, Yellow, Dutch Red, Milky White, or Long White. The planting material was provided by the farmer themselves or by specialised grafters.

Each rose farmer cultivated at least one to four colours. Rose farmers planted wild roses as rootstock, then grafted across the selected varieties. It took five months to grow the wild roses before grafting, with the first harvest expected three months later. Roses in Da Lat were usually planted at a density of ten plants per square metre, but some farmers cultivated eight plants per square metre. Rose production occurred all year round, however the level of production varied depending on the season. The average production of roses was one stem per plant per month, but some farmers believed that production approached 1.5 stems per

plant per month, depending on the farmers' cultivation techniques and choice of varieties. A rose plant was normally cultivated for five to eight years. However, some farmers retained rose plants for up to ten years if the plants were still producing well.

Chrysanthemum farmers generally only cultivated one variety, or those varieties with which they were familiar. On average, the number of chrysanthemum crops cultivated per year was three or three and a half. For chrysanthemum, the available varieties were distinguished by their shape (such as ping-pong, standard or spray), or by colour (which ranged from yellow to dark red and white). The most popular colours were yellow, mauve and white. Chrysanthemum cuttings were generally produced by the farmers themselves or purchased from private nurseries, companies or the Da Lat Institute of Biology. Only one foreign company had access to proprietary varieties.

Chrysanthemum cuttings were planted at a density of 50 to 60 plants per square metre. In order to time the harvest of the crop, farmers used incandescent lights to retard flower initiation and development. The amount of time the crop was cultivated under lights varied from farmer to farmer depending on their experience. Some farmers lit the crop for 20 days, while others lit the crop from 28 to 40 days from 9 pm – 3 am. Farmers usually removed all but the apical bud from standard chrysanthemums, but for sprays, they generally removed the centre bud to encourage more uniform flower development.

Marketing

Most cut flowers were sold in the domestic market. Farmers sold their products to market intermediaries (*thuong lái*) such as traders and wholesalers, to companies or directly to retailers in Da Lat and other provinces. Farmers and traders were located in Da Lat, whereas wholesalers and retailers were located in urban areas. Farmers selling to traders and wholesalers tended to specialise in certain products, whilst those selling direct to retail customers grew a greater variety of flowers. Only a very small percentage of cut flowers were harvested and brought to the Da Lat local markets.

Cut flowers from Da Lat were distributed to HCMC, Vung Tau, Chau Doc, Kien Giang, Rach Gia, Long An, Dong Nai, Phuoc Long, Hau Giang and the Central province, including Nha Trang, Buon Me Thuot, Qui Nhon, Quang Ngai, Da Nang, Hue, Ha Noi, and other districts within Lam Dong such as Duc Trong, Di Linh, Don Duong and Bao Loc. One wholesaler reported that she delivered cut flowers to Cambodia, while some traders reported that they had been exporting cut flowers to Singapore and Cambodia through a market intermediary. Only one company was currently exporting cut flowers to other countries.

The great majority of the cut flowers produced in Da Lat were destined for the HCMC wholesale markets (Ho Thi Ky, Dam Sen and Hau Giang). From these wholesale markets,

the cut flowers were either sold to retailers in HCMC or to wholesalers in other cities in other provinces. As the cut flower industry has developed over recent years, a greater number of Da Lat traders have started to sell directly to other provincial city wholesalers, instead of selling to wholesalers in HCMC.

During the initial fieldwork, little cooperation was observed between the various actors, with little to no information exchanged about quality. In this way, companies and wholesalers believed that they had more control over the chain.

Cut flowers had both public (hotel, ceremonial functions, exhibitions, events) and personal uses (religious, wedding, personal gifts). The demand for cut flowers was particularly high during the festival days such as the New Year and the Tet festival (Lunar New Year), Valentine's Day (February 14), Women's Day (March 8), Teachers Day (November 20) and the wedding season (November to May). Roses were purchased all year round, while chrysanthemums were consumed mainly for the lunar special days (Day 1, Day 14, Day 15 and Day 30) of each lunar month and also during the Tet festival. The target markets for roses were primarily as a gift, special days, occasions or events, whereas chrysanthemums were primarily used for worship.

During the summer months, several farmers reported that there was a flush of roses and the supply exceeded the demand. Conversely, during the winter months, the demand nearly always exceeded the supply. Many rose farmers reported that it was difficult to time the rose crop, although some farmers indicated that they had some control through pruning or pinching and the application of additional fertilizer. However, most chrysanthemum farmers reported that they could manipulate the flowering of chrysanthemum by controlling the intensity and the duration of the lights, although this also depended on the weather.

5.9.2 Product flow with the relevant actors and activities

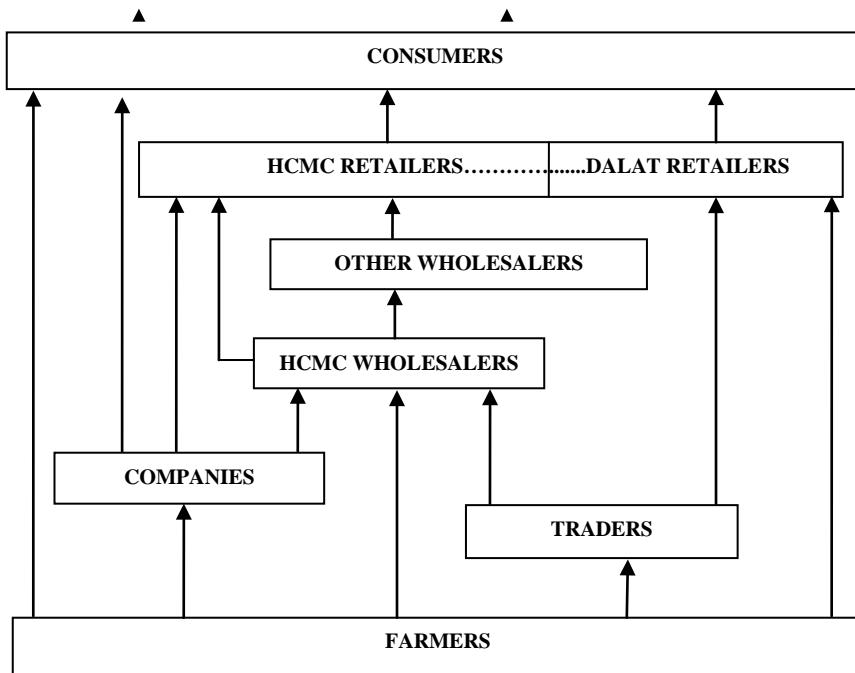
The characteristics of the various supply chain actors, the value-added activities that they performed, and the linkages between actors in the Da Lat cut flower industry were explored.

Most cut flowers in Da Lat were consumed in domestic markets. A simplified map of the prevailing cut flower supply chains in Da Lat was generated from personal interviews with the participants in the chain (Figure 5.1). Eight alternative cut flower supply chains in Da Lat were observed:

- (1) Farmers – Traders – Wholesalers – Retailers
- (2) Farmers – Traders – Retailers
- (3) Farmers – Wholesalers – Wholesalers – Retailers
- (4) Farmers – Wholesalers – Retailers

- (5) Farmers – Retailers
- (6) Farmers – Companies – Wholesalers – Retailers
- (7) Farmers – Companies – Retailers
- (8) Farmers – Consumers

Figure 5.1 The distribution chain of cut flower in Da Lat in 2009 – 2010



In each of these supply chains, with the exception perhaps of the company chains it was not unusual for actors to transact with multiple buyers/suppliers and at any one time or to be actively involved in more than one chain.

The buyers to whom the farmers sold their cut flowers was related in part to the size of their farm and thus to the quantity of flowers they had available, the price of cut flowers at the time and the availability of family labour.

Chain 1 and Chain 2: Farmers – Traders – HCMC wholesalers/Da Lat Retailers – HCMC Retailers

Farmers in these two supply chains sold their cut flowers to traders where (i) they did not have a relationship with a wholesaler and (ii) they were unable to afford the labour for such activities as harvesting, grading, bunching, packing and transporting their flowers to buyers. Farmers preferred to sell to traders on the basis of a long-lasting personal relationship and their reputation, stable sales, reduced costs and the trader's willingness to purchase small amounts or indeed to purchase all their flowers prior to harvest.

In the case of roses, the farmers harvested the flowers, tied them in a big bunch, and transported them by motorbike to the traders' premises. Alternatively, traders collected the roses from the farm gate and arranged for the transport of the flowers to their properties to regrade, repack and transport the flowers to HCMC and other provinces.

Chrysanthemum traders tended to purchase a standing crop and do all postharvest activities on the farm. For chrysanthemum, two buying methods existed: (i) whole-farm purchase before harvesting; or (ii) selective purchase at harvest. Whole-farm purchase occurred one to two months before harvest, when the farmers needed cash. Traders counted the number of plants and calculated a waste ratio according to the uniformity of size and quality of the plants. To monitor the quality of the cut flowers, traders frequently visited and looked at the farmers' fields. In this way, traders were assured that the desired quality had been achieved. One trader reported that:

Normally, we grade chrysanthemum into 3 grades. Grade 1 is uniform flowers and stems, green leaves on whole stems, free of pests and diseases. Grade 2 is non-uniform varieties (mix colour) and thin stem. Grade 3 is short stems, reject flowers used for Earth God, Kitchen God and small altars outside for Da Lat local markets.

Both farmers and traders preferred this trading method where they had a long-standing and personal relationship. Traders needed to trust the farmer to look after the cut flower crop after it had been purchased to ensure that no pests and diseases occurred. Farmers relied on the traders to make a generous offer. Farmers who preferred to use this method generally wanted to lower their marketing cost. Selective purchase occurred when traders purchased only the higher quality cut flowers.

In these two chains, traders sold the cut flowers they had purchased to wholesalers in HCMC (Chain 1), or to other provinces or retailers (Chain 2) within Lam Dong province. Most traders classified the flowers in order to sell different quality flowers to different market segments. In most cases, high quality cut flowers were sold to Ha Noi, HCMC and the other provinces, and reject cut flowers were sold to the local market. According to traders, whereas wholesalers in HCMC determined the purchase price after the sale, wholesalers in Ha Noi and the Central provinces paid an expected price before the sale. As they only purchased first grade flowers, Ha Noi and the Central provinces were considered to be fastidious markets. HCMC wholesalers accepted all grades, although the prices were heavily discounted for second and reject grade flowers. However, in the peak season such as Tet when supply was constrained, buyers were often prepared to accept flowers that did not fully meet their requirements.

While all actors from farmers, traders and HCMC wholesalers stored cut flowers dry at all stages from harvesting, grading, packing and transporting, because wet flowers were

observed to deteriorate more quickly, Da Lat retailers put cut flowers in water buckets during trading. Most actors in these two supply chains had no access to cold storage.

Payment was normally by cash. Depending on when they received payment from the wholesalers, traders generally paid cash for roses every two weeks. For chrysanthemum, traders paid farmers either in full or partially at the time a selling agreement was made. Where the partial payment had been made, the balance was paid after the traders had finished harvesting. Because of the perishable nature of the product, traders turned over their capital rapidly by minimizing the length of time between purchase and sale. By avoiding storage, traders limited the risk that prices could move against them and the significant overhead costs. Traders often visited and kept in contact with preferred farmers to know when mature flowers would be available for harvest.

Chain 3 and Chain 4: Farmers to HCMC wholesalers – Other wholesalers/Retailers – Retailers

Chain 3 and Chain 4 were the most widely used chains for the marketing of cut flowers from Da Lat. Most Da Lat farmers sold their cut flowers to wholesalers even though they had to harvest, grade, pack and arrange for the transport of the flowers to the wholesale markets. Farmers preferred to trade with wholesalers on the basis of a long-lasting relationship; the wholesalers ability to purchase flowers all year round; the opportunity to sell all of the cut flowers they produced; and the high price and the large volume of flowers they could potentially sell.

If the buyers were wholesalers, farmers normally did all the postharvest activities such as grading, bunching, packing and arranging transport to the wholesalers' premises. Farmers rarely graded cut flowers because they preferred to bunch all the flowers together to minimise losses. However, some farmers graded cut flowers into three grades: good (over 80 cm in stem length), bad (approximately 50 cm in stem length) and reject flowers (with a curved, thin stem and small buds).

Rose and chrysanthemum then were packed into cardboard cartons. The number of bunches in each carton varied from farm-to-farm and from variety-to-variety. For rose, the packaging requirements to service the wholesalers were 50 stems per bunch, wrapped in cardboard to protect the flower heads, with 20 – 30 bunches per carton depending on the volume each farmer had available. Chrysanthemums were generally bunched in plastic sleeves and packed into cardboard cartons on the farm. There were significant differences in the way standard and spray chrysanthemums were packed. A bunch usually contained ten standard chrysanthemum stems or four to seven spray chrysanthemum stems, but this number varied from farmer-to-farmer depending on the quality of the chrysanthemum. The number of chrysanthemum bunches per carton varied from 60 – 150 depending on the variety. To

reduce the transport cost, some farmers attempted to pack more bunches into a carton, as wholesalers purchased cut flowers by the carton. Not unexpectedly, this caused high losses after transport.

On average, cut flowers were transported from 5 pm to arrive in the HCMC wholesale markets around midnight. The normal mode of transport was non-refrigerated truck. In the wholesale market, porters off-loaded the cut flowers and delivered them to the wholesalers' stalls. According to one transport agent, since Da Lat was located close to HCMC and an adequate road system was in place, cut flowers could be delivered to the wholesale market within six to seven hours after packing. Postharvest losses were therefore minimised. Nevertheless, over loaded trucks and over packed flowers were problems that had a very negative impact on the quality of the flowers which arrived in the market, limiting the possibilities for the farmers and market intermediaries to comply with the retailers requirements.

To secure a reliable supply of cut flowers, wholesalers in HCMC purchased cut flowers on consignment from three major sources; farmers, traders and companies. Most wholesalers used all three suppliers to meet their market requirements. They either purchased cut flowers from farmers (Chain 3 and 4) or from traders (Chain 1) or from companies (Chain 6). On receipt, the wholesalers simply opened the carton to inspect the quality. In the absence of a formal grading system, this practice incurred additional labour costs and the extra time delayed the speed at which the flowers could be subsequently resold to consumers. In some instances, wholesalers would repack two cartons of cut flowers from Da Lat into one carton to transport to other provinces. Several wholesalers complained about the packing technique of farmers. Wholesalers also sold cut flowers in a dry condition without cold storage. Many wholesalers reported that cut flowers which had been cool stored deteriorated more quickly in the hot tropical conditions in HCMC.

Wholesalers in HCMC sold the cut flowers they had purchased to wholesalers in other provinces or to retailers in HCMC. Whilst Da Lat retailers were more likely to purchase their cut flowers from traders or directly from farmers, HCMC retailers purchased most of their flowers from one or more of the wholesale markets to benefit from low prices. HCMC retailers had greater sourcing, pricing and quality flexibility compared to their Da Lat counterparts. Retailers offered consumers numerous alternatives to meet the consumer's specific needs such as bouquets, baskets, arrangements and wreaths, and catered for special functions and occasions. Low quality cut flowers were often used for wreaths.

Retailers in HCMC also reported that there was no treatment of cut flowers at the retail level for rose and chrysanthemum, other than recutting the stems and placing them in clean water and replacing the water frequently. One flower shop in HCMC said that:

I do not use chemicals and cold storage to preserve flowers. We just recut the stem and replace the water every day. Besides that, I keep the shop cool and clean. Sometimes, my staff spray water on the flowers to keep them fresh.

Payment was conducted at the time retailers purchased cut flowers in the wholesale markets. For those retailers who had a long-term relationship with wholesalers, they were able to order cut flowers from wholesalers and pay when they next purchased. In turn, wholesalers paid farmers every two weeks, but it could extend out to monthly when the transactions were facilitated by a transport agent. Due to the perishability of cut flowers, wholesalers sold the cut flowers they received on the day they came to market. When necessary, the price would be discounted to move the volume available in the wholesale markets. As the wholesalers in HCMC determined the price after the sale, many farmers believed that the wholesalers paid less than what they really received from the proceeds of the sale.

According to wholesalers, when the demand was high and prices were high, the arrival of a large quantity of cut flowers could drive the prices down. Conversely, when a lower volume of cut flowers were available than expected, the prices could rise. Wholesalers indicated that they were ready to adjust prices quickly in response to such market conditions, as they had to dispose of all the flowers they had purchased before the end of the night. Towards the end of each evening's trading, wholesalers would discount the price to clear the market as they had no capacity to store cut flowers.

There were no written contracts between farmers and their downstream buyers and between HCMC retailers and wholesalers and their upstream suppliers. Their relationship depended on trust and an oral selling and purchasing arrangement.

Chain 5: Farmers – Da Lat retailers

Farmers only sold to Da Lat retailers/hawkers (Chain 5) when they had a small amount of flowers available or when wholesalers rejected the flowers they had grown. In addition, farmers generally delivered the second grade flowers to retailers after grading.

The advantages for farmers in selling direct to retailers were that retailers were able to purchase small volumes, there was no price pressure and the farmers had an established relationship with the retailer. Cut flowers in Da Lat were purchased by local buyers, event organizers, restaurants, hotels and tourists. Retailers normally sold the cut flowers in bunches or in flower arrangements (pots, baskets and wreaths).

For retailers, the payment process depended on the supplier. According to one retailer:

Depending on each supplier, I pay immediately, one time every week or fortnightly.

The relationships between farmers and retailers were largely transactional.

Chain 6 and Chain 7: Farmers – Companies – Wholesalers/Retailers – Retailers

Company Chain 6 and Chain 7 played only a minor role in the marketing of cut flowers from Da Lat. Contract farmers reported that the advantage of transacting with a company was the regular demand for flowers, the technical assistance they received, a stable price and the company reputation. One farmer who supplied cut flowers to a foreign company reported that his chrysanthemums were exported to other countries.

Contract farmers had to harvest as instructed by the company and deliver their flowers to the company. Harvest was carried out at the desired level of maturity. Quality criteria included a straight, long stem without branching, uniform flowers with less than four flowers open, no spots on leaves and free from pests and diseases. Stems were to be cut at a 45 degree angle and placed immediately into a bucket of clean water in a cool place, before transport to the company.

Companies employed their own technicians to grade, bunch and pack the cut flowers. On receipt, the company graded chrysanthemums into three grades, and then advised the farmers of the out-turn. The weight standard for standard varieties was: (A) ≥ 85 g, (B) ≥ 70 g and (C) ≥ 65 g and for spray varieties: (A) ≥ 75 g, (B) ≥ 65 g and (C) ≥ 60 g. One contract farmer stated that:

Grade 1 was 85 – 100 g in weight, 80 cm stem length, leaves and flower free of pests and diseases and a straight stem without branching. Grade 2 was the same with Grade 1 but lighter. Grade 3 had a shorter stem length.

A few companies had access to cold storage because they had been financially supported by GTZ. From the companies, payments were made to farmers weekly, fortnightly or monthly.

Smallholder farmers seldom transacted with companies because of the rigid quality standards; late payment; the strict conditions associated with the time and reliability of delivery; and the penalties incurred if the flowers were either damaged or substandard due to pests and diseases and an unfavourable climate. Most non-contract farmers preferred to transact with their current customers because they were less particular about quality and more flexible with regard to the quantities delivered and payment arrangements.

While foreign companies were able to export their cut flowers through their own supply chains, local companies sold their produce primarily in the domestic market by supplying to wholesalers or their own flower shops.

Chain 8: Farmers – Consumers

When smallholder farmers had only a small amount of flowers to sell, when the flowers had been rejected by traders and wholesalers, or when the prices of cut flowers were low, farmers sold their flowers direct to consumers (Chain 8). The advantages that they received were immediate cash, no price pressure and a minimal number of transactions. However, this market was unstable and few people purchased flowers in the off-season.

Each actor involved within the cut flower supply chains studied was working independently and none understood the advantage of working together under one coordinated network. Therefore, there was no coordination of production or the distribution of farm products in the Da Lat area. Moreover, the methods of farm input procurement frequently resulted in losses for farmers because the farmers became involved with private credit schemes from the usurers and or input suppliers themselves.

5.9.3 Production and marketing costs

Production and marketing cost for farmers

As none of the cut flower farmers in Da Lat kept any formal records of either their production or marketing costs, the information recorded here was based entirely on their oral reports.

The production cost included plastic greenhouses, plants, chemicals and fertilizers, and electricity (Table 5.1). The cost of the plastic greenhouses varied from VND 30 – 100 million per *sào* depending on the materials used: steel, bamboo or a combination thereof. For companies, plastic greenhouses were more expensive after the inclusion of light, temperature and humidity control systems. While the bamboo framework usually lasted for around five years, the plastic has a life of just two years. Therefore, farmers had to replace the plastic roof every one to two years depending on the quality of the plastic. As most smallholder farmers are unable to afford the costs of recovering the greenhouse, maintenance was not regularly carried out. Similarly, a variety of irrigation systems including drip systems and overhead spray systems were employed, ranging from VND 9 – 10 million per *sào* for drip irrigation and VND 4 – 5 million per *sào* for overhead spray irrigation.

For rose farmers, it generally took eight months from planting until the first harvest. The establishment costs for growing roses commenced with the planting of the wild rose root stock, grafting and labour to harvest which varied from VND 8 to over 10 million per *sào*. The fixed costs varied from VND 250,000 to 1 million per month per *sào* depending on whether it was an indoor or an outdoor crop. The labour cost varied from VND 1 to 2 million per month per *sào*, with fertilizers and chemicals exceeding VND 1 to 2 million per month per *sào*.

Table 5.1 Production cost for farmers in Da Lat in 2009

Cost items	Rose	Chrysanthemum
<i>Production cost (million VND /sào)</i>		
Plastic greenhouses	<40	<40
	40 – 70	40 – 70
	500 USD	> 70
		500 USD
Maintenance plastic greenhouse	20 – 30	<20
	> 30 – 50	20 – 30
		> 30 – 50
Grafting and varieties	8	
	10	
	>10	
Irrigation system	4 – 5	5 – 6
	9 – 12	8 – 10
Well-bore	10	
Electric system		3 – 4
		10
Soil treatment		7 (for 3 – 4 years)
<i>Variable cost (million VND /month)</i>		
Labour cost	1 – 2	2-4
		5-8
Fertilizers and chemicals	1 – 2	3-5
	>2	8-10
		15 (Contracted farmers)
		25-30 (Contracted farmer)
Varieties		Self-produce
		4-6
		>6 (Contracted farmer)
Electrical cost per crop		0.1 – 0.2
		>0.2 – 0.4
		>0.4
Total variable cost per month/crop	2 – 4	10 – 20
	>4	20 – 30
		>30 – 60

For chrysanthemum, the cost of planting materials varied from farmer to farmer. Some farmers produced their own chrysanthemum cuttings, whereas others purchased the planting materials for VND 4 – 6 million per crop per *sào*. Fertilizer and chemical costs depended on the quality of land (new land or old land), the current price of cut flowers, and the anticipated quality of the harvest. The cost for fertilizers and chemicals varied from VND 3 – 10 million per *sào* for non-contract farmers to VND 15 million for contract farmers. Chrysanthemum farmers had to invest in a light system, which included the cost of the bulb, bulb holder, lampshade and wire at VND 3 – 10 million per *sào*. The cost of electricity was reported to range between VND 100,000 – 400,000 per crop. In total, chrysanthemum farmers invested from VND 10 to 20 million per crop per *sào*, whereas contract farmers invested VND 30 to 60 million per crop per *sào*. Some farmers reported that the soil treatment cost about VND 7 million per *sào* after three to four years of continuous chrysanthemum production. In Da Lat, all activities from planting, harvesting and packing, and the application of chemicals and

fertilizers involved manual labour. The labour cost varied from VND 60,000 – 100,000 per day or VND 1 – 2 million per month.

The marketing cost was different between contract farmers and non-contract farmers and between farmers who sold to HCMC and farmers who sold to local traders. The marketing cost included the costs of packing materials, labour and transport. Packing materials included sleeves (VND 30,000 – 38,000 per carton) for chrysanthemum and cardboard boxes and strings (VND 10,000 – 20,000 per carton) for rose. Cartons were often provided by wholesalers', but where the farmers did not transact with wholesalers, the cost was between VND 14,000 – 17,000 per carton (Table 5.2).

Table 5.2 Marketing cost for farmers in Da Lat in 2009

Cost items	Rose	Chrysanthemum
<i>Marketing costs (million VND/month)</i>		
Carton paper and strings	0.01 – 0.02	0.03 – 0.038 per carton
		0.05 – 0.15 per carton
Cartons (if not provided)	0.014 – 0.038	
Transport fees	0.04	0.04
	0.06 – 0.1	<1 per month
Labour cost	0.03	
Total marketing cost (VND 100 per stem)	No marketing cost	No marketing cost
	0.5 – 1	<1
		1 – 5
		5.1 – 10

Transport costs were normally paid per carton rather than by weight. For motorbikes, the transport fee within Da Lat varied from VND 20,000 to 40,000 for one to two cartons. Contract farmers paid VND 90,000 on each occasion that they transported cut flowers from the farm to the company. The transport cost to HCMC varied from VND 20,000 – 40,000 per carton depending on the carton size. To other provinces, the cost ranged from VND 60,000 to 100,000 per carton. The freight rates were very high, with one trader reporting that the cost of air freight to Ha Noi was VND 8,500 per kg.

The average labour cost was VND 30,000 per carton for rose and VND 40,000 per carton for chrysanthemum. Some farmers and traders indicated that the cost was VND 100 per stem for rose. For chrysanthemum farmers, the marketing cost was higher due to the larger number of cartons per *sào*. Farmers often over-packed cut flowers into a carton to reduce the number of cartons, thus reducing transport costs. The marketing cost for chrysanthemum was VND 90,000 – 150,000 per carton, or VND 100 – 200 per stem. There were no marketing costs for those farmers who sold cut flowers to traders.

Marketing costs for market intermediaries

Whereas farmers were responsible for the production cost and a proportion of the marketing costs, buyers such as traders, wholesalers and retailers were responsible only for the

marketing costs. For roses, traders were responsible for the cost of transporting the flowers from the farmer's farm to their premises. However, some traders in Da Lat who had a purchase agreement with farmers, were willing to pay a deposit of between VND 30 – 40 million per 5 *sào* per year (or VND 60 – 70 million per ha per year) to purchase all the farmers' cut flowers at a fixed price all year round. This deposit or the balance thereof was returned to traders if and when farmers chose to discontinue their relationship with this trader. For the buyers, packing materials (paper, carton and string) cost from VND 20,000 to 45,000 per carton. Most traders did not pay any tax.

Wholesalers in the Ho Thi Ky wholesale market traded cut flowers from temporary stalls on the street for a rental fee of VND 1 – 7 million per month depending on the size of the stall, while wholesalers in the Dam Sen wholesale market had purchased their stall (22.5 – 30 m²) for VND 2 billion (Table 5.3).

Table 5.3 Fixed cost for market intermediaries and retailers in 2009

Cost items (million VND)	Traders/Wholesalers	Retailers
<i>Fixed cost</i>		
Rental stalls/office	No rental cost	No rental cost
	1 – 3	1 – 2
	4 – 7	3 – 3.5
Private shops/stalls	150	150 (10 years ago)
	2,000 (25 m ²)	200 (8 years ago)

Most wholesalers did not provide any cash advances to the farmers. The reason for this was explained by a wholesaler:

My trading with farmers is based on trust. I do not pay a deposit to farmers. For each farmer I would have to pay some VND 10 million, so I cannot avoid the risk if farmers do not deliver cut flowers to me.

However, some wholesalers indicated that they were willing to provide capital to their preferred farmers where the farmers had a legitimate need or when farmers had suffered unexpected losses such as storm damage to a plastic greenhouse.

Other than the purchase cost of the flowers, retailers had to bear the cost of labour and shop rental. Rental fees varied from VND 0 to 3.5 million. For hawkers, there was no rental fee, but sometimes they had to pay a waste fee or fine due to them occupying the street.

The packing cost and transport cost varied from market intermediary to market intermediary depending on their size. The larger the size of their business, the larger the amount they had to pay per month (Table 5.4).

Table 5.4 Variable cost for market intermediaries and retailers in 2009

Cost items (million VND/month)	Traders/Wholesalers	Retailers
<i>Variable cost (million VND/month)</i>		
Carton paper and strings	3 – 10	
	36	
Transport fees	No transport cost	No transport cost
	<1	<1
	3 – 6	
	7 – 15	
	10 – 21	
	32.5	
Labour cost	100	
	4	< 1
	5 – 6	4 – 5
	10 – 15	6 – 10
	8 – 10	12
Product loss	11 – 14	
	4 – 15	
	21	
	41.3	
	84	
<i>Other costs (million VND/month)</i>	140	
	No tax	No tax
	< 1	<1
	3	1 – 1.2
Telephone, breach of contract, shop rubbish fee, cost for throw away	< 1	
	12	
Decorated materials, buckets and cartons		0.5
Waste fee and fine fee (sold on the street)		0.15
The total cost (million VND/month)	5	<1
	10 – 35	5 – 5.7 (not included fixed cost)
	20 – 50	10 – 15
	50 – 100	30
	200	

For most wholesalers in HCMC, farmers paid the transport cost for cut flowers. One trader in Da Lat reportedly spent VND 100 million per month to transport cut flowers from the farms to their place of work and then to other provinces.

Comparing labour costs at the different levels of the cut flower supply chain was more complicated depending on the business size and the season. Farmers generally employed a minimum of two workers per *sào*, while traders and wholesalers employed from two to ten workers per day. Retailers, on the other hand, employed from one to six workers per day. In the high season, such as Tet, the number of employees was higher. In general, the labour cost incurred in cut flower production (in Da Lat) was cheaper than the labour costs incurred by retail florists in HCMC.

The marketing margin that buyers were able to make from their cut flower trading depended on the volume sold per day, what postharvest activities they performed, the packaging material used to transport the flowers, the type of flowers, the labour cost and the transport cost to their downstream buyers. The margins that the traders extracted were inclusive of the cost of harvesting (in the case of chrysanthemum), grading, packing (labour and materials) and transport fees to wholesalers, while the margin that wholesalers extracted was inclusive of the cost of labour for grading, loading/unloading cut flowers, the cost of cartons and the risk of being unable to sell all the cut flowers they had purchased in the low season. Retailers had no choice other than to procure the flowers that were offered by farmers, traders and wholesalers. Often these were not the freshest flowers. Furthermore, retailers generally had to transport the cut flowers they had purchased from the wholesalers themselves.

Pricing

The prices at which cut flowers were purchased and sold were set on a daily basis with reference to the prevailing wholesale market price. The majority of the transactions between actors entailed on-the-spot cash payments.

The average price of roses at the farm-gate varied from VND 400 to over 1,000 per stem depending on the variety (Table 5.5). The price that traders paid to farmers depended on the daily market price for their flowers at their final market destination. The average buying price for traders and wholesalers were VND 700 and VND 1000 VND per stem, respectively. The selling price at the retail level was VND 1,200 to 2,400 per stem in Da Lat, and VND 2,000 to 10,000 per stem in HCMC.

Table 5.5 Change in price (VND/stem) along rose and chrysanthemum supply chain for cut flower produced in Da Lat, Viet Nam

	Location	Farmers	Traders		Wholesalers		Retailers	
		Sell	Buy	Sell	Buy	Sell	Buy	Sell
Rose	Da Lat	400-1,000	750-800	800-1,000			500-2,500	1,000-higher
	HCMC				800-1,000	1,200-1,600	500-5,000	2,000-10,000
Chrysanthemum	Da Lat	400->1,000	400-1,300	1,000-2,000			400-800	800-1,000
	HCMC				Not specify	250-2,500	1,000-2,000	1,400-2,300

The price of chrysanthemum per stem at the farm gate also varied from VND 400 to over 1,000. However, the lowest price for chrysanthemum purchased by customers was VND 800 per stem in Da Lat and VND 1,400 per stem in HCMC. The price was more constant for contract farmers:

The price of Grade 1 chrysanthemum is VND 1,050-1150 per stem (50%), Grade 2 is VND 850 – 950 per stem and Grade 3 is VND 450 per stem depending on whether they are

standard or spray varieties. The price is stable all year round, but in the off season, the company can decrease the price by VND 100 per stem by grade.

The price was found to vary from variety-to-variety, from season-to-season, by quality and from buyer-to-buyer. New varieties such as Vang Anh Trang (rose) or Dai Doa (chrysanthemum) generally received a higher price than older varieties. Red varieties generally received a higher price than other colours, but this depended on the occasion. Cut flowers were also more expensive on festival days or special occasions. According to the respondents, prices increased from October to December and during Tet, due to the wedding season and the festival days associated with the Lunar New Year. Prices subsequently declined after February.

Several farmers indicated that it was difficult to predict price trends. For chrysanthemum, the price was higher for the Lunar special days and Tet, due to the higher demand, but after that the price decreased. The price variation for rose was more extreme depending on the demand. Prices could be as high as VND 2,000 per stem in the high season and fall to as low as VND 150 per stem in the low season.

Flowers of high quality generally received a higher price, while poor quality flowers achieved the lowest price. However, differences in quality were generally rewarded with a price differential of only VND 100 – 200 per stem. According to some retailers, the price could change according to the florists flower arrangement skills and packing skills. Furthermore, at the wholesale level, when cut flowers were abundant or unsold, wholesalers were obliged to pay VND 200,000 per carton to farmers.

Not unexpectedly, the variability in price had the greatest impact at the farm level. Low prices often made it impossible for farmers to recover the costs of production. Traders also faced risks. With the daily variation in price, traders could not accurately predict the price they should pay farmers, an indeed, particularly during the low season, whether they could sell the flowers at all, and thus recover the costs associated with harvesting, grading, bunching and transporting the flowers to wholesalers.

Located at the end of the cut flower chain, retailers were viewed by traders and wholesalers as a residual market upon which they could dump unsold product. Consequently, retailers were often offered a wide range of highly variable quality flowers at highly variable prices. At the end of the chain, retailers often had little choice other than to accept or reject what was offered. A wholesaler said that:

Sometimes, I have to accept all the cut flowers from farmers, even I cannot sell them. However, I do have my preferred retailers who can purchase the remaining cut flowers for me.

Over the past three years, the prices were thought to have generally decreased (Table 5.6). The key reasons for the reduction in price were associated with the increase in the supply of cut flowers. In some cases, respondents believed that the price would increase due to the higher demand for cut flowers and economic development. However, other respondents noted that the prices had remained largely unchanged, primarily because of the increasing cost of inputs, the increase in transport costs, packing materials and the cost of labour.

Table 5.6 Key factors behind the volatility of price

Factors	Frequency		
	F	M/I	R
Festival day, occasion days, events	19	10	10
Seasons (increase in the low season, decrease in the favourite season)	8	4	10
Depend on flower source	2	7	4
Depend on daily market price	5	4	4
Cut flower volume excess/High supply	4	6	1
High input cost	4	2	
Increased production areas	2	3	
High gold price	2		
Climate	1	4	
Depend on customer need		3	1
Move from vegetable to cut flower cultivation	2	2	
Pests and diseases	1	1	
Stable profit	1		
Key consume in domestic market/Low demand		1	
Depend on climate			
Increase in yield product		1	
<i>N</i>	32	15	10

(F: Farmers; M/I: Market intermediaries; R: Retailers)

The factors behind the volatility in price were reported differently by different respondents. It was evident that all actors agreed that the price was the highest on the festival days, occasion days and events. Not surprisingly, while farmers emphasized input costs, buyers put more emphasis on the availability of cut flowers. Wholesalers indicated that the increased supply and increase in production area had impacted on the price volatility.

5.9.4 Constraints, opportunities, trends and drivers in cut flower supply chains

In examining the constraints in cut flower production, actors were asked to indicate the problems they faced in accessing input services, technical advice, transport and finance.

Farmers were asked to indicate what recent changes had occurred in their production base over the last 5 years (Table 5.7). The flower production areas in Da Lat had increased and expanded to other districts (Lac Duong, Duc Trong and Don Duong) in Lam Dong and other provinces.

Table 5.7 Reasons for the changes in local production system and trading volume over the past 5 years

Reasons	Frequency
Increasing in cultivation areas in Da Lat, expand to the production areas	19
Increasing in the production volume and quantity	6
Have new fertilisers and chemicals	6
New and many varieties and colour due to the change of customer preference	5
Increasing in the cultivation technique (drip irrigation)	5
High production yield	3
Production not change	1
Higher quality of cut flower but still not meet the standard	1
N	27

Cultivation techniques had improved, new varieties were being cultivated and many new fertilizers and chemicals had been introduced. These improvements had collectively resulted in increased productivity and thus the supply of cut flowers had increased. However, despite the increase in production, several farmers reported that the quality of cut flowers was still substandard. The main reason for the increase in cut flower production was the higher profit and more reliable income than vegetable cultivation.

Production constraints

Accessibility to good quality inputs

Despite the change in local production systems and trade volumes of cut flowers as indicated above, most farmers indicated that it was difficult for them to access good quality varieties, chemicals and fertilizers and greenhouse plastic, which meant farmers had to replace the plastic cover more frequently (Table 5.8).

Table 5.8 The key access to input service problems and constraints in cut flower production according to farmers

Problems or constraints	Frequency
Quality of input: varieties, chemicals and fertilizers, plastic	15
High input cost	14
Lack of varieties	10
No difficulty (post-paid or buy on credit)	5
Pay cash when buy chemicals and fertilizers	1
Plastic greenhouses do not reach standard	1
Import input (varieties, fertiliser, irrigation system, cultivated process)	1
N	30

Most farmers reported that the high cost of chemicals, fertilizers and plastic to recover the greenhouse had decreased the profitability of cut flower production. Although most farmers propagated their own planting material from harvested plants or purchased cuttings from companies (for chrysanthemums) and grafted scions (for roses), these practices were not sustainable as the yields and quality deteriorated.

Besides that, with all farmers growing chrysanthemum at the same time, the lack of variety in the market depressed the prices. Plant variety rights and the payment of royalties was a major concern in accessing new varieties. Only those farmers who were contracted to companies were able to access new varieties.

There were some differences in farmers' opinions with regard to the purchase of chemicals and fertilizers, presumably as a result of the scale of the operation. Some farmers indicated that they were able to pay for their input costs after finishing the crop (for chrysanthemum) or at the end of every month (for rose). However, others indicated that it was difficult to pay cash when purchasing inputs. Imported inputs were more costly and some farmers were unable to pay.

Limited diffusion of technology

The lack of technical information was a common constraint for most farmers. According to the farmers, they shared information and experience between themselves and from technicians at Hasfarm. As a result, each farmer had adopted different cultivation techniques and some farmers concealed their personal expertise altogether (Table 5.9).

Table 5.9 The key access to technical information problems and constraints in cut flower production for farmers

Problems or constraints	Frequency
Using farmer's own experience or learning from the others, each farmer have different cultivated techniques	19
Lack of technical advice/process, limited technique, poor postharvest technology	16
Technical information from many sources	9
No difficult (not hard to cultivate cut flowers)	5
Lack of information of varieties	3
Poor quality of the training course (training vegetable while farmers grown cut flowers, not applied in practice, technical problems were not solved)	3
Farmers concealed personal know-how together (hides secret planting)	2
<i>N</i>	30

Most farmers indicated that they had little knowledge about technical and postharvest technology, although they could get information from many sources. Some programs from the government (Farmers Association, Prevention Pests and Diseases Department) and private companies (Metro, chemical and fertilizer companies) offered training courses such as using chemicals and fertilizers, improved cultivation techniques, IPM and postharvest technology. Local companies had made an effort to introduce improved cultivation techniques, but with their limited resources, farmers considered these to be ineffective and expensive. Nevertheless, some of these techniques had been modified to suit the farmers' conditions. According to one farmer:

Drip lines were introduced by the local Farm Association, but proved to be more expensive compared to that invested by the farmers themselves

The quality of the technical information provided was considered ineffective and poor, because, in many cases, the programs concentrated on vegetable production. The Da Lat Flower Association was established in 2006 to support the cut flower industry, but many smallholder farmers indicated that they had not attended flower association meetings because of the need to pay a fee. Regrettably, none of regular buyers was able to provide any effective technical advice to the farmers.

Most farmers also indicated that they had no information on new varieties.

Production problems

Despite the rapid rise in cut flower production, farmers were able to identify a number of factors that were limiting their production. Farmers indicated that the major factor limiting the expansion of their cut flower production enterprise was the lack of suitable land for cultivation (Table 5.10). As most farmers planted only a few *sào* with flowers, they were unable to supply the quantity requested by buyers.

Table 5.10 The key production problems and constraints in cut flower production for farmers

Problems or constraints	Frequency
Small cultivated areas, limited land	11
Pest and disease problems	8
Unstable quality	7
No planting plan, self-produce, self-sell, unprompted	6
Low volume production, small scale production	6
Lack of labour (in Tet season, loss skilled labour)	6
Depend on climate	5
Seasonal production	4
Using a lot of pesticides and chemicals	3
Lack of farming skill in flower cultivation	2
Effect of global economics	1
Specializing lead to low quality	1
Afraid to cooperative because they did not want to be put under constraint	1
<i>N</i>	30

Pest and disease problems such as spider mites, fungi, bacteria and viruses were described as significant limitations. One local company reported that they had exported chrysanthemum to Japan, but due to the high incidence and the high cost of controlling pests and diseases, the Japanese partner had stopped importing their flowers.

In other cases, with limited knowledge of the market and limited capital, farmers were all planting at a similar time and as a result, production would peak in season, but was insufficient at other times of the year. Cut flower production was also affected by climate. The situation was aggravated by inappropriate cultivation techniques, which not only limited the yield, but also led to poor quality flowers. In some cases, the lack of labour during the peak season and the lack of farming skills constrained cut flower production.

Transport problems

Surprisingly, most farmers indicated that transport to HCMC was readily available and generally affordable (Table 5.11). Farmers were both willing and able to pay the transport fees. However, transport within Da Lat from the farm to traders was considered poor, and transport fees were expensive during the high season. Farmers were aware that transport over long distances would affect the cut flower quality. Transport was in unrefrigerated trucks to reduce the cost.

Table 5.11 The key transport problems and constraints in cut flower production for farmers

Problems or constraints	Frequency
Transport to HCMC was available and good	10
Farmer pay transport fee	9
Insufficient infrastructure from farm (bad road, carried on shoulder and motorbike, electrical)	4
High transport cost in Tet season (traffic jam lead to spoiled cut flower), high air freight cost	3
Long distance from Da Lat to the other cities (maybe affect cut flower quality)	2
Not refrigerate truck due to high cost	1
<i>N</i>	30

Limited financial access

Cut flower production required a significant investment in greenhouses, irrigation systems and an electrical (lighting) system. Limited access to an appropriate source of finance was a major constraint. Furthermore, very few of the buyers were prepared to provide credit and even in those instances where the buyers provided it, farmers were reluctant to accept it because farmers did not want to be economically dependent on buyers. In most cases, farmers worked only a small production area, but most of the bank loans for farmers required security linked to the possession of physical assets. In some cases, there were problems associated with the high rate of interest, the short repayment period (eight months) and the large volume of paperwork required to secure a loan (Table 5.12).

Table 5.12 Key finance problems and constraints in cut flower production for farmers

Problems or constraints	Frequency
Lack of capital (due to (i) borrowing insignificant from bank, short length of time of loan (8 months), mortgage small farm areas, without preferential interest, complicated paper procedure, still bank debt; (ii) built greenhouse, greenhouse collapsed; (iii) high rate when borrow from lenders; (iv) high invest	19
No lack of capital, no difficult. Lack of capital when initial investment, but now enough to reinvest. Wholesaler offered a deposit but farmers did not need	11
Dare not borrow capital for fear of no output, limited areas so limited invest	3
Capital support from Global Competitiveness Facility for Vietnamese Enterprise of DANIDA	1
Without support when risk of climate	1
<i>N</i>	30

The current rural financial system does not support small farmers. There was no information or training on farm finance, and there was basically no financial organisation helping or assisting farmers in managing their farm businesses.

Market access constraints

When asked about trends in the cut flower industry over the past five years, most buyers indicated that the production and supply, as well as the volume traded had been increasing (Table 5.13).

Table 5.13 Major changes in the traded volume over the past 5 years

Changes	Frequency	
	Market intermediary	Retailer
Increasing in the production volume and quantity	8	1
Increased the traded volume		4
Cut flower business more and more developed		3
Change in customer preference (some old varieties disappeared from market (marigold, white lys)/Buy more and more high-ranking cut flower/The trend of buying the new, wild and unique cut flowers	1	3
New and many varieties and colours		3
More supplying sources from Da Lat, Ha Noi and imported cut flower from Thailand		2
Different selling methods due to internet development, retailer can sell their cut flower through internet		2
Production not change	2	2
Increasing number of suppliers and buyers	1	
Increasing need, change to use other cut flowers instead of chrysanthemum for worshipping	1	
Depend on market	1	
Decreased traded volume		1
Better quality		1
More services, market intermediaries can transport to retailer or hawker's place		1
<i>N</i>	18	10

The industry had developed, with customers selling a more diversified product range. The selling methods had been adjusted to meet customers' requirements. A greater range of colours and high quality cut flowers were available. There were many supply sources from Da Lat, Ha Noi and Thailand. As a result, retail florists were able to offer a greater range of unique and distinctive flower arrangements at a higher price to more wealthy markets.

To examine the constraints in marketing cut flowers, all actors in the supply chain were asked to identify the major constraints impacting on their business. At a business level, while most farmer respondents indicated that a lack of output was their major problem, market intermediaries reported that the highly variable supply of flowers and the highly variable quality were the major marketing constraints (Table 5.14).

Table 5.14 Key business, market and policy problems and constraints in cut flower marketing for all actors

Problems or constraints	Frequency		
	F	M/I	R
<i>Business level</i>			
Lack of output, unsold	17	4	5
Unstable quantity, small and non-continuous quantity	8	12	6
Unstable quality, low quality of the products	7	4	5
Competitive	4	3	
Lack of capital	2	6	
Poor postharvest infrastructure	2	1	
No lack of capital due to paying after sale		2	
Risk due to buyer did not pay their debt, quit transaction, overcharge	1	5	
Lack of skill labour		1	1
High level of spoiled		1	
Accepted loss in the off-season and interest in the high season		2	
Buyer got more benefits than farmer	1		
<i>Market level</i>			
Unstable and uncontrolled price, volatility price	10	12	1
Imbalance between supply and demand, inadequate demand	6	1	2
Lack of market information	6		
No lack of market information	3		
Long distance from Da Lat to HCMC	1		
Marketing is not task of farmers	1		
<i>Public policy level</i>			
Ineffective policy	2		
Changed policy (planning areas of production and market)	1	1	
<i>N</i>	27	17	9

(F: Farmers; M/I: Market intermediaries; R: Retailers)

Some respondents believed that there was competition in the market. For other participants, there was a distinct lack of capital. This led, in part, to the poor investment in postharvest infrastructure. However, for many market intermediaries, it led to an unacceptable amount of risk due to unpaid debt and overcharging by other actors in the supply chain. Some market intermediaries indicated that they accepted losses in the off-season and were prepared to pay interest in the high season.

At a market level, most respondents indicated that the volatility in price presented a major impediment. Farmers often had to travel a long distance to sell their cut flowers, often with no indication of what price they might receive. Farmer respondents also highlighted the inadequate demand. Both the quality and quantity of flowers available was highly variable, which meant that farmers were often unable to meet the demands of the market.

The imbalance between supply and demand inferred that farmers were lacking strategic market information. Market prices were highly unpredictable and could vary by a factor of three over a few days. As the different actors had different levels of access to different market information, power was inequitably distributed along the supply chain. This led some

farmers to believe that buyers were able to extract more benefits than farmers from their transactions.

Despite the development of mobile phones and the large number of market intermediaries, several farmers indicated that they lacked market information. Their main sources of information were the market itself, their neighbours, traders and wholesalers in HCMC, Da Lat and Ha Noi. While the information they obtained related to price (as indicated by those farmers who did not lack information), other information about quality requirements, colour and the market acceptance of new flower varieties were absent.

Some actors indicated that a lack of policy in planning production and marketing was a constraint. Some farmers reported that they were unable to invest in their farms because their production area was located in an urban planning area. Wholesalers in Hau Giang also reported that:

I purchase and sell cut flowers in the context of waiting for the government's decision. Hau Giang is an unstable market. Hau Giang market will be moved to Thu Duc. Dam Sen will become a cut flower supermarket that will require better quality cut flowers.

Other farmers indicated that they produced without any direction from the authorities. Many participants believed that government, rather than the private sector, played an important role in this orientation. According to one farmer:

Local government is only interested in cut flower output.

Proposed solutions

Most actors expected the government to address these constraints. Few had considered that the private sector might play some role. It was suggested that government provide improved varieties, maintain a stable price and provide preferential loans to farmers.

In the current market, farmers were reluctant to make investment decisions as they had no idea how stable the prices were and how large and consistent the cut flower market was. When asked about solving cultivation problems, improving technologies and increasing the quality of inputs such as good and reliable varieties, farmers believed that appropriate training would lead to improvements in practice.

In the private domain, each actor had their own solutions to improve cooperation and their relationships with buyers and suppliers. Buyers had developed relationships with farmers and upstream suppliers to ensure they had a guaranteed supply when the market was short. Suppliers had developed relationships with buyers so that when there was an oversupply of flowers, they had customers who were able and willing to purchase. In both instances,

relationships with preferred trading partners were able to reduce uncertainty. Retailers simply adjusted the daily quantity and price to reduce the risk (Table 5.15).

Table 5.15 The solutions proposed by chain actors to address the constraints

Solutions	Frequency		
	F	M/I	R
Government should create a good output, establish a flower auction centre in Da Lat, orientation of authorities Orientation from Government about: varieties import, master plan of cultivation areas, organise a wholesale market in Da Lat	10	2	
Good and reliable varieties	5	1	
Preferential loan with preferential interest for farmers	2		
Stable price	2	1	
Cooperate together to sell cut flowers	1	2	
Good relationships Close relationships so market intermediaries can sell cut flower all round years		2	1
Ordered enough everyday volume/Discounted in the end of the day and calculate enough the daily volume to avoid the risk or loss		1	4
Produced a good quality cut flowers Only buy selective cut flowers		1	1
Technical advices should be applied in practice. Improve the cultivation technique	1		1
Provide market information	1		
Have production plan	1		
Provide postharvest technology	1		1
Difficult to suggest	1		
Have a right to decide the price	1		
Linking between company and farmer	1		
Farmers can continue transaction		1	
Stable place to trade		1	
Inform farmers what quality that customers like			1
<i>N</i>	27	17	9

(F: Farmers; M/I: Market intermediaries; R: Retailers)

Opportunities

According to the respondents, there were a number of opportunities for the cut flower industry in Da Lat: (i) economic development had increased personal disposable income that should lead to an increase in the demand; (ii) falling vegetable prices would see more farmers contemplate flower production; (iii) opportunities to export to other countries; (iv) the Da Lat flower industry enjoyed some geographic benefits in cultivating cut flowers such as the favourable climate conditions, altitude and availability of sufficient water; and (v) local farmers had significant experience in commercial farming activities. Farmers were constantly looking for improved cultivation practices and postharvest techniques that helped them to comply with market requirements. Most farmers had constructed plastic greenhouses to protect the flowers against pests and diseases.

5.9.5 Criteria for choosing suppliers and buyers

In this exploratory phase, each respondent was asked to choose a preferred trading partner and on the basis of that, to explain their reasons for having made that choice. In choosing an appropriate buyer, 21 criteria were identified by potential buyers (Table 5.16).

Table 5.16 Criteria used in choosing buyers by farmers and market intermediaries

Criteria	Frequency	
	F	M/I
Pay acceptable/higher/stable price	18	3
Good relationships, long-standing relationships	17	11
Doing all activities (grade, pack, transport), convenience	12	1
Trust	11	3
Payment in due	9	7
Reputation	8	4
Regular/Stable purchase	8	4
Geographically close	5	
Good communication	4	1
No criteria	3	
Know wholesaler/Introduce from other farmers	3	
Provide technical assistance	3	
Purchase and sell agreement	1	2
Coordination/ Based on contract	1	3
Share price information	1	
No price pressure	1	
Exchange sentiment (invited wedding and worshipping together)	1	
Buyers have a good output	1	
Provide the cartons	1	
Feel secure		1
Purchase large volume		1
<i>N</i>	32	17

(F: Farmers; M/I: Market intermediaries; R: Retailers)

The most frequently cited criteria included the willingness to pay an acceptable price and a good relationship. In the absence of any price certainty and assured payment after sale, farmers tended to simplify the choice of buyers by relying upon those with whom they had built a good relationship, developed trust and who had a good reputation. Long-lasting relationships were often the result of regular purchasing, evaluating and rejecting untrustworthy buyers. Some famers preferred to transact with buyers who were geographically close.

Service criteria included undertaking all activities including grading, packing and transporting of cut flowers, making payment on time, providing technical information, sharing price information and purchasing all year round. Market intermediaries indicated the need to have purchasing and selling agreements based on mutual cooperation to ensure they had a ready market.

Market intermediaries and retailers were subsequently asked to identify the criteria they used in choosing between alternative suppliers. In agriculture, the uncertainty of supply, the

uncertainty of price in the daily market and large seasonal variations in productivity were expected to introduce several additional dimensions to the broadly accepted models of organisational purchasing behaviour (Batt 2000b). Sixteen criteria were identified (Table 5.17).

Table 5.17 Criteria used in choosing suppliers by market intermediaries and retailers

Criteria	Frequency	
	M/I	R
Long lasting relationship	11	9
Produce good quality cut flowers	10	6
Agreed to be paid after sale, be able to give credit	5	
Trust	3	
Good cultivation skills	3	
Have a contract	3	
Convenience (cut and transport to buying agent), advantage	3	
Good contact/Inform the quality	3	1
Reputation	2	2
Provide stable and regular volume	2	2
Geographically close	1	
No criteria, touring farm, have a relationship first, test in work	1	
Keep promise (some farmer sold their product in the off-season but charge high price in the high season)	1	
Competitive price/Price adjustment immediately if bad flower/Reasonable price	1	2
Have many varieties and colour to supply		2
No loss ratio		1
Not duplicity		1
Selected cut flower is right retailer's idea when selling to retailers		1
<i>N</i>	17	10

(M/I: Market intermediaries; R: Retailers)

Some criteria described the overall relationship, whereas others reflected the dyadic nature of the relationship. Some were related to the product, while others were related to the supplier. Buyers preferred to purchase from suppliers with whom they had established an enduring long-term relationship. The most critical dimension was the ability of the suppliers to produce/deliver good quality cut flowers. In terms of quality, buyers looked for farmers that had good cultivation skills, good-looking cut flowers of the desired maturity, without pests and diseases, damage or bruising, which were well packed, well graded and had a long vase life, and with whom they could easily communicate. Suppliers were expected to deliver the desired quality on a regular basis and especially for the retail florists, to deliver a variety of different types of flowers and colours that were competitively priced. To reduce uncertainty, buyers preferred to deal with suppliers who had a good reputation. For traders and wholesalers, the willingness to extend credit was an important consideration, for few buyers, except the companies, were willing to establish a price in advance.

Suppliers generally placed more importance on receiving a high price and reducing the payment risk through establishing good personal relationships based on trust and a good

reputation. In contrast, buyers placed more emphasis on long-term relationships as a means of securing a reliable and continuous supply of good quality cut flowers.

5.9.6 Relationships in the Da Lat cut flower supply chains

The perishable nature of the product, different production processes, different quality specifications, the seasonal nature of supply and variations in the quantity of product available encouraged both buyers and suppliers to establish long-term relationships.

Each actor was asked to describe and explain their relationship with their preferred trading partner. Most actors described their relationship as good and positive. Six constructs were identified as the main variables influencing the relationship between actors in the cut flower supply chain using the measures developed by Batt (2003). The parties were connected through satisfaction, trust, coordination, commitment, communication and power.

Satisfaction

Actors in this study described their satisfaction with their preferred trading partner primarily in terms of the price received, the payment process and the relationship itself (Table 5.18).

Table 5.18 Elements of satisfaction in the relationship between actors

Variables	Frequency		
	F	M/I	R
Satisfaction with my trading partner	13	9	3
Payment in due, paid correctly and fairly in due, paid exactly	11	3	1
Satisfy with the transaction	10	5	3
Satisfy with the price	9	11	
Meet my expectation	8	9	9
Personal satisfaction: Good feelings and behaviour together, acknowledged and good character of trading partners through contact	2	1	
Quickly handle my complaint		3	1
Provide good quality/selective cut flowers			1
Satisfy demands of both partners			1
N	26	15	10

(F: Farmers; M/I: Market intermediaries; R: Retailers)

Meeting each other's expectations was important for both upstream suppliers and downstream buyers. Actors were satisfied with their exchange partners when they had good feelings about each other and their trading partner was acknowledged as being of good character. As one trader stated:

I am satisfied when the cut flower (quality) meets my needs

On the other hand, one contract farmer stated that:

I am satisfied with the varieties and the technical process offered by the company. The company pays regularly and exactly. The company meets my expectations.... and gives me the best offer compared to others. So I am not worried about the output of my flowers

Quick handling of each other's complaints was expected to result in greater satisfaction with their trading partner. One retailer commented:

I am satisfied when my supplier meets my selling volume, the quality and packaging, and addresses my complaints

Trust

Trust was mentioned by most farmers, market intermediaries and retailers in the interviews. In this study, trust was most often described as the reputation that an actor had in the market. Trust was built up through an enduring, long-standing and stable relationship, where the exchange partner repeatedly honoured established trading agreements (Table 5.19).

Table 5.19 Elements of trust in the relationship between actors

Variables	Frequency		
	F	M/I	R
Trust is key	17	15	7
Reputation/Have no trouble with money	11	8	9
Long-standing relationships (indefectible relationships after rejected unreliable and unfair-paid buyers), reliable/stable relationships	9	9	5
Know buyer origin, acquaintance	6		
Loyal, honest, faithful relationships	5	5	5
Understand each other problem (when farmer has not enough cut flower). Interest farmer's benefits/Understand together	5	1	
Kept promise/Market intermediary kept promise whether they got loss or interest	3	3	1
Interest my benefits	2	2	
Buy product all year round	1	2	
Local people	1		
Share information			3
<i>N</i>	25	17	10

(F: Farmers; M/I: Market intermediaries; R: Retailers)

Trust was based on prior experience, where untrustworthy exchange partners were rejected and introductions to more trustworthy exchange partners were made by colleagues and associates. As one farmer stated:

I trust my trading partner because I know her very well through the introduction of my friends and family who also sell cut flowers to her

Since cut flowers are a highly perishable commodity, the bargaining power of farmers will be low, especially in a highly volatile market. Cut flower farmers will therefore aim to close their sales as quickly as possible by using the safeguards that are provided by relational based contracts. One farmer stated that:

I can change buyers if they pay late many times. Somebody can change even after 2 – 3 years if the buyer is not honest

One wholesaler indicated that:

My contact with farmers relies on trust without any legal documents... Really, without trust, we cannot transact together for a long time.....

Trustworthy trading partners were those who had a good reputation, always paid in full on time, understood each other's problems, kept their promise, were honest and acted in each other's best interest. In this study, one wholesaler reported that:

In here (Dam Sen wholesale markets) some wholesalers did not pay and refuse to pay their debt, causing untruth between farmers and wholesalers

The findings of this study were similar to the findings of earlier research studies, which identified trust as an key factor in exchange relationships (Batt 2004a). Other channel studies have defined trust as the extent to which a firm believes that its exchange partner is honest and/or benevolent (Anderson and Narus 1999). Trust is important since it reduces the risk that an exchange partner will act opportunistically (Batt 2003b; Handfield and Bechtel 2004). In a relationship where trust exists, trading partners are confident in sharing information and believe in the information that they receive from their exchange partners (Morgan and Hunt 1994). Furthermore, trust is central to harmonizing vertically interdependent activities and actors for value creation (Herlambang et al. 2006).

Many studies use reputation as a means to evaluate the trustworthiness of an exchange partner. Fair pricing, fair grading and quality assessment, honest weighting and timely payment were the main measures of a good reputation (Zhang et al. 2009).

Commitment

Commitment was most often expressed as a desire to continue trading with a preferred exchange partner, to follow the agreement and not to change trading partners (Table 5.20).

Table 5.20 Elements of commitment in the relationship between actors

Variables	Frequency		
	F	M/I	R
Continue to sell and purchase in the future	9	8	5
Follow the agreement between two actors	5	6	5
Not intend to change trading partner	5	6	1
No risk (due to never loss, pay cash immediately), feel safe	6		
Help together	4	1	1
Depend on buyers	3		
Commitment and cooperation (provide cut flower all year round. If insufficient, suppliers will try to provide the enough necessary without increase price)	2	3	1
Have no choice	2	1	
If farmer provide good quality, buyer will continue buying	1		
Continue to transact even at slightly lower price	1		
N	23	16	10

(F: Farmers; M/I: Market intermediaries; R: Retailers)

In many cases, respondents expressed a desire to continue to transact with their preferred trading partner in the future and followed the agreement between two actors.

I wish my buyers and I continue to transact in the future

Commitment was expressed as maintaining, feeling safe with trading partners and helping each other. However, commitment meant different things for different actors. Farmers were committed to buyers who could purchase all year round, whereas buyers were committed to these suppliers who could deliver consistently good quality flowers. As one retailer expressed:

Commitment and cooperation aim to provide cut flowers all year round. When cut flowers are short, suppliers should try to provide the desired volume without increasing price

Communication

Communication can be seen as the formal and informal sharing of information between actors, which facilitates relationships between organizations and makes beneficial outcomes possible (Fischer et al. 2008). Not surprisingly, in this study, most actors indicated that the majority of the communication that took place in the relationship was about the market: market prices, market trends and market preferences (Table 5.21).

Table 5.21 Elements of communication in the relationship between actors

Variables	Frequency		
	F	M/I	R
Share information of price and market situation, preference varieties	9	8	4
Frequently contact	8	9	4
Contact to solve problems	6	2	
Keep in touch		4	
Easy contact	4	1	
No share information	4	2	1
Good contact, good communication	3	3	
Share the risk	3	2	
Inform the quality of cut flower and cut flower source			2
No share the risk with buyer (buyer can get interest or loss depend on her) or with farmer	2		
Not support from buyer	2		
Visit farm		1	
N	23	16	10

The exchange of such information was frequent and was usually conducted either face-to-face (with traders or retailers) or via the telephone (with wholesalers). One wholesaler reported that:

I sometimes visit Da Lat farms because I was a Da Lat resident before. My parents and close relatives are still there.... Farmers also visit my stall

Respondents agreed that communication enabled them to solve problems in the supply chain and to share the risk.

According to Tummala (2006), communication clarifies customer needs and expectations, assists in problem solving and solves conflict, improves performance and creates competitive advantage. Wholesalers communicated information back to the farmers on the market demand. Wholesalers occupy an important role in channel communication: forwards to the retail florist and backwards to the traders and farmers (Blumthal and Gow 2006b). In this study, several buyers reported how they wanted the flowers bunched and packed.

However, when asked whether buyers frequently informed farmers of the daily market price, one wholesaler reported that:

I know I cannot require the quality from farmers because I understand that the quality depends on the climate, pests and diseases, the fertiliser, or the cultivation skills... I do not tell farmers how to bunch and pack cut flowers because I think each farmer has different methods. Sometimes I have told some farmers but they still do it the way they like... I also do not want to inform the price at the time of cut flower delivery (to my stall) due to the unstable daily price in the market.... I am afraid that if the price changed, the farmer will compare the paid price with the informed price. This can make farmers unhappy and stop transacting with me

In general, very little information was shared between wholesalers and retailers unless serious problems occurred such as bad quality or missing quantity. One flower shop in HCMC reported that:

I have a close relationship with wholesalers by frequently informing them of special events or occasions to ensure my flower supply. I know such information flows among buyers... I have never had contact with a farmer before. If yes, I would ask them to produce when the market is short of cut flowers and not to produce when the market is abundant

Cooperation

Farmers and market intermediaries described cooperation as the provision of financial and technical assistance. Most often, the exchange partners had entered into some contractual agreement, where they shared a mutual interest and risk, and worked together collaboratively to generate mutual profits (Table 5.22).

Even so, from the interviews with various actors in the Da Lat cut flower supply chains, it was evident that there was a distinct lack of coordination in the supply chain.

Table 5.22 Elements of cooperation in the relationship between actors

Variables	Frequency		
	F	M/I	R
Financial and technical assistance	11	3	
Based on the contract	9		
Share the interest and the risk	5	5	3
Have a common goal	5		
Help together	4		1
Mutual benefits	2		4
Share information			3
<i>N</i>	24	24	20

(F: Farmers; M/I: Market intermediaries; R: Retailers)

Power

Most respondents perceived that power belonged to the people who held the money and determined the price (Table 5.23). They all believed that power belonged to whoever had the right to require something from somebody else.

Table 5.23 Elements of power in the relationship between actors

Variables	Frequency		
	F	M/I	R
Depend on people who hold money and decide the price	11	9	6
Ability to control other partners	7	4	2
Depend on people who decide to buy or not to buy		1	3
Who has a large economic potential	5		
Who sole output	2		
Customer requirements			1
<i>N</i>	22	12	10

(F: Farmers; M/I: Market intermediaries; R: Retailers)

In this study, power was mentioned by one retailer as:

I have the rights to refuse to purchase bad quality cut flowers from companies or suppliers in order to have the best cut flowers for my customers

5.10 Review

The preliminary results draw a complete picture that: (i) identifies the different chains through which cut flowers cultivated in Da Lat reach their intended customer; (ii) identifies the actors participating in the chains, the activities that they undertake and the personal interactions that occur between them; (iii) outlines the problems in the production and marketing of cut flowers; and (iv) clarifies the relationship constructs from the different actors' perspectives.

The results of this chapter were subsequently utilised in the design of the main methodology, in particular, identifying which chains to study and in the preparation of the quantitative survey instrument.

Chapter 6. Main research methodology

6.1 Chapter outline

This chapter presents the methodology that was employed to achieve the research objectives. An overview of survey design of the study is provided. Quantitative data were collected, interpreted and analysed using a variety of data analysis techniques. Some of the difficulties faced in conducting quantitative research in developing countries are highlighted.

6.2 Data collection

Quantitative approaches were applied for the analysis of cut flower supply chains to calculate technical efficiency, and to analyse the marketing system using price-margin analysis, gap analysis and relationship marketing.

The objective of the second stage was to collect quantitative information on the transaction costs; the importance of the criteria actors used in choosing their preferred trading partner; and the nature of their relationship with preferred trading partners. The surveys were supplemented with general background information on the structure and operation of the business. The quantitative survey was undertaken from September 2010 – March 2011.

According to Saunders et al. (2007), data can be collected through self-administered questionnaires, the internet, mail, personal interviews and telephone questionnaires. The choice of data collection method will be influenced by: (i) the characteristics of the respondents; (ii) sample size; (iii) the importance/need to reach a respondent; (iv) the type of questions to be asked; and (v) the number of questions that need to be asked. This study used qualitative and quantitative data from both primary and secondary sources.

Relevant secondary information was collected from published and unpublished sources based on discussions with key stakeholders in the study area. According to Tanaya (2010), this information is acknowledged as an integral part of qualitative research. Secondary data was collected from various offices including the Da Lat Department of Agriculture and Industry, Department of Industry and Trade of Lam Dong Province. Secondary data consisted of data about cut flower areas and provincial statistics on cut flower exports.

In the survey, the eight to ten pages of questions took from one to two hours to complete. In the absence of any mailing list, telephone surveys and mail surveys were not considered to be the most efficient ways of collecting the data. Furthermore, many smallholder farmers are illiterate and in the absence of an interviewer, would be unable to complete the questionnaires (Batt 2003f; Lu 2007).

Due to the length of the questionnaires, an incentive was offered to increase the response rate and avoid non-response error. An incentive of VND 200,000 was offered to each respondent to facilitate completion.

The other method for data collection was observation. Observation, when utilised with personal interviews, provides an opportunity to ground-truth the responses given (Tanaya 2010). In this study, observation was conducted to identify the activities performed and the interactions between supply chain actors by writing descriptions, taking photos and observing participants as recommended by Hancock (1998).

For wholesalers and retailers, the study combined two steps: (i) person-to-person contact directly in the market or over the phone, then (ii) self-completion of the questionnaires as they were often too busy. A subsequent telephone call was made to remind respondents prior to collection. For companies, a self-administered questionnaire was mailed to the respondents via email.

The survey was carried out by two research assistants and undergraduate students from the Department of Agriculture and Forestry, Da Lat University and Department of Floriculture and Horticulture Agronomy, Ho Chi Minh City University of Agriculture and Forestry. Training was given to the research assistants and undergraduate students to acquaint them with the questionnaires. In the process of data collection, constant supervision was conducted to improve the quality of the information obtained. Incomplete questionnaires were identified and where possible, improved by revisiting or telephoning the respondents.

6.2.1 Sample size

As recommended by Saunders et al. (2007), a study may combine different sampling methods to get the required sample size. In this study, two sampling methods were used: the initial sampling involved a random selection of chrysanthemum and rose farmers from the list of contact names and addresses for the different wards provided by the Ward Farmers Association, staff from the local Ministry of Agriculture and Rural Development and others in the field. It was difficult to establish a list of market intermediaries such as traders, wholesalers and retailers. Accessing these groups required the researcher to establish a certain level of acquaintance and trust.

Additional farmers and their buyers were subsequently identified during the interviews with farmers. For the market intermediaries, non-probability sampling not only provided data which was satisfactory, but was a great deal cheaper to obtain (Batt 2003f). Non-probability sampling provided an opportunity to select the sample purposively and to reach difficult-to-identify members of the population (Saunders et al. 2007). A number of non-probability sampling techniques were employed including:

- i. convenience sampling, whereby respondents were selected because they appeared in the right place at the right time (Malhotra et al. 2008). The benefit of convenience sampling was the savings in cost and time. Moreover, traders, wholesalers and retailers were very sensitive and often unwilling to reveal information about costs and profit. Companies also typically protect business data and their financial turnover. Where possible, the researchers interviewed traders, wholesalers and retailers that were already known to them, as such respondents were less likely to give misleading information (Yangrong and Wei 2004).
- ii. judgmental sampling selects respondents based upon some specific characteristic of the sample members (Malhotra et al. 2008). The sampling was based on certain landmarks or geographic features in the areas of interest (Birachi 2006). In some wards, a reliable list of cut flower farmers was not available. In this instance, farmers who grew chrysanthemums and roses, traders who were purchasing cut flowers in the field, wholesalers in the three wholesale markets in HCMC, and retailers in both the Da Lat market and HCMC were purposively selected.
- iii. in situations where it was difficult to identify all the members of the desired population, a sample of the various actors involved at each level of the cut flower supply chain were selected using snowball sampling (Perera, Kodithuwakku and Weerahewa 2004). This sampling technique is often used for buyer-seller research (Malhotra et al. 2008). Snowball sampling was used from the initial group of farmers, and to identify the target population of traders, wholesalers and retailers. The main advantage of snowball sampling is that it substantially increases the likelihood of locating respondents with the desired characteristics in the population. It also results in lower sampling variance and significantly reduces cost.

The number of respondents needed at each level of the chain depended on a range of factors including: (i) the required level of precision in the results; (ii) the acceptable risk in predicting that level of precision; (iii) the amount of variability in the population; (iv) time and cost constraints; (v) the size of the population; and (vi) the sample size used in similar studies (Malhotra et al. 2008). The sample size also depended on the research purpose (Saunders et al. 2007). In addition, the study faced a number of constraints including a limited budget, time, a lack of personnel and the non-availability of sufficient respondents that reduced the sample size. Similar constraints have also been reported by many researchers including Bartlett, Kotlik and Higgins (2001), Musodza (2009) and Saunders et al. (2007).

In total, 210 farmers (206 cut flower farmers and 4 companies) and 178 buyers (41 traders, 41 wholesalers and 42 retailers in Da Lat and 54 retailers in HCMC) were included in the analyses. In many similar supply chain studies, there has been a marked reduction in the number of market intermediaries and retailers interviewed, simply because there are fewer of them (Batt 2004c; de Magistris and Gracia 2008; Herlambang et al. 2006; Lu 2007; Musodza 2009; Nawi 2009; Vasileiou and Morris 2006; Yangrong and Wei 2004). According to Kasunic (2005), when survey findings are unique for a particular set of individuals, a sampling plan is not needed. Individuals are invited to participate in the survey and they do so if they wish.

The relatively large number of farmers allowed statistical estimates to be derived with a high degree of confidence for the population of cut flower farmers as a whole. In the case of buyers (traders, wholesalers, companies and retailers), the sample sizes were smaller, corresponding with the smaller size of the business population. In the retail sector in particular, it is best to view the results as indicative cases, for the perceptions that particular respondents may hold may not necessarily coincide with those of retailers as a whole. The sample size was not large enough to enable covariance-based structural equation modelling to run. Given the considerable variation observed in the latter parts of the supply chain, results need to be interpreted with caution.

The survey was designed to obtain information about the characteristics of five populations.

Farmer survey

According to DAI (2010), there are over 3,000 cut flower farmers in Da Lat. This study selected farmers from the seven main flower growing wards. Respondents were asked directly in a face-to-face meeting for their willingness to participate and were interviewed personally on farm.

Trader survey

Statistics on the number and size of traders in the cut flower industry are not readily available in Da Lat. Due to the lack of statistics, a sampling procedure for the traders was not possible. Not only were they difficult to locate because they were often traveling, they were also difficult to interview for they were always busy in the market. The traders selected were those transacting with farmers in the study area.

This survey was undertaken parallel with the survey for the farmers. Traders were most often identified through asking farmers who they sold their flowers to. Several farmers were also traders: in such instances, they were as interviewed only once, either as a farmer or as a trader.

Company survey

According to the Da Lat Flower Association, there were 15 companies involved in the cut flower industry (2009 – 2010). With regard to the cut flower companies, the whole population was approached due to the small number of potential respondents (Musodza 2009). After a phone call asking for their willingness to participate to the survey, the questionnaire was sent by email. However, most respondents indicated that they did not produce roses and chrysanthemums, but focused on lily and orchids. Some produced other flower types, while two companies refused to participate in the survey. Only five companies completed the questionnaires. Of these, one company that produced and traded cut flowers and one company that produced chrysanthemums were characterised as producers, and one company in Da Lat and two companies in HCMC that traded cut flowers were reclassified as market intermediaries. Due to the small number of companies participating in the study, those trading as producers were excluded because the size of their operation was many times greater than most smallholder farmers, while those companies which operated as trading companies were combined with the wholesalers.

Wholesaler survey

Observation indicated that there were over 400 wholesalers operating in the HCMC wholesale markets. From the results obtained from the farmers, a list of wholesalers and their contact numbers in HCMC were identified. A phone call was made to assess whether the wholesaler was willing to participate in the study. An appointment was then made with the researchers to hand deliver the questionnaire and to collect it from their stalls in one of the three wholesale markets in HCMC. At the same time, additional wholesalers were asked if they wished to participate in the study. More than 70 questionnaires were handed out, but only 41 wholesalers participated in this study.

Retailer survey

From the results obtained from the farmers and wholesalers, visits to retail shops and local markets in both Da Lat and HCMC were undertaken. Retailers who were willing to answer the survey were given the questionnaires. The researcher then agreed on a time when they would come back to collect the completed questionnaire because retailers were often busy in dealing with their customers. For retailers, 96 questionnaires were returned, 42 from Da Lat and 54 from HCMC.

6.2.2 Questionnaire design

The questionnaire included both open-ended questions and fixed response questions with dichotomous choice, multiple choice and interval scales. The open-ended questions were

designed to give respondents an opportunity to express their personal views (Malhotra et al. 2008).

With regard to the use of scales, there is considerable discussion about the appropriate use of either an odd or even-numbered scale for the various items. Chamhuri (2011b) and Tanaya (2010) believed that a six-point Likert scale was desirable, for it eliminated the mid-point that many Asian respondents prefer to use. Abdul-Halim and Che-Ha (2009) confirmed that a six-point scale avoided the clustering of responses around the neutral point. A six-point Likert scale was used on a scale of 1 (very well) to 6 (not at all well).

The items which were included in the questionnaire were developed from the qualitative study and the literature. In this study, the majority of the items were developed from Batt (2003f), Claro (2004), Hobley (2007) and Nawi (2009) and modified to suit the cut flower industry. The questionnaire for the chrysanthemum farmers (Appendix 4) and rose farmers (Appendix 5) were created first and then adjustments were made to adapt it to suit the different types of buyers at each stage of the supply chain, market intermediaries (traders and wholesalers) (Appendix 6) and retailers (Appendix 7). The sequence of questions were designed so that additional or promising areas of inquiry could be pursued (Collinson et al. 2003).

At the beginning of the interview, two qualifying questions were asked: (1) Have you been growing/transacting cut flowers for more than one year? This eliminated those respondents who could not truthfully answer the questions; and (2) Are you willing to participate in this survey? This eliminated those respondents who were not willing to answer the questions and were more likely to fail to adequately complete the questionnaire (Batt 2009). Furthermore, those farmers/buyers who stated that they intended to stop growing/trading cut flowers within the next twelve months were also excluded from the sample (Schulze et al. 2008).

All questionnaires were divided into three main sections (Table 6.1). The first page was an introduction to the study, qualifying the respondent's eligibility to participate in the study. The first section sought to provide some background information about the characteristics of the respondents business. Section 2 and Section 3 had a similar format, but the questions were modified to suit each actor. If respondents transacted with a prescribed buyer (or supplier) they were asked to respond to a number of questions about their activities, the transaction costs incurred and their long-term trading relationships. For farmers and retailers, Section 2 discussed the most preferred buyer/supplier, while Section 3 discussed the second most preferred buyer/supplier (Appendix 2 and Appendix 4). For market intermediaries, Section 2 focused on the most preferred supplier, while Section 3 focused on the most preferred buyer (Appendix 3).

Table 6.1 Structure of questionnaires

	Farmers	Market intermediaries	Retailers
Section 1	About your farm	About your business	About your business
Section 2	To whom you sell your cut flower	From whom you purchase your cut flower	From whom you purchase your cut flower
	Activities and transaction cost	Activities and transaction cost	Activities and transaction cost
	To whom you sell your cut flower and offer quality	From whom you purchase your cut flower	From whom you purchase your cut flower
	Relationship with this most preferred buyer	Relationship with this most preferred supplier	Relationship with this most preferred supplier
Section 3	Other buyers	To whom you sell your cut flower	Other suppliers
	Activities and transaction cost	Activities and transaction cost	Activities and transaction cost
	To whom you sell your cut flower and offer quality	To whom you sell your cut flower and offer quality	From whom you purchase your cut flower
	Relationship with this buyer	Relationship with this most preferred supplier	Relationship with this supplier
			To whom you sell your cut flower

Section One. About your farm/business

Section 1 gathered information about the characteristics of the actors, including farmers, market intermediaries and retailers that may influence their business decisions. It consisted of six questions about the respondents' specific location, business size, experience and the quantities of cut flowers produced/traded. Their expectations for the future were also discussed in this section. Information on cut flower production/sales was needed for descriptive purposes and the potential grouping of respondents.

Location of your farm/business

(Batt 2003f; Nawi 2009; Shilpa 2008)

For farmers, the following question sought to gather information on the area of cut flowers cultivated in greenhouses and outdoors. Information was sought on the types of cut flowers that farmers cultivated.

Size of farm (Area of greenhouses, outdoor and total areas)

(Hobley 2007; Joseph et al. 2008; Lu 2007; Ozkan et al. 1999; Riisgaard 2009b)

(Categories based on results of qualitative study)

Are your growing:

[Multi-responses: mono, combination of many cut flower, combination flower and vegetable]

(Categories based on results of qualitative study)

Farmers also were asked to determine their experience in cut flower cultivation.

Number of years growing cut flowers

(Batt 2003f; Collinson et al. 2003; Joseph et al. 2008; Nawi 2009; Ozkan et al. 1999)

Two similar questions sought to gather information from buyers about the nature of their business and what other activities they engaged in other than cut flower trading.

Type of business

For market intermediaries [Multi-responses: trader, wholesaler, company, others, please specify]

For retailer [Multi-responses: flower shop, flower stall, fruit and flower stall, hawker]

(Categories based on results of qualitative study)

Are you engaged in any other activities apart from cut flower trading?

If YES, please specify

Modified from Joseph et al. (2008)

Number of years trading cut flowers

(Batt 2003f; Collinson et al. 2003; Joseph et al. 2008; Nawi 2009; Ozkan et al. 1999; Shilpa 2008)

Rose farmers were asked to record information about the quantity of roses they produced each day because roses were a perennial crop. Since three crops of chrysanthemums could be harvested each year, chrysanthemum farmers were asked about the average quantity of chrysanthemum produced per crop. Buyers were asked to report the quantity of cut flowers they traded each day.

How many turns/cycles do you grow chrysanthemum?

Modified from Batt (2003f) and Joseph et al. (2008)

The quantities produced/traded per day/per crop

(Batt 2003f; Claro 2004; Collinson et al. 2003; Joseph et al. 2008; Nawi 2009; Riisgaard 2009b; Shilpa 2008)

Next year, do you expect your production/trading to

[Multi-responses: increase, decrease or stay the same]

Why will it change?

(Birachi 2006; Nawi 2009)

For buyers, an additional question was asked to identify any seasonality in sales and to identify the peak sales period.

Are your sales constant all year round?

[Dichotomous responses: Yes or No]

If NO, at what time of the year do sales peak?

(Collinson et al. 2003; Nawi 2009)

Section Two. To/From whom you sell/purchase your cut flowers

Section 2 was designed to categorize the actors and their activities in the chain. This section sought to gather information on the respondent's transactions with preferred buyers/suppliers around three key themes: transaction costs, gap analysis and the nature of any long-term business-to-business relationships.

After answering a number of descriptive questions relating to the size and location of the respondents, the most preferred buyer/supplier was identified through the number of buyers/suppliers that respondents transacted with and the proportion of cut flowers that each respondent sold/purchased to/from this buyer/supplier. Information was collected about the quantity of cut flowers purchased and sold (Herlambang et al. 2006).

From how many buyers/suppliers do you sell/purchase cut flowers?

(Joseph et al. 2008; Lu 2007; Sharma et al. 2007)

Last year, what percentages of the cut flowers were sold/purchased to/from the following trading partners (farmer, wholesaler, trader, company, retailer and consumer)? (Total should be equal 100%)

(Lu 2007; Sharma et al. 2007) (Categories based on results of qualitative study)

The next questions were concerned with the short term and medium-term view for the proportion of cut flowers sold/purchased and the reasons for any anticipated change (Hobley 2007).

Were these percentages the same for the last 2 years?

(Lu 2007)

If NO, what has changed?

(Hobley 2007)

In the absence of any database for market intermediaries, respondents were asked to name their most preferred buyer/supplier and to provide their contact address and telephone number. The questions in Section 2 related to this buyer/supplier (Schulze et al. 2006). The duration of this relationship was measured with a single open-ended question asking for how many years the respondent had been trading with, or known this buyer/supplier (Smith 1998).

What type of buyer/supplier is your most preferred buyer/supplier?

(Birachi 2006; Claro 2004; Joseph et al. 2008; Lu 2007; Shilpa 2008; Yu and Pysarchik 2002)

[Multi-responses: farmer, wholesaler, trader, company, retailer and consumer, others, please specify]
(Categories based on results of qualitative study)

Can you please name your most preferred buyer/supplier?

(Schulze et al. 2006)

For how many years have you been trading with your most preferred buyer/supplier?

(Hobley 2007; Joseph et al. 2008; Lu 2007; Sharma et al. 2007; Wagner, Coley and Lindemann 2011)

The study sought to examine whether there was any formal contract between the respondent and their preferred buyer/supplier by asking the following questions:

Do you have any contract with your most preferred buyer/supplier?

How many years has this contract left to run?

What are the terms and conditions between you and your most preferred buyer under this

contract?

What advantages/benefits do you believe you have obtained by operating under this contract?

What problems/difficulties have you experienced operating under this contract?

What actions/events have strengthened the relationship?

What actions/events have weakened the relationship?

(Birachi 2006; Glover and Kusterer 1990; Riisgaard 2009b; Shilpa 2008)

Respondents were then asked to respond to an open-ended question that sought to identify the reasons respondents did not sell/purchase cut flowers to/from other buyers/suppliers.

If you don't sell/purchase any cut flower to/from, why is that?

[farmers, wholesalers, traders, companies and retailers]

(Birachi 2006; Nawi 2009; Sharma et al. 2007)

[Multi-responses: farmer, wholesaler, trader, company, retailer and consumer]

(Categories based on results of qualitative study)

The transaction costs associated in their transactions with their most preferred buyer/supplier then were examined (Birachi 2006; Gong et al. 2006; Jahan 2009; Zhang et al. 2009). Information was sought on all the activity costs incurred from purchase to sale as well as the buying and selling prices. These costs were variable in that they were specific to the transaction (physical activity costs) (Herlambang et al. 2006).

In Da Lat, the costs and prices of cut flowers were based on several different units. Cut flower volumes were discussed as stems by farmers, boxes by market intermediaries and bunches/baskets/stems by retailers. To ensure consistency of units through each market channel, this study maintained the same unit (stems) for all calculations. The main currency used was the Viet Nam Dong (VND). Respondents were asked a set of questions that related to the activity cost associated with harvesting, postharvest treatment (to prolong the shelf life), grading, packing, storing, transporting and loading/unloading the cut flowers.

Respondents who harvested cut flowers when selling/purchasing to/from buyers/suppliers were asked to indicate the number of stems harvested per day, how long it took and the number of people involved. Harvest loss provided a measure of production efficiency.

Did you harvest the cut flowers when selling/purchasing to/from your most preferred buyer/supplier

Number of stems harvested per day?

How long did the harvest process take place per day?

Number of people involved?

How often did you harvest the cut flowers?

On average, what percent of the cut flowers did you reject at the time of harvest as being unmarketable?

What were the main reasons for this rejection?

(Joseph et al. 2008; Nawi 2009; Shilpa 2008; Wei et al. 2004a; Wei, Yangrong and Gang 2004b)

(Based on results of qualitative study)

Although the qualitative study found that no participants in the Da Lat cut flower supply chain undertook or provided any postharvest treatment to extend the vase life before selling/purchasing cut flowers, these variables were still included to ensure the study was complete. Those respondents who treated cut flowers prior to grading were asked to indicate what chemicals they used, the number of cut flower stems treated per bucket and the cost of the chemicals per bucket.

Did you use any postharvest treatment prior to grading or sale/purchase to/from your most preferred buyer/supplier?

What chemicals did you use?

How much chemical did you use per bucket?

How many cut flower stems per bucket?

What is the average cost of chemical per bucket?

(Modified from Wei et al. (2004b) and Nawi (2009))

Those respondents who were responsible for grading cut flowers were asked to indicate what percentage of the harvest fell into each grade, the main reason for rejection and what they did with the reject flowers.

Did you grade cut flowers when selling/purchasing to/from your most preferred buyer/supplier
(Blandon 2006; Joseph et al. 2008; Nawi 2009; Shilpa 2008; Wei et al. 2004b)

What percentage (%) of the cut flowers harvested fell into each of the following grades? (First, Second and Rejected)

(Blandon 2006; Joseph et al. 2008; Shilpa 2008) (Categories based on results of qualitative study)

What were the main reasons for rejection?

(Joseph et al. 2008; Shilpa 2008; Wei et al. 2004a)

What did you do with these flowers rejected?

(Birachi 2006; Blandon 2006; Collinson et al. 2003) (Based on results of qualitative study)

Respondents who packed cut flowers when selling/purchasing to/from their buyer/supplier were asked how they bunched and packed their cut flowers and the costs for labour and packing materials.

How many stems per bunch for each type of cut flower (Rose, standard chrysanthemum, spray chrysanthemum)
(Joseph et al. 2008)

What was the approximate cost for materials?

Did you pack the cut flowers when selling/purchasing to/from your most preferred buyer/supplier?

(Nawi 2009; Wei et al. 2004b)

How many cut flower bunches per carton?

(Joseph et al. 2008)

Number of hours grading, bunching and packing per day?

Number of people involved?

Did you buy the cartons to pack the chrysanthemums when selling to your most preferred buyer?

If YES, what was the approximate cost for a carton?

(Shilpa 2008)

How many cartons did you buy?

(Collinson et al. 2003; Nawi 2009)

Although most respondents did not store cut flowers, they were asked whether they cold stored cut flowers after packing, what percentage of each variety that they stored, how many days they stored cut flowers, the approximate cost for this period of storage and the losses incurred during storage.

Did you cold store the cut flowers when selling/purchasing to/from your most preferred buyer/supplier?

What percentage of the cut flowers (rose, standard and spray) did you cold store?

For how many days did you store the cut flowers (rose, standard and spray)?

What was the approximately cost to cold store the flowers for this period time?

What percentage of losses of each type of cut flowers occurred during cold store?

What were the main reasons for this loss?

(Collinson et al. 2003; Nawi 2009; Wei et al. 2004b)

Where respondents were responsible for the delivery of cut flowers to/from their buyer/supplier, they were asked to indicate the cost of transportation per carton to/from the buyer/supplier's premises. As different buyers/suppliers are located at varying distances, some variation in delivery costs was expected. The loading/unloading costs were asked to identify who was responsible for these costs and how much it was. Transport losses were also calculated for this stage of the supply chain. This data was used to compute the total marketing costs and to calculate the net margin later. This set of marketing costs did not explicitly measure managerial inputs or transaction costs such as partner search and information gathering (Herlambang et al. 2006).

Were you responsible for the cost of delivering the cut flowers when selling/purchasing to/from your most preferred buyer/supplier?

(Collinson et al. 2003; Joseph et al. 2008; Nawi 2009; Wei et al. 2004a; Wei et al. 2004b)

How much was the average cost per turn to deliver the harvested flowers to your most preferred buyer?

(Joseph et al. 2008; Nawi 2009)

Number of turns delivered per day?

How many stems per turn?

(Joseph et al. 2008)

What percentage of losses occurred during transport?

What were the main reasons for this loss?

(Nawi 2009)

Were you responsible for the loading and unloading cost?

If YES, how much is the total loading/unloading cost per day?

(Joseph et al. 2008; Shilpa 2008) (Based on results of qualitative study)

The next group of questions asked the respondents to indicate the price at which they sold/purchased cut flowers to/from their preferred buyers/suppliers. This data was used to calculate the price margin.

Over the last 12 months, what were the lowest, highest and average prices you receive/sold per stem by grade from/to your most preferred buyer/supplier?				
(Birachi 2006; Collinson et al. 2003; Joseph et al. 2008; Nawi 2009; Sharma et al. 2007; Shilpa 2008; Wei et al. 2004a) (Based on results of qualitative study)				
Rose	First	Second	Rejected	Ungraded
Highest				
Lowest				
Average				
Standard chrysanthemum	First	Second	Rejected	Ungraded
Highest				
Lowest				
Average				
Spray chrysanthemum	First	Second	Rejected	Ungraded
Highest				
Lowest				
Average				

From the results of the qualitative study, there were two main grades of cut flowers (Grade 1 and Grade 2), and reject cut flowers. Many farmers however sold ungraded cut flowers. Information was sought on the highest, lowest and average prices farmers received for the cut flowers they sold/purchased over the last year by variety and grade. The highest, lowest and average price was asked for both grades (first and second), reject flowers and ungraded flowers.

This data was used to compute the gross marketing margin per stem by eliciting the price paid and sold; the net margin was the residual after activity costs were deducted from the gross margin. Clearly, the net margin includes returns that may be attributed to factors of marketing whose costs are not explicitly included such as managerial inputs and transaction costs such as partner search and information gathering (Herlambang et al. 2006).

In this section, gap analysis was measured from both perspectives: (i) what the respondent required from their trading partners and the extent to which their preferred trading partner was able to meet their requirements; and (ii) what the respondents believed their trading partner required and the extent to which they believed they were able to meet their preferred trading partners' needs. An efficient supply chain needs to take into consideration the technical ability and experience of the people involved, the functional quality of the produce, and the credentials and experience of the business operators (Herlambang et al. 2006).

Respondents were then asked to indicate how well they perceived they were able to meet the needs of their most preferred buyer/supplier (Batt 2004c). Respondents were required to rate their ability to meet these same criteria on a scale of 1 (very well) to 6 (not at all well). In a

subsequent open-ended question, respondents were then asked to identify what constraints prevented them from improving their offer quality.

Where the respondents were suppliers (farmers, traders and wholesalers), they were asked to respond to an open-ended question to identify why they choose to transact with their most preferred buyer (Batt 2003f; Collinson et al. 2003; Nawi 2009). Suppliers were then asked to rate 13 statements, drawn from the literature and the results of the qualitative study as having some influence on the choice of alternative buyers. These statements included economic variables (price, purchase all year round and payment terms, meet my immediate needs); relational variables (reputation, confidence together, long-term relationship and frequent communication); and value-added variables (do all activities, geographically close, transport and provide market information and technical information) (Batt and Morooka 2003; Cardozo and Cagley 1971; Lu 2007; Nawi and Batt 2011b; Nawi and Batt 2011a). Respondents were asked to respond to each statement on a six-point Likert scale, where 1 was “very important” and 6 was “not at all important”. Suppliers then rated their most preferred buyers’ ability to meet their needs on a scale of 1 (very well) to 6 (not at all well). Each of the questions was prefaced with ‘My most preferred buyer...’

Criteria choosing alternative buyers	Sources
purchases cut flowers all year round	(Batt and Morooka 2003; Cardozo and Cagley 1971; Lu 2007; Nawi and Batt 2011b; Nawi and Batt 2011a)
provides me with an acceptable price	(Batt et al. 2006b; Batt and Morooka 2003; Blandon 2006; Cardozo and Cagley 1971; Gong et al. 2006; Nawi and Batt 2011b; Nawi and Batt 2011a; Ogunleye and Oladeji 2007; Staal et al. 2006; Tsourgiannis, Errington and Eddison 2002; Young and Hobbs 2002)
pays on time	(Batt et al. 2006b; Batt and Morooka 2003; Blandon 2006; Gong et al. 2006; Lu 2007; McMillan 1999; Nawi and Batt 2011b; Nawi and Batt 2011a; Ogunleye and Oladeji 2007; Staal et al. 2006; Tsourgiannis et al. 2002)
we have confidence together	(Batt and Morooka 2003)
has a good business reputation	(Batt et al. 2006b; Batt and Morooka 2003; Cardozo and Cagley 1971; Herlambang et al. 2006; Nawi and Batt 2011b; Nawi and Batt 2011a)
provides technical information/advice	(Batt and Morooka 2003; Blandon 2006; Cardozo and Cagley 1971; Gong et al. 2006; Herlambang et al. 2006; Nawi and Batt 2011b; Nawi and Batt 2011a)
provides market information	(Batt and Morooka 2003; Cardozo and Cagley 1971; Florkowski, Park and Bilgic 2003; Gong et al. 2006; Herlambang et al. 2006; Jari and Fraser 2009; Monson, Mainville and Kuminoff 2008; Nawi and Batt 2011b; Nawi and Batt 2011a)
does all activities: harvest, grade, pack and store cut flowers	(Batt et al. 2006b; Blandon 2006; Florkowski et al. 2003; Gong et al. 2006; Jari and Fraser 2009; Lu 2007; Ogunleye and Oladeji 2007; Shilpa 2008)
can transport cut flowers from my place	(Blandon 2006; Cardozo and Cagley 1971; Gong et al. 2006; Nawi and Batt 2011b; Nawi and Batt 2011a; Ogunleye and Oladeji 2007; Shilpa 2008; Staal et al. 2006)

is willing to meet my immediate needs	(Batt and Morooka 2003; Cardozo and Cagley 1971; Nawi and Batt 2011b; Nawi and Batt 2011a; Shilpa 2008)
is geographically close to me	(Batt et al. 2006b; Blandon 2006; Herlambang et al. 2006; McMillan 1999; Nawi and Batt 2011b; Nawi and Batt 2011a; Tsourgiannis et al. 2002)
we have a long-standing relationship	(Batt et al. 2006b; Cardozo and Cagley 1971; Herlambang et al. 2006; McMillan 1999; Nawi and Batt 2011b; Nawi and Batt 2011a; Ogunleye and Oladeji 2007; Tsourgiannis et al. 2002)
is in frequent communication with me	(Batt and Morooka 2003; McMillan 1999; Nawi and Batt 2011b; Nawi and Batt 2011a)

Respondents were then asked to indicate why their most preferred buyer was unable to meet their needs in an open-ended question (Batt 2004c).

Similarly, where the respondents were buyers (traders, wholesalers or retailers), the order of the questions was designed to seek information about their most preferred suppliers. Monzcka et al. (1998) suggests that customers will seek to purchase goods from those suppliers who are best able to deliver the desired quantity, within predetermined quality specifications, on time, at an agreed price. In choosing between alternative suppliers, 19 statements were developed from Grönroos (1995) and Parasuraman (1998). Buyers were also required to rate these 19 key statements on a scale from 1 to 6, where 1 was “very important” and 6 was “not at all important”. They then rated their most preferred suppliers’ ability to meet their needs as measured by these 19 statements on a scale of 1 (very well) to 6 (not at all well).

The technical quality of the cut flowers described the customer’s specifications for the product (Herlambang et al. 2006): the desired quality, desired maturity, freedom from mechanical damage, well-graded, appropriately packed, stores well, freedom from pest and disease infection, long vase life and good appearance (Blumthal and Gow 2006b; Botden and Terhürne 2006b).

Functional quality described the way a supplier went about delivering the product to the customer such as reliable delivery, regular and stable volume, meets my intermediate needs, offers a wide range of fresh flowers (Herlambang et al. 2006).

Service quality described the extra things a supplier was prepared to do to retain the customer’s business such as giving credit (deferred payment), advance notice of impending shortages in delivery or quality information on the product (Batt 2003a). Competitive price and relational variables described the experience of the people involved such as reputation, financial position, long-standing relationship, communication and attitude (Herlambang et al. 2006). Each of the questions was prefaced with ‘My most preferred supplier...’

Criteria choosing alternative suppliers	Sources
provides regular and stable volume	(Batt 2004c; Batt and Morooka 2003; Batt and Parining 2000; Concepcion et al. 2004; Herlambang et al. 2006; Lu 2007; Nawi and Batt 2011b; Simpson, Siguaw and White 2002)
has flowers in the desired quality	(Batt and Morooka 2003; Batt and Parining 2000; Concepcion et al. 2004; Herlambang et al. 2006; Lu 2007; Nawi and Batt 2011b; Simpson et al. 2002)
has flowers that are free of pests and disease	(Batt 2004c; Concepcion et al. 2004; Herlambang et al. 2006; Nawi and Batt 2011b)
has flowers that are free of physical injury	(Batt 2004c; Batt and Parining 2000; Concepcion et al. 2004; Herlambang et al. 2006; Nawi and Batt 2011b)
has flowers with the desired maturity	(Nawi and Batt 2011b)
has flowers that are well graded	(Batt 2004c; Batt and Parining 2000; Concepcion et al. 2004; Herlambang et al. 2006; Nawi and Batt 2011b)
has flowers that are appropriately packed	(Batt 2004c; Batt and Parining 2000; Concepcion et al. 2004; Dempsey 1978; Herlambang et al. 2006; Nawi and Batt 2011b; Simpson et al. 2002)
has flowers that are good-looking	(Batt 2004c; Concepcion et al. 2004; Herlambang et al. 2006; Nawi and Batt 2011b)
has flowers that store well	(Batt 2004c; Concepcion et al. 2004; Nawi and Batt 2011b)
is willing to meet my intermediate needs	(Batt 2004c; Batt and Morooka 2003; Concepcion et al. 2004; Dempsey 1978; Herlambang et al. 2006; Lehmann and O'Shaughnessy 1974; Nawi and Batt 2011b)
has ability to deliver flowers when required	(Batt 2004c; Cunningham and White 1973; Dempsey 1978; Herlambang et al. 2006; Lehmann and O'Shaughnessy 1974; Lu 2007; Nawi and Batt 2011b; Simpson et al. 2002)
has a good reputation	(Batt 2004c; Cunningham and White 1973; Dempsey 1978; Herlambang et al. 2006; Lehmann and O'Shaughnessy 1974)
provides flowers that are competitively priced	(Batt 2004c; Batt and Parining 2000; Concepcion et al. 2004; Cunningham and White 1973; Dempsey 1978; Herlambang et al. 2006; Lehmann and O'Shaughnessy 1974; Nawi and Batt 2011b; Simpson et al. 2002)
offers a wide range of fresh flowers	(Batt 2004c; Batt and Morooka 2003; Concepcion et al. 2004; Dempsey 1978; Herlambang et al. 2006)
is able to give credit (deferred payment)	(Batt and Morooka 2003; Herlambang et al. 2006; Lehmann and O'Shaughnessy 1974; Lu 2007; McMillan 1999; Nawi and Batt 2011b; Simpson et al. 2002)
we have a long-standing relationship	(Claro 2004; Cunningham and White 1973; Lehmann and O'Shaughnessy 1974; McMillan 1999; Simpson et al. 2002)
we have confidence together	(Claro 2004; Lehmann and O'Shaughnessy 1974)
we have a contract	(Cunningham and White 1973; Lu 2007)
provides quality information of flowers	(Barratt 2004; Claro 2004; McMillan 1999; Simpson et al. 2002)

Respondents were then asked what criteria they believed a buyer/supplier would use in choosing to purchase/sell cut flowers from/to them, using the same 19 statements for buyers and the same 13 statements for suppliers. Respondents rated these statements about their most preferred buyer/supplier on an importance scale of 1 (very important) to 6 (not at all important).

Using the measures developed by Batt (2003a), the nature of the relationship between upstream suppliers and downstream customers' were pursued. Respondents were first asked to describe the nature of their trading relationship with their most preferred trading partner. Like most studies in this field of research, this phase relied heavily on perceptual measures. From the literature and the results of the qualitative study, 42 prepared statements were developed and grouped under one of six key dimensions. The strength of these relational variables was measured on a six point scale, where 1 was "I strongly agree" and 6 was "I strongly disagree" (Batt and Miller 2004).

Satisfaction

Satisfaction was evaluated using measures of both economic and social satisfaction (Geyskens et al. 1999). Economic satisfaction related to quality and price satisfaction. Social satisfaction depended on the extent to which an actor's expectations had been met by an exchange partner (Batt 2004c; Batt et al. 2006b; Herlambang et al. 2006). Each of the questions was prefaced with 'My most preferred buyer/supplier...'

Criteria	Sources
is satisfied with the transaction	(Anderson, Chu and Weitz 1987; Batt 2003f; Bavorova and Hockmann 2008; Cadilhon et al. 2006a; Cadilhon et al. 2006b; de Magistris and Gracia 2008; Duffy and Fearne 2004; Fischer et al. 2008; Lembergen et al. 2009; Lu 2007; Schulze et al. 2008; Smith 1998; Zhang and Hu 2009)
is satisfied with the prices paid	(Birachi 2006; Blandon 2006; Cadilhon et al. 2006b; Claro 2004; Lu 2007; Melese 2010; Ramayah et al. 2008; Schulze et al. 2008; Spekman et al. 1998)
is paid in full at an agreed time	(Claro 2004; Lu 2007; Ramayah et al. 2008; Spekman et al. 1998)
is less risky than others	(Batt 2003e, 2004c; Batt et al. 2006a; Batt and Miller 2004; Cadilhon et al. 2006a; Kwon and Suh 2005; Lembergen et al. 2009; Smith 1998)
sells/purchases at a mutually agreed price	(Batt 2003f; Blandon 2006; Claro 2004; Darroch and Mushayanyama 2006; Lembergen et al. 2009; Lu 2007)
often meets my expectations	(Batt 2003e, 2004c; Batt et al. 2006a; Batt and Miller 2004; Batt and Parining 2000; Birachi 2006; Cadilhon et al. 2006a; Claro 2004; de Magistris and Gracia 2008; Lembergen et al. 2009; Lu 2007)
quickly responds to my concerns	(Batt 2003e, 2004c; Batt et al. 2006a; Batt and Miller 2004; Batt and Parining 2000; Birachi 2006; Cadilhon et al. 2006a; Lu 2007; Ramayah et al. 2008; Schulze et al. 2008)
has close personal relationship	(Batt 2003e, 2004c; Batt et al. 2006a; Batt and Parining 2000; Bavorova and Hockmann 2008; Cadilhon et al. 2006a; Cadilhon et al. 2006b; Claro 2004; Darroch and Mushayanyama 2006; de Magistris and Gracia 2008; Fischer et al. 2008; Handfield and Bechtel 2004; Lu 2007; Schulze et al. 2008; Smith 1998)

has the best offer relative to the alternatives	(Batt 2003e, 2004c; Batt and Miller 2004; Batt and Parining 2000; Duffy and Fearne 2004; Schulze et al. 2008; Smith 1998; Spekman et al. 1998; Wagner et al. 2011)
we transact all year round	(Birachi 2006; Cadilhon et al. 2006b; Claro 2004; Ramayah et al. 2008; Smith 1998)

Trust

The presence of trust implies that the actions or outcomes of the trading parties are acceptable and serve the interest of all (Batt 2003b; Batt 2003c; Batt 2004a; Batt and Parining 2002). Perceived levels of trust in their trading relationship were measured using nine prepared statements that endeavoured to capture the multi-dimensional nature of the construct (honesty, benevolence, competence and credibility). Most questions were prefaced with ‘My most preferred supplier...’

Criteria	Sources
I trust my most preferred buyer/supplier	(Batt 2003e, 2004c; Batt et al. 2006a; Batt and Miller 2004; Batt and Parining 2000; Bavorova and Hockmann 2008; Birachi 2006; Blandon 2006; Cadilhon et al. 2006a; Claro 2004; Darroch and Mushayanyama 2006; de Magistris and Gracia 2008; Fischer et al. 2008; Handfield and Bechtel 2004; Herlambang et al. 2006; Keizer 2006; Kwon and Suh 2005; Lembergen et al. 2009; Lu 2007; Ramayah et al. 2008; Schulze et al. 2008; Smith 1998; Spekman et al. 1998; Wagner et al. 2011; Zhang and Hu 2009)
good reputation	(Batt 2003e, 2004c; Birachi 2006; Cadilhon et al. 2006a; Darroch and Mushayanyama 2006; Handfield and Bechtel 2004; Lembergen et al. 2009; Lu 2007; Smith 1998; Spekman et al. 1998; Wagner et al. 2011; Zhang and Hu 2009)
always honest	(Barratt 2004; Batt 2003e, 2004c; Batt et al. 2006a; Batt and Miller 2004; Batt and Parining 2000; de Magistris and Gracia 2008; Duffy and Fearne 2004; Handfield and Bechtel 2004; Herlambang et al. 2006; Ramayah et al. 2008; Schulze et al. 2008; Smith 1998; Spekman et al. 1998; Wagner et al. 2011)
always considers best interests	(Batt 2003e, 2004c; Batt and Miller 2004; Batt and Parining 2000; Claro 2004; Herlambang et al. 2006; Lembergen et al. 2009; Ramayah et al. 2008; Schulze et al. 2008; Spekman et al. 1998; Wagner et al. 2011; Zhang and Hu 2009)
keeps promises	(Batt 2003e, 2004c; Batt et al. 2006a; Batt and Miller 2004; Batt and Parining 2000; Claro 2004; Kwon and Suh 2005; Lembergen et al. 2009; Lu 2007; Ramayah et al. 2008; Wagner et al. 2011; Zhang and Hu 2009)
believe in the information provided	(Batt 2003e, 2004c; Batt et al. 2006a; Batt and Miller 2004; Batt and Parining 2000; Handfield and Bechtel 2004; Kwon and Suh 2005; Lembergen et al. 2009; Ramayah et al. 2008; Schulze et al. 2008; Smith 1998; Wagner et al. 2011; Zhang and Hu 2009)
follows the agreement between us	(Claro 2004; Lembergen et al. 2009; Smith 1998)
I know my most preferred buyer/supplier very well	(Cadilhon et al. 2006a; Handfield and Bechtel 2004; Schulze et al. 2008; Smith 1998; Spekman et al. 1998)

I understand my most preferred buyer/supplier's problems	(Handfield and Bechtel 2004; Lembergen et al. 2009; Smith 1998; Zhang and Hu 2009)
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Commitment

Commitment is an enduring desire to maintain a valued relationship. Five statements were prepared to capture the temporal, attitudinal and instrumental aspects of the construct (Gundlach, Achrol and Mentzer 1995). Most questions were prefaced with ‘My most preferred supplier...’

Criteria	Sources
expect the relationship to continue in the future	(Anderson et al. 1987; Batt 2004c; Batt and Miller 2004; Bavorova and Hockmann 2008; Cadilhon et al. 2006a; Claro 2004; Darroch and Mushayanyama 2006; Duffy and Fearne 2004; Kwon and Suh 2005; Lu 2007; Ramayah et al. 2008; Schulze et al. 2008; Smith 1998; Spekman et al. 1998; Wagner et al. 2011; Zhang and Hu 2009)
it is more cost effective for me to rely on my preferred cut flower supplier rather than search for alternative suppliers	(Anderson et al. 1987; Batt 2003f; Cadilhon et al. 2006a; Duffy and Fearne 2004; Handfield and Bechtel 2004; Kwon and Suh 2005; Lu 2007; Schulze et al. 2008; Wagner et al. 2011)
makes efforts to help me	(Claro 2004; Duffy and Fearne 2004; Herlambang et al. 2006; Ramayah et al. 2008; Smith 1998; Spekman et al. 1998)
do not intend to change my buyer/supplier	(Batt and Miller 2004; Batt and Parining 2000; Claro 2004; Duffy and Fearne 2004; Kwon and Suh 2005; Lembergen et al. 2009; Ramayah et al. 2008; Schulze et al. 2008; Spekman et al. 1998; Wagner et al. 2011; Zhang and Hu 2009)
do not breach the agreement between us	(Cadilhon et al. 2006a; Matopoulos et al. 2007; Ramayah et al. 2008; Schulze et al. 2008)

Communication

Communication quality and behaviour depends on the frequency and the content/kind of information exchange (Fischer et al. 2008). Continuous and open communication between and among supply chain partners can help to reduce uncertainty (Darroch and Mushayanyama 2006; Kwon and Suh 2005) and improve coordination (Batt et al. 2011; Smith 1998). Most questions were prefaced with ‘My most preferred supplier...’

Criteria	Sources
well informed on price	(Barratt 2004; Batt et al. 2006a; Batt and Parining 2000; Bavorova and Hockmann 2008; Cadilhon et al. 2006a; Cadilhon et al. 2006b; Claro 2004; Herlambang et al. 2006; Lembergen et al. 2009; Ramayah et al. 2008; Schulze et al. 2008)
frequently asks how they might improve the level of product quality	(Batt et al. 2006a; Batt and Miller 2004; Batt and Parining 2000; Cadilhon et al. 2006a; Darroch and Mushayanyama 2006; Herlambang et al. 2006; Smith 1998; Spekman et al. 1998)
often discuss better ways to pack, grade, store and transport cut flowers	(Cadilhon et al. 2006a; Darroch and Mushayanyama 2006; Herlambang et al. 2006; Smith 1998)

frequent contact	(Barratt 2004; Batt and Miller 2004; Cadilhon et al. 2006a; Cadilhon et al. 2006b; Claro 2004; Darroch and Mushayanyama 2006; de Magistris and Gracia 2008; Duffy and Fearne 2004; Fischer et al. 2008; Handfield and Bechtel 2004; Lambert and Cooper 2000; Smith 1998; Spekman et al. 1998)
It is relatively easy to contact	(Batt and Miller 2004; Smith 1998)

Cooperation

Cooperation was evaluated using five measures adapted from the literature. Most questions were prefaced with ‘My most preferred supplier...’

Criteria	Sources
provides financial assistance	(Batt 2003e; Batt et al. 2006a; Claro 2004; Herlambang et al. 2006; Keizer 2006; Lembergen et al. 2009; Lu 2007; Smith 1998; Zhang and Hu 2009)
well informed on technical matters	(Barratt 2004; Batt et al. 2006a; Batt and Miller 2004; Batt and Parining 2000; Bavorova and Hockmann 2008; Birachi 2006; Cadilhon et al. 2006a; Cadilhon et al. 2006b; Claro 2004; Handfield and Bechtel 2004; Lambert and Cooper 2000; Lembergen et al. 2009; Schulze et al. 2008; Smith 1998; Spekman et al. 1998; Zhang and Hu 2009)
prefer to transact with local buyer/suppliers	(Batt et al. 2006a; de Magistris and Gracia 2008; Fischer et al. 2008)
willing to share the risk	(Ahmady et al. 2011; Barratt 2004; Batt 2003e; Batt et al. 2006a; Cadilhon et al. 2006b; Handfield and Bechtel 2004; Lambert and Cooper 2000; Lu 2007; Matopoulos et al. 2007; Spekman et al. 1998)
work together for mutual benefits	(Barratt 2004; Batt and Miller 2004; Claro 2004; Darroch and Mushayanyama 2006; Duffy and Fearne 2004; Ellram and Edis 1996; Handfield and Bechtel 2004; Lambert and Cooper 2000; Lembergen et al. 2009; Smith 1998; Spekman et al. 1998)
there is a good cooperation between my buyer/supplier and myself	(Batt 2004c; Batt et al. 2006a; Batt and Miller 2004; Duffy and Fearne 2004; Lu 2007; Schulze et al. 2008; Smith 1998)
cooperation based on the contract between my buyer/supplier and me	(Fearne et al. 2001; Lembergen et al. 2009; Lu 2007; Young and Hobbs 2002; Zhang and Hu 2009)

Power

Six measures were used to evaluate the extent to which the power in the relationship between respondents and their preferred trading partners were equitably shared. Most questions were prefaced with ‘My most preferred supplier...’

Criteria	Sources
has all the power	(Batt 2003e, 2004c; Batt et al. 2006a; Batt and Miller 2004; Batt and Parining 2000; Lambert and Cooper 2000; Lembergen et al. 2009)
controls all the information	(Batt 2003e, 2004c; Batt et al. 2006a; Batt and Miller 2004; Batt and Parining 2000; Lembergen et al. 2009)

will not take advantage of a strong bargaining position(not price pressure)	(Batt 2003e; Batt and Miller 2004; Claro 2004; de Magistris and Gracia 2008; Duffy and Fearne 2004; Lembergen et al. 2009; Ramayah et al. 2008; Smith 1998; Zhang and Hu 2009)
exerts a strong influence over us	(Batt 2003e; Lembergen et al. 2009)
I must to do what this buyer/supplier says	(Batt 2003e, 2004c; Batt and Parining 2000; Lembergen et al. 2009)
have a right to sell or not to sell the cut flowers	(Batt 2004c; Claro 2004; Duffy and Fearne 2004; Zhang and Hu 2009)

Section Three. Other buyers/suppliers

Each respondent was then asked an open-ended question to explore if they transacted with any other buyers/suppliers.

Did you sell/purchase your product to/from more than one buyer/supplier?

[Dichotomous response: Yes; No]

(Joseph et al. 2008; Sharma et al. 2007)

What type is the second buyer/supplier?

[Multiple choices: farmer, trader, wholesaler, company, retailer]

(Batt 2003f; Joseph et al. 2008; Nawi 2009)

Respondents were then to describe the nature of their relationship with their second most preferred buyers/suppliers (in the farmers/retailers survey) or to describe the nature of their transaction with other traders/wholesalers (in the trader/wholesaler surveys) (Batt 2003f; Joseph et al. 2008; Nawi 2009). For each of the second downstream/upstream buyers/suppliers with whom the respondents transacted, the ‘Most preferred buyer/supplier’ was replaced with ‘My second most preferred buyer/supplier’.

After finishing the relationship questions, retailers were asked to indicate who their major customers were, the percentage of their sales to different customers, the reasons customers purchased cut flowers and the percentage of sales made in various forms.

Who are your major customers?

What percentage of your sales are to consumers or to other business/office/ hotel/restaurants

For what reasons do people buy flowers?

What percentage of your sales are by stems, bunches, bouquets/baskets, wreaths, or others?

6.2.3 Pilot testing

The questionnaire was constructed originally in English, and then translated into the Vietnamese language by the researcher. An academic colleague at Da Lat University subsequently translated the questionnaire back into English to ensure functional equivalence. However, some technical terms like ‘cooperation’ and ‘collaboration’ are similar in the Vietnamese language and ‘power’ was retained because of the difficulty in finding

appropriate words in Vietnamese. Considerable time was spent translating the questions, so that they could be understood clearly by respondents.

Prior to undertaking the main survey, pre-testing was carried out to clarify the comprehension and appropriateness of the questionnaire in the Vietnamese context to increase the reliability and validity of the instrument (Birachi 2006). The pre-testing of the survey instrument provided valuable information that allowed the researcher to make alterations to the wording of some questions to assist in obtaining more valid responses.

The purpose of pretesting the questionnaire was to determine whether (i) the questions as they were worded would achieve the desired results; (ii) the questions had been placed in the correct order; (iii) the questions were understood by all respondents; (iv) if additional questions were needed or some questions could be eliminated; (v) if the instructions to interviewers were adequate; and (v) there were no unexpected interpretations of the questions (Crawford 1997; Hesselink et al. 2007).

A draft questionnaire was pre-tested with seven farmers and three traders and retailers who had participated in the exploratory survey in Da Lat. All of the respondents felt that the questionnaires were too long. They also found that some questions were not well defined; for example, the common Vietnamese name used for chrysanthemum varieties. The desired revisions were made based on the feedback received. However, little could be done to reduce the size of the questionnaire because the study sought to examine each of the alternative transactions for each respondent. Respondents only needed to answer those sections that related to their most preferred and their second most preferred trading partner. Other questions were found to be easy to understand, with an average time of one to two hours to complete.

6.2.4 Ethics approval

An accompanying cover page was available which provided an introduction to and the purpose of the research. The researcher's contact number was provided and assurances given as to the confidentiality of the interview data. The interview guide was reviewed by research supervisors and the Curtin University Human Ethics Committee [approved number RD-48-09] prior to being administered.

The following ethical considerations were taken into account in conducting this research: (i) ensuring informed consent; (ii) interviewee confidentiality; (iii) the use of information for intended purposes only; and (iv) integrity in reporting the findings (Musodza 2009). Potential participants were (1) clearly informed of the aims of the research at the time they were invited to participate; (2) made aware that they could withdraw from the study at any time; (3) guaranteed confidentiality; and (4) acknowledged for their cooperation and

contribution in a way that retained confidentiality unless otherwise requested. If they wished, participants could be informed of the study results.

6.3 Data analysis techniques

Multiple stages were involved in the quantitative analyses. Data from the interviews were checked for completeness. Responses to the open-ended questions were encoded and entered into a database using Microsoft Access 2010. Much of the quantitative data was stored in Microsoft Access before being transferred to SPSS for further analysis. The data files went through an extensive check for consistency, normality of the data and to identify any missing responses (Batt 2003f; Chamhuri and Batt 2011a). This resulted in the deletion of some respondents due to incomplete data or overstated or understated responses. After cleaning, the data was analysed using the Statistical Package for Social Sciences (SPSS) version 18.

In cut flower supply chains, as in most other horticultural supply chains, the shorter the chain is, the smaller the number of participants. These characteristics gave rise to the problem of being unable to collect enough data for multivariate data analysis tools to be employed for all groups. Significant differences between groups were tested using either independent samples t-test or analysis of variance (ANOVA).

Descriptive analysis

Descriptive statistics such as the frequency distribution, mean and standard deviation and box plot were calculated for each question depending on the nature of the question and the types of scales employed (nominal, ordinal, interval or ratio). A small number of outliers and several extreme responses were removed as they were considered not to be representative of the population. Some of missing data may result from the omission of respondents. The missing data were screened to be random scattered and within the range of less than five percent.

Cross-tabulations were used to identify difference in various aspects of buying and selling among the groups where non-metric scales were employed. The chi-square statistic was used to test the statistical significant of the observation.

The results provided a rich picture of the problems in cut flower supply chains, the role of participants along the chains, their behaviour and opportunities to either add value or to reduce cost. This level of analysis helped to identify problems, rather than to provide solutions.

Costs and prices related to cut flower marketing were extracted and the marketing margins calculated. Marketing costs took into account the costs of harvesting, grading, packing, transportation, loading and unloading and the postharvest losses. Primary data on costs and

margins required averaging on a per stem basis to provide a realistic and accurate picture of the cash flows within the supply chain.

Price margin were calculated from the difference between the selling price and the buying price and the various costs of sorting, grading, packaging and transporting produce. The price margin can be formulated as follows:

$$\text{Price margin} = \text{Selling prices} - (\text{Buying price} + \text{Marketing costs})$$

Paired samples t-test

Gap analysis sought to determine differences in an actor's perception of what their upstream suppliers and/or downstream customers required and their subsequent self-evaluation of their ability to fulfil those perceived needs. This methodology was purposefully used to exclude those respondents who did not transact with the target group (Nawi 2009).

Independent samples t-test

To examine any significant differences in the importance of the buyer or supplier selection criteria and the offer quality between participants in the Da Lat cut flower industry, the independent samples t-test was used. The t-test was also used to explore any differences in the nature of the relationships between each group of respondents and their preferred trading partners. However, not all relationships could be considered because of the lack of sufficient respondents.

One-way analysis of variance (ANOVA)

One-way Analysis of Variance (ANOVA) was used to compare the relationship constructs across all the different actors in a supply chain. A number of post hoc procedures such as Scheffe's test and Tukey's Honestly Significant Differences (HSD) were used to examine where these differences were significant across the groups (Nawi 2009; Sahara et al. 2011). Again, not all relationships could be considered because of the lack of sufficient respondents.

Non-parametric test

Non-parametric tests offer the advantage of not requiring particular assumptions concerning the distribution and the quality of the variables to be compared between groups. There are different tests for 2-groups and the k-groups case. The Mann-Whitney U test investigates whether two sampled populations are equivalent in location, while the Kolmogorov-Smirnov Z test for 2-independent-samples is a more general test that detects differences in both the locations and the shapes of the distribution. In cases of more than two groups, the Kruskal-Wallis H test, the non-parametric equivalent of ANOVA, can be used to test whether several independent samples are from the same population (Fischer 2004).

6.4 Research design and validity

Shadish, Cook and Campbell (2002) identified four threats related to: (i) internal validity; (ii) external validity; (iii) construct validity; and (iv) statistical validity. Many of the threats can be answered with appropriate sampling, research design, treatment and measurement, and forethought in preparing the research setting and measurement instruments. However, all research designs involve some compromise between validity and practicality, so no single design is free from all threats to validity (Watt and van den Berg 2002).

6.4.1 Internal validity

Internal validity refers to whether the manipulation of the independent variables or treatments actually caused the observed effects on the dependent variables – in other words, to what extent could the results be confounded by other variables (Malhotra and Birks 2007). Many threats affect internal validity such as subject variability, the size of subject population, time given for the sampling, history, attrition, maturation and instrument sensitivity (Watt and van den Berg 2002).

To reduce the threat of internal validity, in the first qualitative phase, in-depth personal interviews were conducted with a range of different actors in the Da Lat cut flower industry to identify the constructs believed to influence buyer-supplier selection and the nature of any long-term buyer-seller relationships. Furthermore, the questionnaire was pilot tested with a number of respondents at each level of the chain to ensure no major variables had been excluded. In the second more quantitative phase of data collection, the findings from the first phase were incorporated into the design of an improved questionnaire. No major variables were excluded.

Respondents were asked to participate in the study if they wished. In the process of data collection, constant supervision was conducted to improve the quality of the information obtained. Furthermore, to ensure the internal consistency of the data, in the qualitative stage, the responses of each participant were cross checked by asking other participants.

6.4.2 External validity

External validity refers to whether the results can be generalised (Malhotra and Birks 2007). It describes the degree to which the findings from this study can be generalized to other populations, subjects, treatment variables, and measurement variables (Shadish et al. 2002). However, control the effect of confounding variables, which increases internal validity, often simultaneously reduces external validity. Obtaining higher-quality information requires added costs and added effort (Watt and van den Berg 2002).

Important factors to affect the external validity are the representativeness of the sample, the reactive effect of the research environment, researcher or experimenter effects, data collection methodology and the effect of time (Watt and van den Berg 2002). External validity requires analyzing whether causal relationships hold over variations in population, settings, treatments, and outcomes. The external validity correspond to the way in which researchers select the sample and settings (Shadish et al. 2002).

To account for external validity, this study was narrowed down on multiple occasions. In the first instance, the geographical scope was narrowed to Da Lat and HCMC. The result should therefore be carefully generalised to other regions.

In the quantitative stage, the study faced a number of constraints including a limited budget, time, a lack of personnel and the non-availability of sufficient respondents that reduced the sample size. Similar constraints have also been reported by many researchers including Bartlett, Kotlik and Higgins (2001), Musodza (2009) and Saunders et al. (2007). Given the considerable variation observed in the latter parts of the supply chain, results need to be interpreted with an element of caution.

The survey experienced several problems common to this research environment. The most serious problem was to be accepted by the buyers who were always busy in the market. As with most other agriculture products, there was a seasonal variation in the quantity and quality of cut flowers available, the trading cost and the price. Furthermore, as prices and volumes were seldom recorded, the study relied on personal recall. Cultural and social factors may also have had some influence on the quality of the information provided.

In this case, the researcher was familiar with the culture in Da Lat, having been born and grown up there. Nevertheless, the researcher still had to develop a deep understanding of the farmers and intermediaries' perceptions, habits, viewpoints, attitudes and feelings due to different background and experiences.

6.4.3 Construct validity

Construct validity requires a theoretical argument and an assessment of the correspondence between samples and constructs. One can be wrong about construct labels while being right about external or statistical validity. Construct validity aims to equate research operations and external validity with sources of variation in causal relationships (Shadish et al. 2002).

Researchers necessarily use the language of constructs to frame their research questions and select their constructs in the samples and measures chosen (Shadish et al. 2002). From the results of qualitative research, the questionnaires were designed. Like most studies in this field of research, this study depended heavily on perceptual measures. Items for evaluating preferred trading partners and the nature of the long-term relationships between exchange

partners are well understood in the literature. However, there are inherent dangers in transferring these concepts and terms from the industrialised countries (in the west) to developing countries (in Asia) (Batt 2003f). Furthermore, some functional equivalence may be lost in the translation between two languages. Most items for the six key dimensions of satisfaction, trust, commitment, communication, cooperation and power, especially in the context of developing countries cannot be measured directly by existing measures, because they had been developed for other cultures and languages. In dealing with this problem, a large number of items were prepared to assure their reliability and face validity, and new items were developed or existing items adapted for their application in cut flower supply chains in Da Lat. The research instrument was pilot tested to ensure comprehension.

Training was given to the research assistants and undergraduate students to acquaint them with the questionnaires. In the process of data collection, constant supervision was conducted to improve the quality of the information obtained. Incomplete questionnaires were identified and where possible, improved by revisiting or telephoning the respondents.

6.4.4 Statistical validity

Statistical validity requires close examination of the statistical procedures and assumptions used (Shadish et al. 2002).

The relatively large number of farmers allowed statistical estimates to be derived with a high degree of confidence for the population of cut flower farmers as a whole. Of the 110 questionnaires distributed to market intermediaries, 82 useable questionnaires were completed and returned, yielding an 80% response rate. In the case of buyers (traders, wholesalers, companies and retailers), the sample sizes were smaller, corresponding with the smaller size of the business population. In the retail sector in particular, it is best to view the results as indicative cases, for the perceptions that particular respondents may hold may not necessarily coincide with those of retailers as a whole.

According to Ton, Vellema and de Wildt (2011), statistically significant differences between groups, or correlations between variables, are not sufficient for concluding on attribution of impact. The selection of both illustrative and contrasting cases within the sample and the exploration of their ‘logic’ with qualitative case-study methods, may help to understand the unravel logic behind observed changes in outcomes and help to clarify the conditional and contextual character of an intervention’s impact.

Economic and technical indicators were estimated and used primarily to illustrate the nature of the alternative cut flowers supply chains in Da Lat.

6.5 Review

This chapter summarises the research design and the methodology for the main quantitative study. In the absence of the information about the buyers, non-probability sampling with different approaches such as convenience sampling, judgmental sampling, snowball sampling and a snowball techniques was employed.

The constructs in this study were inherent from the previous studies and the results of the qualitative study. Where appropriate, a six-point Likert scale was selected to overcome the tendency of respondents in an Asian culture to select the neutral mid-point. Open-ended questions were developed to ensure that when respondents described the criteria they used in choosing preferred trading partners and in exploring any long-term relationships that may exist between trading partners, no major variables had been excluded.

Limitations in conducting quantitative research in developing countries were highlighted.

Chapter 7. Description of the survey respondents

7.1 Chapter outline

This chapter describes the respondents who participated in this study of cut flower supply chains in Da Lat, Viet Nam. The respondents in this study included farmers, traders, wholesalers, companies and retailers in Da Lat and HCMC. The roles that each participant played in the supply chain, a description of their relationships, and transactions with other participants in the supply chain are discussed.

7.2 Cut flower farmers

In this study, 135 chrysanthemum farmers, 71 rose farmers and four flower growing companies participated. Most of the surveyed farmers were independent farmers (90%), with contract farmers comprising just 10% (Table 7.1).

Table 7.1 Structure of surveyed farmers by flower type and contract

	Chrysanthemum		Rose		Total	
	N	Percentage	N	Percentage	N	Percentage
Contract farmers	13	9.7	8	11.3	1	33.3
Non-contract farmers	121	90.3	63	88.7	2	66.7
Total	134	100.0	71	100.0	4	100.0

Source: Field survey data, 2010

According to DAI (2010), there are some difference between the wards in Da Lat as to the type of cut flowers cultivated. While Wards 4 and 5 concentrate primarily on roses, Wards 8, 9, 11 and 12 mainly grow chrysanthemum and Wards 3 and 10 and Xuan Tho commune cultivate gladioli. In this study, the majority of the chrysanthemum farmers interviewed were from Trai Mat – Ward 11 (35%) and Thai Phien – Ward 12 (33%), whereas the majority of rose farmers interviewed were from An Son – Ward 4 (28%) and Van Thanh – Ward 5 (30%) (Table 7.2).

Table 7.2 Distribution of chrysanthemum farmers and rose farmers surveyed by ward

Growing ward	Chrysanthemum		Rose	
	N	Percentage	N	Percentage
Ward 4	5	3.7	28	39.4
Ward 5	2	1.5	30	42.3
Ward 7	13	9.6	5	7.0
Ward 8	26	19.3	7	9.9
Ward 9	21	15.6		
Ward 11	35	25.9	1	1.4
Ward 12	33	24.4		
Total	135	100.0	71	100.0

From the survey respondents, chrysanthemum production dominated the cut flower production area with 60 hectares (600 *sào*), while only 34 hectares (340 *sào*) were planted in roses. The area of chrysanthemum cultivated by each farmer ranged from as little as 0.5 *sào* to a maximum of 25 *sào*, with a mean of 4.5 *sào*. The cultivated area of roses ranged from one *sào* to ten *sào* with a mean of 4.8 *sào* (Table 7.3). The majority of the Da Lat cut flower farmers were smallholder farmers, with a mean production area of less than five *sào*.

Table 7.3 Mean and range of flower and other crop areas

	Areas (<i>sào</i>)							
	Chrysanthemum				Rose			
	Min	Max	Mean	Total	Min	Max	Mean	Total
Area of plastic house	0	15	3.6	487	0	10.0	3.7	265
Area of outdoor land	0	11	0.8	114	0	9.5	1.1	76
Area cropped one cut flower	0.5	12	3.5	456	1.0	10.0	3.7	260
Area cropped in others	0	7	0.3	47	0	7.0	1.0	70
Area cropped in vegetable	0	11	0.7	98	0	8.0	0.3	19
<i>Total areas</i>	0.5	25	4.5	601	1	10.0	4.8	341

Nearly 80% of the cut flower production area was covered by plastic greenhouses. Plastic greenhouses were the primary production method for rose farmers (96%) and for chrysanthemum (99%), with most flower farmers managing a protected cropping area of 3.6 *sào*.

Only 16% of chrysanthemum farmers produced one or more other cut flower crops and only 21% were involved in vegetable production, the other major crop activity in Da Lat. Currently, most rose farmers (54%) grew rose with one or more other cut flower crops, but 11% of them grew vegetables. Most chrysanthemum farmers practiced mono cropping, while most rose farmers cultivated many different cut flowers.

The farmers experience was measured by the number of years the farmer had been growing cut flowers. The experience of chrysanthemum farmers varied from as little as one year to as many as 25 years, with a mean of 7.1 years. For rose farmers, their experience ranged from two years to 20 years, with a mean of 8.5 years.

The average yield was between 10 rose stems per square metre per month and between 50 – 60 chrysanthemum stems per square metre per crop (one time every three months). Although the production techniques for spray chrysanthemums and standard chrysanthemums were different, the production of both was very similar (Table 7.4). However, farmers reported that spray chrysanthemums were easier to cultivate than standard chrysanthemums.

Table 7.4 Total cut flower production by farmers in 2010 (in stems)

Varieties	Yield	N	Min	Max	Mean
Standard chrysanthemum	50 – 60 stems/m ² /crop	75	30,000	1,800,000	438,760
Spray chrysanthemum	50 – 60 stems/m ² /crop	87	7,200	2,160,000	472,048
Rose	10 stems/m ² /month	71	90,000	1,260,000	416,079

When farmers were asked to estimate the size of their crops for next year, most farmers (55%) indicated that they expected their production to stay the same. Some 20% of farmers indicated that their production for the next season would decrease, while 17% expected their production to increase (Table 7.5). These rates were very similar for both rose and chrysanthemum farmers.

Table 7.5 Production expectation to change

Expectation	Chrysanthemum		Rose		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Increase	20	14.8	15	21.2	35	17.0
Decrease	30	22.2	28	39.4	58	28.2
Stay in the same	85	63.0	28	39.4	113	54.9
<i>Total</i>	<i>135</i>	<i>100.0</i>	<i>71</i>	<i>100.0</i>	<i>206</i>	<i>100.0</i>

The most frequently cited reason for those rose farmers who reported a decrease in production was an old/degenerated crop (25%) (Table 7.6).

Table 7.6 Reasons for production to change

Reasons	Chrysanthemum		Rose		Total	
	N	%	N	%	N	%
Improve production area	15	19.5	1	1.3	16	10.3
Stable production area	9	11.7	5	6.3	14	9.0
Degeneration land/Infectious land	9	11.7	1	1.3	10	6.4
Good cultivation technique	8	10.4	7	8.9	15	9.6
Irregular climate	7	9.1	13	16.5	20	12.8
Varieties/Substandard varieties	5	6.5	1	1.3	6	3.8
Good and higher invest	4	5.2	2	2.5	6	3.8
Good varieties	4	5.2	0	0.0	4	2.6
Grow the other crops	3	3.9	0	0.0	3	1.9
Pest and disease situation	2	2.6	4	5.1	6	3.8
High dead ratio/premature dead	2	2.6	0	0.0	2	1.3
Older/Degenerate crop	1	1.3	20	25.3	21	13.5
High production yield	1	1.3	12	15.2	13	8.3
Urbanization/Farm for rent	1	1.3	8	10.1	9	5.8
High input cost	1	1.3	1	1.3	2	1.3
Bad cultivation technique	1	1.3	3	3.8	4	2.6
Oversupply	1	1.3	0	0.0	1	0.6
Loss when growing cut flowers	1	1.3	0	0.0	1	0.6
Higher and stable income	1	1.3	0	0.0	1	0.6
New land	1	1.3	0	0.0	1	0.6
Quality of fertilizers and chemicals	0	0.0	1	1.3	1	0.6
<i>Total</i>	<i>77</i>	<i>100.0</i>	<i>79</i>	<i>100.0</i>	<i>156</i>	<i>100.0</i>

For a perennial crop such as rose, the productivity per unit area will decline with time as the plant is progressively weakened by the accumulation of pests and diseases. However, in the case of chrysanthemum, repeated cultivation had led to a greater incidence of soil borne diseases, with 12% of farmers describing degenerated land or infected land as the main reason for productivity to decline. An irregular climate was reported by 9% of chrysanthemum farmers and 16% of rose farmers to have adversely impacted on cut flower production. Other frequently cited reasons leading to a decline in production included greater urbanization (11%), substandard varieties (8%), poor cultivation techniques (5%) and the decision to grow other crops (4%).

For those farmers reporting an increase in production, the three most frequently cited responses were a greater production area (21%), improved cultivation techniques (19%) and a higher yield (16%). A greater investment (8%) and the utilization of new and improved varieties (5%) were also cited as having contributed to an anticipated increase in production.

7.3 Market intermediaries

Of the 110 questionnaires distributed to market intermediaries, 82 useable questionnaires were completed and returned, yielding an 80% response rate.

Most of market intermediaries (95%) were traders and wholesalers; the remaining 5% were companies. Wholesalers were located in the urban areas such as Da Lat, HCMC and the other cities. While 60% of the traders specialized in cut flowers, almost 88% of the wholesalers only handled cut flowers (Table 7.7).

Table 7.7 Type and structure of surveyed market intermediaries

Market intermediary		N	%
Da Lat traders	Trader	39	95.1
	Company	2	4.9
	<i>Total</i>	41	100.0
	Specialized in cut flower selling/buying	25	61
	Engaged in other activities	16	39
	<i>Total</i>	41	100.0
	Sales constant all year round	18	43.9
	Sales not constant all year round	23	56.1
	<i>Total</i>	41	100.0
HCMC wholesalers	Wholesaler	39	95.1
	Company - Cooperative	2	4.9
	<i>Total</i>	41	100.0
	Specialized in cut flower selling/buying	36	87.8
	Engaged in other activities	5	12.2
	<i>Total</i>	41	100.0
	Sales constant all year round	17	41.5
	Sales not constant all year round	24	58.5
	<i>Total</i>	41	100.0

For those traders for whom cut flower marketing was not their only occupation, most were involved in other activities related to the cut flower industry such as producers (55%), nursery operators (9%) or service providers (5%), such as constructing plastic greenhouses and supplying fertilisers and chemicals. Similarly, for the majority of wholesalers who indicated that they were involved in other activities, most of these were related to the cut flower industry (Table 7.8).

Table 7.8 Other activities of market intermediaries

Other activities	Traders		Wholesalers	
	N = 16	%	N = 5	%
Being cut flower farmer (purchase more to sell to her close buyer)/Being coffee farmer/being cut flower production company	12	54.5		
Produce cuttings or varieties/Provide cuttings	2	9.1	1	16.7
Do cut flower service jobs (constructing plastic greenhouses, fertilizer and chemical supplier)	1	4.5		
Agriculture activities				
Other cut flower services: event serve, training flower arrangement worker/Sell cut flower vase			2	33.3
Driver agent			2	33.3
Provide materials for cut flower industry			1	16.7
Import new varieties	1	4.5		
Vegetable trader	1	4.5		
Grocery store	1	4.5		
Karaoke	1	4.5		
Construction worker	1	4.5		
Project advisor	1	4.5		
Salmon farming	1	4.5		
<i>Total</i>	22	100.0	6	100.0

The majority of the market intermediaries participating in the study were small businesses, with 61% of traders and 42% of wholesalers having sales of less than 10,000 stems per day. Unlike the large wholesalers and traders who purchased diversified cut flower varieties, small traders usually bought either rose or chrysanthemum. For rose traders, the scale of trading ranged from less than 1,000 stems to 20,000 stems per day. One Da Lat trader turned over nearly 70,000 rose stems per day. For chrysanthemum traders, the scale of buying and selling ranged from 800 to 21,000 stems per day. The daily average quantity of flowers handled by a wholesaler ranged from 1,000 to 40,000 rose stems and from 700 to 35,000 chrysanthemum stems (Table 7.9).

Table 7.9 Quantity of cut flowers purchased per day all year round (stems)

Cut flowers	Traders (stems/day)			Wholesalers (stems/day)		
	Min	Max	Mean	Min	Max	Mean
Rose	1,000	70,000	13,000	1,000	40,000	11,286
Standard	800	21,000	6,058	700	35,000	6,829
Spray	800	16,000	4,917	800	30,000	7,353
Others	250	10,000	3,083	700	7,000	2,318
<i>Total</i>	1,500	70,000	11,069	2,950	67,500	18,658

In recent years, more buyers had entered the cut flower market. Most traders (92%) indicated that they had been buying and selling cut flowers for less than ten years, with the average having been in business for around seven years, whereas 66% of the wholesalers had been in the industry for less than ten years (Table 7.10).

Table 7.10 Years involved in trading cut flowers

		Traders	Wholesalers
Year of trading	Min	1	2
	Max	20	35
	Mean	6.9	10.8
Cumulative percentage	1 – 5 years	44.7	24.4
	6 – 10 years	92.1	65.9
	10 – 20 years	100	90.2
	Over 20 years		100

More than 53% of market intermediaries expected their business to sell more flowers next year. Some 40% believed their sales would be constant and only 6% expected their sales to decrease. Most traders participating in this survey (61%) expected their sales to increase, while only 46% of wholesalers expected their sales to increase (Table 7.11).

Table 7.11 Expectations of change to sales in next year for traders and wholesalers

Expectation	Traders		Wholesalers		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Increase	25	61.0	19	46.3	44	53.7
Decrease	3	7.3	2	4.9	5	6.1
Stay in the same	13	31.7	20	48.8	33	40.2
<i>Total</i>	<i>41</i>	<i>100.0</i>	<i>41</i>	<i>100.0</i>	<i>82</i>	<i>100.0</i>

Table 7.12 Reasons for sales to change

Reasons	Traders		Wholesalers		Total	
	N = 28	%	N = 21	%	N = 49	%
Increase the number of consumers	10	20.0	8	26.7	18	22.5
Higher demand	9	18.0	9	30.0	18	22.5
Extend of cut flower market/Cut flower business is more and more developed	8	16.0			8	10.0
Improve production area	6	12.0	1	3.3	7	8.8
More suppliers	4	8.0	5	16.7	9	11.3
Have higher income	3	6.0			3	3.8
Depend on climate	2	4.0			2	2.5
High requirement of the high-ranking cut flower	2	4.0			2	2.5
Increase cultivation techniques	1	2.0			1	1.3
A lot of festival days	1	2.0			1	1.3
Limit consumption, more production	1	2.0	1	3.3	2	2.5
Reputation/Position of the shop			2	6.7	2	2.5
Need meet the demand of buyers			2	6.7	2	2.5
Cut flowers become an essential product			1	3.3	1	1.3
More competitive			1	3.3	1	1.3
Climate benefits	1	2.0			1	1.3
Company strong oriented to export market	1	2.0			1	1.3
Applied new techniques to treat cut flower	1	2.0			1	1.3
<i>Total</i>	<i>50</i>	<i>100.0</i>	<i>30</i>	<i>100.0</i>	<i>80</i>	<i>100.0</i>

Among the reasons cited by market intermediaries for their sales to increase were the increasing numbers of consumers (23%), the higher demand (23%), and a more developed (mature) flower market (10%). An increase in the number of suppliers (11%), an increase in the production area (9%), and higher income (4%) were other reasons leading market intermediaries to conclude that their business was more likely to increase (Table 7.12).

Some market intermediaries also mentioned the reasons for the sales to decrease. One of these was the limit of consumption but the more production (3%) and an increase of competition (1%).

Peak sales were reported on the Lunar special days, during Tet (New Year) and the festival days (Table 7.13). It is evident that the rainy season (from June to November) corresponded with the low sales period. During this time, all actors in the supply chain should expect lower prices.

Table 7.13 Peak sales periods throughout the year for market intermediaries

Periods	Traders		Wholesalers	
	N = 23	%	N= 24	%
Lunar special days 30, 1, 14, 15 every lunar month/Lunar special days in lunar April, July, October	12	30.8	14	36.8
Tet season	10	25.6	14	36.8
Festival days (8/3, 20/11, 20/10, 14/2...)	8	20.5	7	18.4
September to Tet/Oct-Dec	4	10.3	1	2.6
Beginning months of the years/Feb-March	2	5.1		
July to January			1	2.6
October to April	1	2.6	1	2.6
Only purchase selective chrysanthemum in lunar days to meet buyer's demand	1	2.6		
Holiday season (May to July) :a lot of tourists/ Tourist season: Feb-March; Nov-Dec	1	2.6		
<i>Total</i>	<i>39</i>	<i>100.0</i>	<i>38</i>	<i>100.0</i>

7.4 Retailers

A total of 96 retailers were interviewed on their premises between October – December 2009 (Table 7.14). Four types of retailers were identified prior to undertaking the survey. Retail flower shops accounted for about 27% of the transactions, flower stalls for 41%, while fruit and flower stalls accounted for 7% and hawkers for 25% of retail sales (Table 7.14).

Table 7.14 Type of retail shops for cut flowers

Types of shop	N	%
Flower shop	26	27.1
Flower stall	39	40.6
Fruit and flower stall	7	7.3
Hawker	24	25.0
<i>Total</i>	<i>96</i>	<i>100</i>

Apart from selling cut flowers, some 10% of Da Lat retailers and some 20% of HCMC retailers engaged in other activities. Whereas most retailers in Da Lat indicated cut flower sales was constant all year round, a greater number of retailers in HCMC indicated that sales were highly variable (Table 7.15).

Table 7.15 Type and structure of survey retailers

	Da Lat retailers		HCMC retailers	
	N	%	N	%
Specialized in cut flower selling/buying	37	88.1	41	75.9
Engaged in other activities	5	11.9	13	24.1
<i>Total</i>	<i>42</i>	<i>100</i>	<i>54</i>	<i>100</i>
Sales constant all year round	23	54.8	23	42.6
Sales not constant all year round	19	45.2	31	57.4
<i>Total</i>	<i>42</i>	<i>100</i>	<i>54</i>	<i>100</i>

Those retailers that were engaged in other activities were mostly associated with the provision of other cut flower services or the selling of fruit or other goods (Table 7.16).

Table 7.16 Other activities of cut flower retailers

Other activities	Da Lat retailers		HCMC retailers	
	N = 5	%	N = 13	%
Only sell cut flower in lunar days and Tet	2	25.0		
Do cut flower service jobs (constructing plastic greenhouses, fertilizer and chemical supplier)/Agriculture activities			1	6.7
Sell vegetables or fruits in normal days	1	12.5	3	20.0
Other cut flower services: event serve, training flower arrangement worker/Sell cut flower vase	1	12.5	3	20.0
Driver agent	1	12.5		
Grocery store			3	20.0
Tailor	1	12.5		
Hired labour	1	12.5		
Sell decorative lamp	1	12.5		
Sell vintage wine			2	13.3
Coffee shop			2	13.3
Blanket shop			1	6.7
<i>Total</i>	<i>8</i>	<i>100</i>	<i>15</i>	<i>100</i>

Retailers were more cautious when reporting the volume of cut flowers transacted. Some 41% of the retailers in Da Lat reported that they sold less than 1,000 rose stems per day, whereas most HCMC retailers (90%) reported that they sold less than 1,000 rose stems per day (Table 7.17).

Table 7.17 Percentage of the retailers sold based on the daily quantity of cut flower basis

	Stems	Cumulative percentage	
		Da Lat retailers	HCMC retailers
Rose	Under 1,000	70.3	95.6
	1,000 – 2,000	94.6	
	2,000 – 3,000	97.3	100
	3,000 – 4,000	100	
	4,000 – 5,000		
	Over 5,000		
Standard chrysanthemum	Under 1,000	64.3	94.1
	1,000 – 2,000	96.4	
	2,000 – 3,000	100	
	3,000 – 4,000		
	4,000 – 5,000		
	Over 5,000		100
Spray chrysanthemum	Under 1,000	86.7	100
	1,000 – 2,000	100	
	2,000 – 3,000		
	3,000 – 4,000		
	4,000 – 5,000		
	Over 5,000		
Total	Under 1,000	40.1	81.1
	1,000 – 2,000	61.9	94.3
	2,000 – 3,000	73.8	98.1
	3,000 – 4,000	81.0	
	4,000 – 5,000	83.3	
	Over 5,000	100	100

On the basis of the figures provided, the volume handled by retailers varied from 150 stems to 8,500 stems, with a mean of 1,400 stems per day. The smaller retailers/hawkers sold a lower volume of very specific cut flowers, while the larger shops sold a greater volume and a wider range of cut flower varieties. While small retailers in Da Lat tended to purchase from the farmer or traders, small retailers in HCMC tended to purchase from wholesale markets in the early morning and to transport the cut flowers by themselves. Most of the larger retailers in both Da Lat and HCMC tended to order from the trader or wholesalers who would then deliver the flowers to their trading place (Table 7.18).

Table 7.18 Quantity of cut flowers purchased per day all year round (stems)

Cut flowers	Da Lat retailers			HCMC retailers		
	Min	Max	Mean	Min	Max	Mean
Rose	50	4,000	924	50	3,000	430
Standard chrysanthemum	100	3,000	1,038	50	6,400	531
Spray chrysanthemum	50	2,000	719	40	1,000	212
Others	50	1,250	430	50	600	197
Total	150	8,550	2,265	50	6,400	694

The majority of the Da Lat retailers interviewed (71%) and HCMC retailers (87%) had been operating for less than 10 years. However, some Da Lat retailers had been in operation for

more than thirty years (Table 7.19). On average, Da Lat retailers had been involved in trading cut flowers longer than their peers in HCMC.

Table 7.19 Years involved in trading cut flowers

		Da Lat retailers	HCMC retailers
Years involved in trading	Min	1	1
	Max	45	25
	Mean	11.3	6.5
Cumulative percentage	1 – 5 years	46.3	63.5
	6 – 10 years	70.7	86.5
	10 – 20 years	85.4	96.2
	Over 20 years	100	100

Despite the increasing competition in the retail sector, 46% of retailers expected their sales to stay the same next year. While 43% expected their sales to increase, only 11% expected sales to decrease. While only 7% of Da Lat retailers expected their sales to decrease, 13% of HCMC retailers expected their sales to decrease (Table 7.20).

Table 7.20 Expectations of change to sales next year for retailers

Expectation	Da Lat retailers		HCMC retailers		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Increase	19	45.2	22	41.5	41	43.2
Decrease	3	7.1	7	13.2	10	10.5
Stay in the same	20	47.6	24	45.3	44	46.3
<i>Total</i>	<i>42</i>	<i>100</i>	<i>53</i>	<i>100</i>	<i>95</i>	<i>100</i>

Among the reasons cited by retailers for an increase in sales was the higher demand (27%), an increase in the number of suppliers (11%), an increase in the number of consumers (9%) and an increase in the number of tourists (6%) (Table 7.21). A more competitive market (9%), limited consumption but more production (5%), consumer saturation (5%), and few buyers (3%) were the main reasons given for sales to remain constant or to decline.

For retailers, sales increased for Tet and for the festival days (Table 7.22). Although the peak of sales was stated in numerous different ways, the majority of sales were conducted towards the end of the year and the beginning of each year. Cut flower consumption also increased for the lunar special days and during the tourist season.

Table 7.21 Reasons for sales to change

Reasons	Da Lat retailers		HCMC retailers		Total	
	N = 22	%	N = 29	%	N = 51	%
Higher demand	15	27.3	15	27.3	30	27.3
More suppliers	8	14.5	4	7.3	12	10.9
More competitive	7	12.7	3	5.5	10	9.1
Increase of tourist number	6	10.9			6	5.5
Increase the number of consumers	4	7.3	6	10.9	10	9.1
High requirement of the high-ranking cut flower	4	7.3	2	3.6	6	5.5
A lot of festival days	2	3.6	2	3.6	4	3.6
Increase cultivation technique	2	3.6			2	1.8
Limit consumption, more production	1	1.8	4	7.3	5	4.5
Reputation of the shop	1	1.8	4	7.3	5	4.5
Extend of cut flower market	1	1.8	1	1.8	2	1.8
High price, few consumer			3	5.5	3	2.7
Depend on supplying quantity of cut flower	1	1.8	1	1.8	2	1.8
Depend on climate/market demand			2	3.6	2	1.8
Have more experience			2	1.8	2	1.8
Improve production area	1	1.8			1	0.9
Meet the demand of buyer	1	1.8			1	0.9
Cut flower become an essential product			1	1.8	1	0.9
Climate benefits	1	1.8			1	0.9
Have many new varieties			1	1.8	1	0.9
Unstable sales place due to occupying roadside			1	1.8	1	0.9
Short preservation			1	1.8	1	0.9
Developed artificial flower			1	1.8	1	0.9
Low competitive			1	1.8	1	0.9
<i>Total</i>	<i>55</i>	<i>100</i>	<i>55</i>	<i>100</i>	<i>110</i>	<i>100</i>

Table 7.22 Peak sales throughout the year for retailers

Period	Da Lat retailers		HCMC retailers	
	N = 19	%	N= 31	%
Festival days (8/3, 20/11, 20/10, 14/2...)	12	31.6	14	23.3
Tet season	12	31.6	19	31.7
Lunar special days 30, 1, 14, 15 every lunar month/Lunar special days in lunar April, July, October	5	13.2	6	10.0
Holiday season (May to July) : a lot of tourists/ Tourist season: Feb-March; Nov-Dec	4	10.5	1	1.7
July to January	2	5.3	6	10.0
Beginning months of the years/Feb-March	1	2.6	12	20
September to Tet/Oct-Dec	1	2.6	1	1.7
October to April	1	2.6	1	1.7
<i>Total</i>	<i>38</i>	<i>100</i>	<i>60</i>	<i>100</i>

The major customers of cut flowers in this study were local consumers (24%) and local businesses who purchased cut flowers for the office (20%). Tourists constituted around 12% of the sales, with restaurants (4%) and hotels (4%) consuming a very small proportion (Table 7.23).

Table 7.23 Major customers of retailers

Customers	Da Lat retailers		HCMC retailers		Total	
	N = 40	%	N = 51	%	N = 91	%
Local consumer/Family/Housewife	24	28.9	16	18.6	40	23.7
Local office and business/company	19	22.9	14	16.3	33	19.5
All people	11	13.3	7	8.1	18	10.7
Tourist/Non-residents/Visiting consumer	10	12.0	11	12.8	21	12.4
Restaurant	6	7.2	1	1.2	7	4.1
Hotel	5	6.0	1	1.2	6	3.6
Preferred consumer/Friend	3	3.6	3	3.5	6	3.6
Coffee shop	2	2.4			2	1.2
Students	1	1.2	14	16.3	15	8.9
The other retailers	1	1.2	2	2.3	3	1.8
Cut flower services/Delivery to consumer's place	1	1.2	1	1.2	2	1.2
Officer/Worker			8	7.0	8	4.8
People who have average and moderate income			4	4.7	4	2.4
Church/Pagoda			2	2.3	2	1.2
Sales on internet/telephone			1	1.2	1	0.6
Teachers			1	1.2	1	0.6
<i>Total</i>	83	100	86	100	169	100

Table 7.24 Reasons for consumers to purchase cut flowers

Factors	Da Lat retailers		HCMC retailers		Total	
	N = 31	%	N = 49	%	N = 80	%
Arrangement/Decoration	17	22.7	23	19.2	40	20.5
Make ceremonial offerings/Offering in special lunar days	11	14.7	12	10.0	23	11.8
Festival days	6	8.0	15	12.5	21	10.8
Good quality/Fresh	6	8.0	5	4.2	11	5.6
Competitive price	5	6.7	4	3.3	9	4.6
Presents/Gifts	5	6.7	26	21.7	31	15.9
Wedding/Birthday	4	5.3	11	9.2	15	7.7
Open a business	4	5.3	1	0.8	5	2.6
Meetings/Conference	4	5.3	1	0.8	5	2.6
Funeral	3	4.0	4	3.3	7	3.6
Tet	3	4.0	5	4.2	8	4.1
Long vase life	2	2.7			2	1.0
Higher demand of consumer/Consumer's taste	2	2.7	4	3.3	6	3.1
Close geography/Convenience	2	2.7	3	2.5	5	2.6
Good services/Delivery to consumer's place	1	1.3			1	0.5
Delivery on time			1	0.8	1	0.5
Retail			1	0.8	1	0.5
Party			1	0.8	1	0.5
Congratulation			1	0.8	1	0.5
Open mind and friendly seller			2	1.7	2	1.0
<i>Total</i>	75	100	120	100	195	100

For retailers, five key reasons to purchase were identified: decorations (21%), gifts (16%), ceremonial offerings (12%), festival purchases (11%) and personal use such as weddings and birthdays (8%) (Table 7.24). Differences in the reasons to purchase cut flowers were

observed between Da Lat and HCMC. While a higher percentage of cut flowers were purchased for decoration and ceremonial offerings in Da Lat, a higher percentage of cut flowers were purchased for gifts and decorations in HCMC.

Furthermore, there was a growing awareness of the need for quality among the retailers. Consumers expected fresh cut flowers with a long vase life that were competitively priced and increasingly, florists were expected to offer convenient service including delivery.

Cut flowers were sold by the stem, in bunches, as bouquets, in baskets or in wreaths. In this study, most sales were made by stems and bunches, while bouquets and baskets and wreaths accounted for 27% and 16%, respectively (Table 7.25).

Table 7.25 Classification of cut flower sold

Retailers		The percentage of cut flower sold in			
		Stems	Bunches	Bouquets/Baskets	Wreaths
Da Lat retailers	N	26	36	28	26
	Min	10	10	1	1
	Max	98	100	80	40
	Mean	34.2	50.6	23.3	13.1
HCMC retailers	N	44	44	42	23
	Min	5	5	5	4
	Max	100	100	70	90
	Mean	36.7	41.4	29.3	18.9
<i>Total</i>	N	70	81	70	49
	Min	5	5	1	1
	Max	100	100	80	90
	Mean	35.8	46.2	26.9	15.8

Da Lat retailers tended to sell more cut flowers in bunches, whereas HCMC retailers sold most of their cut flowers in smaller bunches or arranged in baskets. HCMC retailers tend to add more value to the cut flowers they had purchased.

7.5 Review

In the upstream cut flower supply chains, a large number of smallholder farmers confronted difficult conditions that may impair operational efficiency. Cut flower supply chains are fragmented and involve a large number of small players. The small scale of players leads to difficulties for management in achieving any economies of scale.

The area of each farm was generally small, ranging from less than two *sào* to over ten *sào* of plastic house. The activities that Da Lat cut flower farmers undertook were determined primarily by the household size and the number of employees, which ranged from two permanent people to two or three casual staff. Most farmers had over seven years experience in cut flower production.

Rose farmers produced ten rose stems per square metre per month, whereas chrysanthemum farmers produced between 50 – 60 chrysanthemum stems per square metre per crop. Most farmers did not have any contract with their buyers.

For some time, traders have played an important role in purchasing cut flowers in Da Lat. Many Da Lat traders had assumed the role of wholesalers, due to the large volume of flowers that they purchased and the diversity of varieties. Many traders were originally farmers who had more capital, more access to information and more contact with wholesalers. Their business often started by collecting cut flowers from neighbouring farmers who had insufficient volumes to meet the needs of their anticipated buyers. Most traders had been in business for less than ten years. Traders either specialised in just one kind of cut flower such as rose or chrysanthemum (34%), or traded many different kinds of flowers (66%). Most of them purchased and sold cut flowers all year round, however some chrysanthemum traders reported that they only operated during special lunar days. Most chrysanthemum traders purchased the flowers as a standing crop and performed all of the harvest and postharvest activities on the farm, whereas rose traders had their own buying agents. Da Lat traders purchased their cut flowers from most wards in Da Lat. The volume of roses purchased by traders varied from one to 20 *thiên* per day (one *thiên* is equal to 1,000 cut rose stems) while for chrysanthemums, it ranged from 5 – 15 cartons per day.

Wholesalers were normally located in HCMC and other provinces. This study focused on wholesalers in HCMC. Three wholesale flower markets: Ho Thi Ky, Hau Giang and Dam Sen operated between 9 pm and 5 am. Buying and selling occurred in temporary stalls along Le Hong Phong street (Ho Thi Ky market) and in permanent stalls in Dam Sen and Hau Giang markets. HCMC wholesalers purchased cut flowers from many sources including Da Lat, Ha Noi, Thailand and local farmers (orchids), but primarily from Da Lat. Most wholesalers traded in cut flowers all year round. In the wholesale market, the range of cut flowers available for sale was considerable. The quantity of cut flowers purchased each day varied from one to 40 *thiên* per day for rose and from 1 –100 cartons of chrysanthemum. While the data failed to differentiate between those cut flowers that had been imported into the HCMC wholesale markets, it was apparent that the majority of cut flowers available had been sourced from Da Lat.

In 2009, according to the Da Lat Flower Association, there were 15 companies producing and trading cut flowers. With the exception of some companies, which were 100% owned by foreign investors, the other companies were primarily Vietnamese. Most respondents indicated that they did not produce roses and chrysanthemums, some focused on lily and orchids. While two companies refused to participate in the survey, only five companies completed the questionnaires. Of these, one company that produced and traded cut flowers

and one company that produced chrysanthemums were characterised as producers, and one company in Da Lat and two companies in HCMC that traded cut flowers were reclassified as market intermediaries. Due to the small number of companies participating in the study, those trading as producers were excluded because the size of their operation was many times greater than most smallholder farmers, while those companies which operated as trading companies were combined with the wholesalers.

The majority of cut flower retailers operated small individual flower stalls, flower shops, fruit and flower stalls or were hawkers. The modern retailers, including supermarkets, did not sell cut flowers in Viet Nam. Most retailers interviewed had been selling cut flowers for over ten years. Some retailers had contracts with other businesses to supply cut flowers all year round. The number of cut flowers sold per day depended on the type of flowers, the scale and the season. On average, some 10 to 100 bunches of roses and 80 to 400 bunches of chrysanthemum were sold per day.

Cut flowers were provided mainly to the domestic market. Cut flowers were primarily consumed during festivals, special events, birthdays, lunar special days, weddings and funerals. Peak sales were reported on the Lunar special days, during Tet (New Year) and the festival days. It is evident that the rainy season (from June to November) corresponded with the low sales period and poor prices.

Chapter 8. Activity and transaction costs in Da Lat cut flower supply chains

8.1 Chapter outline

This chapter describes the activities that take place in the Da Lat cut flower supply chains and outlines the activities, marketing costs, losses, wastage and price margins between actors along the value chain. The objective is to identify those points in the value chain where inefficiencies arise and where actors are able to capture the greatest value.

8.2 Alternative supply chains in Da Lat

According to the exploratory results, there were eight different supply chains in Da Lat. Farmers sold their cut flowers to four main buyers including traders, wholesalers, retailers and companies. Since a very small amount of cut flowers were sold by farmers direct to consumers this chain was not examined in this study.

Farmers sold the majority of cut flowers (68% of the reported volume) to preferred wholesalers in HCMC, with 21% going to traders and 9% to companies (Table 8.1).

Table 8.1 Farmer-buyer chains in Da Lat cut flower industry

Supply chain components	Most preferred buyers		Second preferred buyers	
	N	%	N	%
Farmer – trader chain	44	21.4	27	57.4
Farmer – wholesaler chain	140	68.0	1	2.2
Farmer – retailer chain	4	1.9	18	38.3
Farmer – company chain	18	8.7		
Farmers – consumer chain			1	2.1
<i>Total</i>	<i>206</i>	<i>100.0</i>	<i>47</i>	<i>100.0</i>

Retailers purchased less than 2% of the total volume of cut flowers directly from farmers.

When choosing to sell cut flowers to other buyers (second preferred buyers), most farmers sold to traders (57%), retailers (38%) and to a limited extent, direct to consumers (2%).

Most chrysanthemum farmers preferred to transact with HCMC wholesalers because of their ability to purchase a large volume of flowers. Those farmers with surplus flowers or only a small volume of flowers sold mainly to traders and directly to retailers.

Similarly, those rose farmers who had only a small volume (less than one carton of 1000 rose stems) sold to traders, while those who had a larger volume, often sold direct to wholesalers (Table 8.2).

Table 8.2 Farmer-buyer chains by flower type

Preferred buyers	Chrysanthemum		Rose		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Traders	15	11.1	29	40.8	44	21.4
Wholesalers	103	76.3	37	52.1	140	68.0
Companies	14	10.4	4	5.6	18	8.7
Retailers	3	2.2	1	1.4	4	1.9
<i>Total</i>	<i>135</i>	<i>100.0</i>	<i>71</i>	<i>100.0</i>	<i>206</i>	<i>100.0</i>

Local traders purchased cut flowers from the farmers and transported them to wholesalers and retailers in HCMC and Da Lat. Wholesalers purchased from farmers, local traders and companies, and then on-sold the flowers to other wholesalers and retailers. Most market intermediaries (100% of traders and 81% of wholesalers) reported handling cut flowers directly from farmers. Approximately 17% of wholesalers purchased cut flowers from traders and just 2% from companies (Table 8.3).

Table 8.3 Supplier-market intermediary chains in Da Lat cut flower industry

Market intermediaries	Supply chain components	N	%
Traders	Direct farmer – trader	41	100.0
	<i>Total</i>	<i>41</i>	<i>100.0</i>
Wholesalers	Farmers – wholesaler	33	80.5
	Trader – wholesaler	7	17.1
	Company – wholesaler	1	2.4
	<i>Total</i>	<i>41</i>	<i>100.0</i>

The Da Lat traders had four main outlets for their products. The wholesale markets accommodated approximately 81%. From the wholesale markets in HCMC, the flowers found their way to smaller wholesale markets in the southern provinces and retail markets in HCMC. Da Lat traders also supplied cut flowers to wholesale markets in other provinces such as Ha Noi and Central Viet Nam. Some 15% of the flowers sold by traders were to retailers in the local market in Da Lat and other districts in Lam Dong province. Less than 2% were sold direct to consumers (Table 8.4).

Table 8.4 Market intermediary-buyer chains in Da Lat cut flower industry

Market intermediaries	Supply chain components	N	%
Traders	Trader – wholesaler	33	80.5
	Trader – company	1	2.4
	Trader – retailer	6	14.6
	Trader – customers	1	2.4
	<i>Total</i>	<i>41</i>	<i>100.0</i>
Wholesalers	Wholesaler – wholesaler	13	34.2
	Wholesaler – retailer	25	65.8
	<i>Total</i>	<i>41</i>	<i>100.0</i>

In the three HCMC wholesale markets, there were approximately 430 businesses selling cut flowers. In the Dam Sen wholesale market, there were about 150 stalls (*vựa*), in the Ho Thi Ky wholesale market around 200 stalls, and in the Hau Giang wholesale market about 80 stalls. Retailers accounted for around 66% of the wholesalers' transactions, while wholesalers in other provinces were responsible for 34% of the transactions.

Retailers purchased cut flowers from different suppliers to secure the quantity and the range of cut flowers they required. Traders were their preferred choice, with 64% of Da Lat retailers purchasing cut flowers from traders, whereas 33% chose to purchase from farmers and only 2% purchased from companies. Conversely, the majority of HCMC retailers (70%) purchased from wholesalers, with some 13% purchasing cut flowers from companies. On those occasions when HCMC retailers needed a special colour or a particular variety, they transacted with a small number of farmers (7%), traders (6%) and other retailers (4%). Retailers purchased cut flowers from farmers when they had a relationship with farmers and when they were able to extract a higher return (Table 8.5).

Table 8.5 Supplier-retailer chains in Da Lat cut flower industry

Retailers	Supply chain components	Most preferred buyers		Second preferred buyers	
		N	%	N	%
Da Lat retailers	Direct farmer – retailer	14	33.3	15	68.2
	Trader – retailer	27	64.3	4	18.2
	Company – retailer	1	2.4	2	9.1
	Retailer – retailer			1	4.5
	<i>Total</i>	42	100.0	22	100.0
HCMC retailers	Direct farmer – retailer	4	7.4		
	Trader – retailer	3	5.6		
	Wholesaler – retailer	38	70.4	3	50.0
	Company – retailer	7	13.0		
	Retailer – retailer	2	3.7	3	50.0
	<i>Total</i>	54	100.0	6	100.0

Farmers were the second most preferred suppliers for 68% of Da Lat retailers, whereas the second most preferred suppliers for the HCMC retailers were other wholesalers. Some retailers purchased the flowers they required from other retailers when they could not source the flowers they required from wholesalers or where they required only a small volume.

When asked who their customers were, most retailers reported that their buyers were local customers and businesses (over 50%), and visitors from other provinces (over 22%). Restaurants and hotels collectively consumed around 18% of the cut flowers sold by Da Lat retailers, but only 4% of the cut flowers sold by HCMC retailers. However, HCMC retailers had a wide range of customers with students (28%), public officers (18%), churches and pagodas (2%) and on-line customers (2%) (Table 8.6).

Table 8.6 The major customers of the Da Lat cut flower retailers

Customers	Da Lat retailers		HCMC retailers		Total	
	N	%	N	%	N	%
Local customers/Family/Housewife	24	60.0	16	31.4	40	44.0
Local office and business/company	19	47.5	14	27.5	33	36.3
All people	11	27.5	7	13.7	18	19.8
Tourist/Non-residents/Visiting customers	10	25.0	11	21.6	21	23.1
Restaurant	6	15.0	1	2.0	7	7.7
Hotel	5	12.5	1	2.0	6	6.6
Preferred customers/Friend	3	7.5	3	5.9	6	6.6
Coffee shop	2	5.0	0	0.0	2	2.2
Students	1	2.5	14	27.5	15	16.5
The other retailers	1	2.5	2	3.9	3	3.3
Cut flower services/Delivery to customers' premises	1	2.5	1	2.0	1	1.1
Officer/Worker			9	17.6	9	9.9
People who have average and moderate income			4	7.8	4	4.4
Church/Pagoda			2	3.9	2	2.2
Sales on internet/telephone			1	2.0	1	1.1
<i>Total</i>	<i>40</i>		<i>51</i>		<i>91</i>	

There were differences in the type of packing for rose and chrysanthemum when farmers sold to different buyers. For farmers selling to traders, roses were packed very simply: the flowers were rolled in a sheet of cardboard and tied with string, while chrysanthemums were not packed at all because traders tended to purchase a standing crop. For those selling to wholesalers, cut flowers were bunched and packed to the requirements as specified by the customer (Table 8.7).

Table 8.7 Cut flower packaging by target market

Cut flowers	Sold to	Types of packing	Number of stems
Rose	Traders	Tying with string	Depend on cut flowers available
	Wholesaler	Carton cover flower head	50 stems/bunch
		Pack in carton	15 – 30 bunches/carton
	Da Lat retailer	Tying with string	100 stems/bunch
	HCMC retailer	Carton cover flower head	50 stems/bunch
	Customers	Plastic pack	1, 3, 5, 7, 9 or 10 stems/bunch
		Arrange in basket/wreath	Pack for ordering
Chrysanthemum	Trader	No packing	
	Wholesaler	Simple plastic/sleeves	10 standard stems/bunch 4 – 6 spray stems/bunch
		Carton	60 – 90 standard bunches/carton 100 – 180 spray bunches/carton
	Retailer	Simple plastic/sleeves	10 standard stems/bunch 4 – 6 spray stems/bunch

While roses were bunched with 50 stems per bunch and wrapped with cardboard, the number of chrysanthemum stems per bunch varied between standards (10 stems/bunch) and sprays (5 stems/bunch). In the wholesale market, chrysanthemums were typically packed in cartons containing either 60 – 90 standard chrysanthemum bunches, or 100 – 180 spray

chrysanthemum bunches, or 15 – 30 rose bunches per carton. Retailers were likely to use the same package for chrysanthemums, but roses were frequently repacked depending on the customer's order. The number of rose stems per bunch ranged from one to five in HCMC, whereas it was ten in Da Lat.

8.3 Farmers' activities and transaction cost analysis

In examining the farmers' activities when selling to different market intermediaries, for those farmers selling to wholesalers, it was necessary to undertake all the activities associated with harvesting, grading, bunching, packing and delivering, whereas those selling to the traders and companies simply delivered the cut flowers immediately after harvest.

In Da Lat, all rose farmers harvested flowers. After harvest, most farmers selling to companies (50%) and direct to retailers (100%) indicated that they graded the flowers. However, only 11% of farmers indicated that they graded roses before selling to traders and only 20% of farmers graded roses before selling to wholesalers. Most rose farmers bunched, packed and delivered roses to wholesalers, companies and retailers. Conversely, only 7% of rose farmers selling to traders delivered their flowers to the traders' premises. For most rose farmers (93%), traders collected their flowers from the farm gate (Table 8.8).

Table 8.8 Farmer activities when selling to each most preferred buyer

Cut flowers	Activities	Traders		Wholesalers		Companies		Retailers		
		N	%	N	%	N	%	N	%	
Rose	Harvest	Yes	29	100.0	37	100.0	4	100.0	1	100.0
	Grade	Yes	3	10.7	11	27.9	2	50.0	1	100.0
	Grade	No	25	89.3	26	70.3	2	50.0	0	0.0
	Bunch	Yes	8	27.6	37	100.0	3	75.0	1	100.0
	Bunch	No	21	72.4	0	0	1	25.0	0	0.0
	Pack	Yes	0	0.0	35	97.2	3	75.0	1	100.0
	Pack	No	29	100.0	1	2.8	1	25.0	0	0.0
	Delivery	Yes	2	6.9	37	100.0	3	75.0	1	100.0
	Delivery	No	27	93.1	0	0.0	1	25.0	0	0.0
Chrysanthemum	Harvest	Yes	2	13.3	103	100.0	14	100.0	1	33.3
	Harvest	No	13	86.7	0	0.0	0	0.0	2	66.7
	Grade	Yes	0	0.0	31	30.4	1	7.1	0	0.0
	Grade	No	15	100.0	71	69.6	13	92.9	3	100.0
	Bunch	Yes	2	13.3	102	100.0	1	7.1	1	33.3
	Bunch	No	13	86.7	0	0.0	13	92.9	2	66.7
	Pack	Yes	2	13.3	99	98.0	1	7.1	0	0.0
	Pack	No	13	86.7	2	2.0	13	92.9	2	100.0
Delivery	Yes	0	0.0	91	88.3	14	100.0	1	33.3	
	No	15	100.0	12	11.7	0	0.0	2	66.7	

Similarly, those chrysanthemum farmers who sold to traders and companies seldom performed all postharvest activities. On the other hand, those selling chrysanthemums to wholesalers and retailers had to harvest, bunch, pack and deliver the flowers. Only 30% of chrysanthemum farmers indicated that they graded chrysanthemum before selling to wholesalers.

Not unexpectedly, few rose or chrysanthemum farmers in Da Lat reported that they regularly used any chemicals or cold storage to prolong the shelf life of the cut flowers.

The costs and marketing margins were calculated on a per stem basis. Farmers traditionally do not keep records of their costs, inputs or sales. Likewise, they had no record of wastage. The average marketing cost per stem at the farm level was approximately VND 75, VND 85 and VND 100 for rose, standard and spray chrysanthemums, respectively (Table 8.9).

Table 8.9 Farmers' average marketing costs for 2010 (VND/stem)

Activities	Cut flowers	Cost (VND/stem)			
		N	Min	Max	Mean
Harvest	Rose	71	9.4	60.0	26.9
	Standard chrysanthemum	70	10.0	60.0	23.5
	Spray chrysanthemum	76	10.0	41.7	21.9
Grade, bunch and pack	Rose	42	12.5	73.3	41.8
	Standard chrysanthemum	56	21.3	73.6	45.3
	Spray chrysanthemum	64	13.3	98.9	63.4
Transport	Rose	43	11.1	100.0	39.9
	Chrysanthemum	106	17.1	112.0	53.7
Marketing costs	Rose	71	9.4	148.3	74.6
	Standard chrysanthemum	114	28.1	200.6	85.4
	Spray chrysanthemum	114	17.1	219.3	100.1

The average cost per stem to harvest was approximately VND 27, VND 24 and VND 22 for rose, standard chrysanthemums and spray chrysanthemums, respectively. The harvesting costs ranged from VND 9.4 to 60 per stem depending on the skill of the operator, the number of stems harvested, the number of people participating in the harvest, the harvesting hours, the distance between plants, the farm size and the geographic location of the farm. However, there was little difference in the mean harvest cost between rose and chrysanthemum.

However, there were large differences in the grading, bunching and packing cost of cut flowers at the farm level (Table 8.10). From the information gathered during the survey, this depended on the quality of the cut flowers to be graded, the number of stems per bunch, the packing materials and the price of materials. For farmers, poor quality flowers took more time to grade and pack. Differences in the number of stems in a bunch of standard and spray chrysanthemum also contributed to a difference in the packing material costs between different flower types.

Table 8.10 Farmer's average packing cost for cut flower when selling to the most preferred buyer (VND/stem)

Cut flowers	Packing costs		N	Min	Max	Mean
Rose	Materials	Carton	23	1,000	6,000	3,935
		Nylon strings	20	21,000	28,000	23,800
		Cartons	28	14,000	20,000	17,107
		Cost per stem	35	10.00	50.51	28.8
	Labour		40	7.50	45.00	16.6
	Packing cost		40	12.50	73.33	41.8
Chrysanthemum	Materials	Sleeves	89	30,000	40,000	35,534
		Rubber bands	79	60,000	80,000	70,886
		Cartons	76	12,000	20,000	16,592
	Packing cost	Standard	53	21.25	73.57	45.3
		Spray	64	13.33	98.89	63.4

The packing material cost varied from farmer to farmer. For rose, the price of a carton varied from VND 1,000 to 6,000 depending on the number of stems per carton. For chrysanthemum, the cost of the sleeves varied from VND 30,000 to 40,000 and rubber bands from VND 60,000 to 80,000. After grading and bunching, the cut flowers were packed. The carton cost varied from VND 12,000 to 20,000. Some farmers reported that wholesalers provided cartons for them, while others purchased cartons themselves. The packing material cost was also different between standard (VND 45) and spray chrysanthemum (VND 63) due to the different number of stems in each sleeve and the different number of bunches in each carton. Generally, the average cost of grading, bunching and packing per flower stem ranged from VND 42 to 63.

For chrysanthemums, farmers executed all activities such as harvesting, grading and bunching at the same time of harvest, whereas, for roses, grading and bunching was undertaken independently of the harvest operation.

The costs for transport were also high and variable depending on who farmers chose to sell their cut flowers. The means of transport to buyers differed from either motorbikes or small trucks (to local traders, companies and retailers) to large trucks (to HCMC wholesalers). Farmers generally used non-refrigerated trucks because it was less expensive. Some farmers reported that airfreight cost VND 12,000 per kg and a cold truck cost VND 6,000 per kg to Ha Noi, while the transport cost per carton varied from VND 40,000 (to HCMC) to 80,000 (to the Central provinces). The number of cut flower stems per carton also varied from farmer to farmer and from species to species. In part, this explained the huge difference in transport costs per stem.

For chrysanthemums, most farmers who sold to traders indicated that the traders were generally responsible for the costs of transport. However, the average transport cost per stem for roses varied between VND 11 to 25 per stem. The average transport cost per stem varied

from VND 17 to 112 for chrysanthemum farmers when selling to other buyers, while the average transport cost per stem for roses varied from VND 24 to 100 when selling to wholesalers, from VND 33 to 44 when selling to companies and was VND 53 when selling to retailers (Table 8.11).

Table 8.11 Farmers' average transport cost to the most preferred buyers for 2010 (VND/stem)

Cut flowers	Buyers	Cost (VND/stem)			
		N	Min	Max	Mean
Rose	Trader	2	11.1	25.0	18.1
	Wholesaler	37	23.5	100.0	40.8
	Company	3	33.3	44.4	39.3
	Retailer	1	53.3	53.3	53.3
	<i>Transport cost</i>	43	11.1	100.0	39.9
Chrysanthemum	Wholesaler	91	32.5	112.0	56.4
	Company	14	17.1	90.0	37.9
	Retailer	1	28.6	28.6	28.6
	<i>Transport cost</i>	106	17.1	112.0	53.7

It was valuable to look at the farmers' marketing costs when selling to different market intermediaries (Table 8.12).

Table 8.12 Farmer average marketing cost when selling to each most preferred buyer (VND/stem)

Cut flowers	Activities	Average costs			
		Traders	Wholesalers	Companies	Retailers
Rose	Harvest	31.5	22.9	31.5	20.0
	Pack		42.8	35.3	25.0
	Delivery	18.1	40.8	39.3	53.3
	<i>Marketing cost</i>	32.8	105.4	87.4	98.3
Standard chrysanthemum	Harvest		23.0	26.8	
	Pack		45.2		
	Delivery		56.4	37.9	28.6
	<i>Marketing cost</i>		90.3	57.0	28.6
Spray chrysanthemum	Harvest		21.8	21.8	30.0
	Pack		63.2		63.8
	Delivery		56.4	37.9	28.6
	<i>Marketing cost</i>		107.1	50.9	122.4

Farmers selling to traders had lower costs of marketing and lower postharvest losses because the traders effectively purchased everything, without grading. Poulish et al. (2003) and Batt et al. (2006b) both indicated that many farmers preferred to sell their produce ungraded to traders and collector agents because it enabled them to sell everything to one buyer, rather than to seek alternative buyers for that proportion of the harvest that failed to meet the focal buyers specifications.

For those chrysanthemum farmers selling to traders (who undertook all the activities associated with harvesting, grading, bunching, packing and delivery), the marketing costs were minimal. For roses, the marketing costs incurred in selling to traders were just VND 33 per stem.

The marketing costs were the highest for those farmers who sold to wholesalers: VND 105 for roses, VND 90 for standard chrysanthemums and VND 107 for spray chrysanthemums. The difference in the marketing costs between standard chrysanthemums and spray chrysanthemums was due to the higher cost of packing sprays.

The delivery cost was different between roses and chrysanthemum depending on the number of stems in the carton. Those selling roses to companies spent more (VND 87) than those selling chrysanthemums (VND 57 for standards and VND 51 for sprays). Only a few farmers reported the marketing costs when selling to a retailer. These costs were inordinately high, VND 98 for rose and VND 122 for spray chrysanthemums.

Some losses and waste occurred after harvesting, grading and transporting cut flowers at the farm level. It was found that postharvest losses for roses were lower than for chrysanthemums. The total losses were about 6% for rose, while it was nearly 15% for chrysanthemum. Farmers indicated that most postharvest losses occurred in the harvest and grading stage, with relatively few losses occurring during delivery. While average losses at harvest were 5% for roses, for chrysanthemums it was around 13%. At grading, some 4% of the roses harvested were discarded and around 13% of the chrysanthemums harvested failed to reach the market (Table 8.13).

Table 8.13 The average percentage of losses and waste at farm level

Activities	Cut flowers	N	Min	Max	Mean
Harvest	Rose	69	0	20	4.8
	Standard chrysanthemum	66	1	30	13.6
	Spray chrysanthemum	75	2	30	13.2
Grade	Rose	10	1	10	4.1
	Standard chrysanthemum	21	5	20	12.6
	Spray chrysanthemum	25	2	30	13.6
Delivery	Rose	27	0	8	1.9
	Chrysanthemum	78	0	10	1.5
Postharvest losses	Rose	69	0	20	5.5
	Chrysanthemum	114	2	40	14.7

Most chrysanthemum farmers (80%) reported harvest losses of from 10 – 20%. Losses when harvesting chrysanthemum were due to short stems (53%), poor quality (48%), pest and disease problems (45%), the failure to meet customers' specifications (21%) and dead plants (15%) (Table 8.14).

Table 8.14 Factors contributing to harvest losses at the farm level

Factors	Chrysanthemum		Rose	
	N	%	N	%
Short stems/Small plants	58	52.7	39	55.7
Poor quality	53	48.2	27	38.6
Pest and disease damage	49	44.5	46	65.7
Failure to meet the customer requirement	23	20.9	10	14.3
Dead ratio/Premature dead	16	14.5	0	0.0
Physical damage	14	12.7	14	20.0
Over maturity/Immaturity	10	9.1	3	4.3
Poor varieties	8	7.3	0	0.0
Not reject/Bunch all grade	5	4.5	4	5.7
Not uniformity cut flower	4	3.6	0	0.0
Climate damage	3	2.7	3	4.3
Poor cultivation technique	3	2.7	0	0.0
Degenerated land	2	1.8	0	0.0
Waste ratio	0	0.0	1	1.4
Depend on season the waste ratio can be from 2 to 15%	0	0.0	4	5.7
<i>Total</i>	<i>110</i>		<i>70</i>	

Other losses at harvest were attributed to poor harvest techniques (13%), poor varieties (7%), poor cultivation techniques (3%) and degenerated land (2%).

For most rose farmers (77%), the harvesting losses were lower than 5%. The main reasons for harvesting losses were pests and diseases (66%), short stems (56%), poor quality (39%), physical damage (20%) and the failure to meet customers' requirements (14%). Some rose farmers indicated that the rate of rejection varied with the season from a low of just 2% in the dry season to as much as 15% in the rainy season when the incidence of disease was greater.

Only 11 rose farmers and 35 chrysanthemum farmers reported any losses after grading (Table 8.15).

Table 8.15 Factors contributing to postharvest losses at the farmer level

Factors	Chrysanthemum		Rose	
	N	%	N	%
Short stems/Small plant	22	62.9	3	27.3
Poor quality	17	48.6	3	27.3
Failure to meet the customer requirement	9	25.7	2	18.2
Pest and disease damage	10	28.6		0.0
Physical damage	5	14.3	1	9.1
Over maturity/Immaturity	5	14.3	1	9.1
Rejected ratio		0.0	1	9.1
Dead ratio/Premature dead	2	5.7		0.0
Not reject/Bunch all grade		0.0	1	9.1
Poor varieties	2	5.7		0.0
<i>Total</i>	<i>35</i>		<i>11</i>	

Short stems (63% for chrysanthemums and 27% for roses), poor quality such as curved stems, unusual buds and bad leaves (49% for chrysanthemums and 27% for roses), and failure to meet customers' requirements (26% for chrysanthemum and 18% for rose) were cited as the main reasons for rejection. While chrysanthemum farmers attributed 29% of the postharvest losses to pest and disease damage, physical damage (14%) and inappropriate maturity (14%), the incidence was much lower for rose farmers who reported just 9% for each factor.

At the farm level, most reject chrysanthemum (81%) were still sold, whereas most rose farmers (63%) simply discarded reject roses after harvesting. Chrysanthemum farmers sold the reject chrysanthemum to the local market (54%) or sold them in mixed bunches to wholesalers, hawkers and customers (30%), or disposed of them at a cheaper price (44%). Some 10% of the reject roses were sold to local markets, in bunches to hawkers, or sold at a cheap price (Table 8.16).

Table 8.16 Waste cut flower uses after grading at farm level

Factors	Chrysanthemum		Rose	
	N	%	N	%
Sell in local markets/flower shops	37	53.6	2	10.5
Sell at cheap price/Sell at reduce price	30	43.5	3	15.8
Bunch and sell to wholesalers/hawker/customers	21	30.4	3	15.8
Discard	13	18.8	12	63.2
Use short stems to arrangement cut flower/funeral wreaths/Offerings outside	1	1.4		0.0
<i>Total</i>	<i>69</i>		<i>19</i>	

Losses during transport were reported to be lower than 2% at the farm level. The main reasons for the losses were physical damage (36% for chrysanthemum and 33% for rose), over packing (12% for chrysanthemum and 9% for rose), transport (12% for chrysanthemum and 30% for rose), careless loading/unloading (12% for chrysanthemum and 21% for rose), and the long distance (11% for chrysanthemum and 15% for rose).

Adverse weather conditions were indicated as a reason causing losses during transport by normal trucks. However, some 33% of chrysanthemum farmers did not know how much was lost after transport and some 24% of rose farmers believed that the losses during transport were negligible (Table 8.17).

Table 8.17 Losses in transport at the farm level

Factors	Chrysanthemum		Rose	
	N	%	N	%
Physical damage/broken and bruising	24	36.9	11	33.3
Do not know/Do not know the ratio	22	33.8	4	12.1
Carelessly packing/Over packing	8	12.3	3	9.1
Careless load and unload	8	12.3	7	21.2
Transport too much/Overloading	8	12.3	10	30.3
Long distance/Long time transport	7	10.8	5	15.2
Rarely happened/Insignificant ratio	6	9.2	8	24.2
Weather	4	6.2	1	3.0
Transport problems	4	6.2	2	6.1
<i>Total</i>	<i>65</i>		<i>33</i>	

8.4 Market intermediaries' activities and transaction cost analysis

Of the 41 local traders interviewed, 66% were responsible for harvesting the chrysanthemums they had purchased, whereas no wholesalers were responsible for performing this activity (Table 8.18).

Table 8.18 Activities market intermediaries engaged in after purchasing from preferred suppliers

Activities	Da Lat traders				HCMC wholesalers			
	Yes		No		Yes		No	
	N	%	N	%	N	%	N	%
Harvest	27	65.9	14	34.1	0	0.0	41	100.0
Treatment	2	5.0	38	95.0	1	2.7	36	97.3
Grade	37	90.2	4	9.8	25	65.8	13	34.2
Bunch	39	95.1	2	4.9	15	39.5	23	60.5
Pack	35	89.7	4	10.3	21	56.7	16	43.2
Store	0	0.0	41	100.0	2	5.3	36	94.7
Provide carton	2	4.9	39	95.1	26	63.4	15	36.6
Delivery from suppliers	26	63.4	15	36.6	1	2.4	40	97.6
Delivery to buyers	33	80.5	8	19.5	4	10.5	34	89.5
Load from suppliers	3	7.3	38	92.7	39	97.5	1	2.5
Load to buyers	2	4.9	39	95.1	11	28.9	27	71.1

Grading appeared to be more important for most market intermediaries, with around 90% of traders and 66% of wholesalers re-grading the cut flowers they had purchased. Chrysanthemum traders harvested, graded and bunched in one operation, while rose traders transported ungraded flowers to their premises for subsequent grading, bunching and packing.

After grading, traders were responsible for transporting the cut flowers to other provinces. Like farmers, all traders transported the flowers from the farm to wholesale markets in non-refrigerated trucks. While traders were responsible for the transport to buyers, wholesalers were responsible for loading and unloading the trucks. In HCMC, those wholesalers who sold to other wholesalers in other provinces repacked the flowers that had arrived from Da

Lat, packing two cartons into just one. Only two market intermediaries reported that they treated or stored cut flowers prior to selling.

The average marketing costs of handling cut flowers at each market intermediary level were calculated. For local traders, deals were made in cash either on the spot for roses or up to one half of the negotiated price for chrysanthemums was paid upon having reached an agreement, with the remaining half being paid after harvest.

Rose traders had to pay transport costs from the farm to their premises and then to HCMC, while chrysanthemum traders bore the costs of labour to harvest, grade, bunch, pack and the cost of packing materials and transport. Transport charges were the most expensive item (over 50% of the marketing costs), especially for local traders, who had to bear the cost of local transport as well as to HCMC. These costs ranged from VND 3 to 67 per stem for local transport from the farm to the traders' premises. The transport costs were high for long distance (from VND 11 – 125 per stem) because traders also delivered cut flowers to the Central provinces, the Southern provinces and even to Ha Noi, where the transport cost per carton was much higher than to HCMC. The average estimated marketing cost incurred by local traders was VND 118 per stem, with a lower marketing cost for traders who sold to retailers (VND 40) and a higher cost for those traders who delivered to wholesalers (VND 243) (Table 8.19).

Table 8.19 Market intermediaries' average marketing costs for 2010 (VND/stem)

Activities	Da Lat traders				HCMC wholesalers			
	N	Min	Max	Mean	N	Min	Max	Mean
Harvest	26	10	71.4	26.8				
Packing materials	34	4.6	82.2	45.1	27	1.6	117.8	25.6
Labour	18	4.3	22.5	14.6	21	0.6	52.2	13.0
Provide carton	3	4.6	28.4	12.8	26	1.3	46.9	21.4
Delivery from suppliers	15	2.9	66.7	19.6				
Delivery to buyers	33	11.4	125.0	56.3	3	0.0	0.7	0.3
Load from suppliers	2	5.9	5.9	5.9	39	7.2	27.2	12.7
Load to buyers	2	7.4	11.0	9.2	11	1.7	13.3	5.0
<i>Marketing costs</i>	<i>39</i>	<i>40.00</i>	<i>243.2</i>	<i>117.9</i>	<i>37</i>	<i>9.0</i>	<i>150.0</i>	<i>39.8</i>

Looking at the marketing costs of market intermediaries when they sold cut flowers to each downstream buyer, not unexpectedly, traders incurred the highest cost when selling to wholesalers (VND 120 per stem) and retailers (VND 107 per stem) (Table 8.20). The marketing costs at the trader level included the cost of harvesting, grading and packing, and transporting cut flowers to their downstream buyers. While the cost of transport was highest when selling to wholesalers (VND 66), the cost of packing was highest when selling to Da Lat retailers (VND 55). For traders who delivered cut flowers to other cities, the transport cost was even higher.

Table 8.20 Market intermediary average marketing cost when selling to each most preferred buyer (VND/stem)

Market intermediaries	Downstream buyers	Average costs			
		Harvest	Pack	Delivery	Marketing cost
Trader	Wholesaler	26.5	48.1	66.0	120.7
	Da Lat retailer	26.0	55.2	42.2	107.8
Wholesaler	Other wholesaler		24.5	15.1	39.7
	HCMC retailer		35.1	13.7	39.8

At the wholesale level, the average marketing cost was about VND 40 per stem when selling to either other wholesalers or retailers. In this study, 68% of the cut flowers harvested were sold direct to wholesalers. Deals were also made in cash, but payment was generally made two weeks after delivery. The lack of any formal system for grading required the wholesalers to make a visual inspection of the flowers upon arrival in the wholesale market. This involved not only labour costs, but also time, slowing down the speed at which transactions could be completed. Furthermore, wholesalers' costs included packing materials, repacking costs, loading and unloading, losses during transport and the cost of transport to their customers (where necessary). Again, these cost varied from wholesaler to wholesaler. Some wholesalers reported that they provided cartons for their suppliers, whereas others did not.

In examining the marketing costs that market intermediaries incurred when purchasing cut flowers from each upstream supplier, there was a difference in the marketing costs between traders and wholesalers due to their different activities. Traders incurred the highest marketing cost (VND 118 per stem) (Table 8.21).

Table 8.21 Market intermediary average marketing cost when purchasing from each most preferred suppliers (VND/stem)

Market intermediaries	Upstream suppliers	Average costs			
		Harvest	Pack	Delivery	Marketing cost
Trader	Farmers	26.8	49.7	56.3	117.9
Wholesaler	Farmers		31.3	5.2	38.7
	Trader		21.4	5.3	36.0

The cost to harvest cut flowers at the farm was about VND 27 per stem, the labour cost and packing materials were about VND 50 per stem and the cost of transport was VND 56 per stem. Wholesalers in HCMC spent from VND 36 to 39 per stem to repack and deliver flowers to their customers. However, these costs did not include the costs of rent, tax and management.

Cut flowers are highly perishable with most flowers having a short vase life. Due to the lack of cool storage, all activities from farmers to retailers were conducted under ambient conditions without refrigeration. This led to a marked reduction in the quality and to substantial postharvest losses. The majority of the losses occurred during harvest (13%) for

traders and grading/regrading for both traders and wholesalers (11%). For traders, most losses occurred in harvesting and grading chrysanthemums, whereas it rarely happened with roses. Where some traders reported that they experienced no losses in delivering cut flowers to their retail buyers, others had experienced losses of up to 10% when delivering cut flowers to wholesalers in other cities. The average postharvest losses were very high (17%) at the trader level and 7% at the wholesale level (Table 8.22).

Table 8.22 The percentage of losses and waste at the market intermediary level

Activities	Da Lat traders				HCMC wholesalers			
	N	Min	Max	Mean	N	Min	Max	Mean
Harvest	25	0.5	35.0	12.7				
Grade/Waste	22	2.0	30.0	10.8	5	5	20.0	11.0
Delivery	30	0.0	10.0	2.0	12	0.0	10.0	3.6
<i>Percentage of losses</i>	<i>37</i>	<i>0.02</i>	<i>62.0</i>	<i>16.7</i>	<i>15</i>	<i>0.0</i>	<i>20.0</i>	<i>6.5</i>

Those traders dealing in roses experienced only minimal losses, whereas chrysanthemum traders experienced much higher losses. Some traders reported that they had experienced losses of up to 35% in harvesting chrysanthemums. Most of the losses at the trader level were due to physical damage (56%), poor quality (40%), short plants (40%), pest and disease problems (36%), a failure to meet customers' requirements (16%), and an unfavourable climate (12%) (Table 8.23). Each of these was directly or indirectly the result of poor cultivation practices by the farmers.

Table 8.23 Factors in harvest losses at market intermediary level

Factors	Da Lat traders	
	N	%
Physical damage	14	56.0
Poor quality	10	40.0
Short stems/Small plant	10	40.0
Pest and disease damage	9	36.0
Failure to meet the customer requirement	4	16.0
Climate damage	3	12.0
Over maturity/Immaturity	1	4.0
Rejected ratio	1	4.0
Dead ratio/Premature dead	1	4.0
Poor varieties	1	4.0
Degeneration land	1	4.0
Poor cultivation technique	1	4.0
<i>Total</i>	<i>25</i>	

Similarly, when farmers were asked about the reasons for the losses incurred at grading, 45% of local traders rejected short stems, 36% rejected poor quality flowers and 29% rejected flowers that failed to meet their requirements (Table 8.24). Others reasons for rejection included physical damage (26%), pest and disease damage (16%) and inappropriate maturity (10%).

Table 8.24 Factors resulting in grading losses

Factors	Da Lat traders		HCMC wholesalers	
	N	%	N	%
Short stems	14	45.2	1	4.5
Poor quality	11	35.5	6	27.3
Failure to meet the customer requirement	9	29.0	4	18.2
Physical damage	8	25.8	3	13.6
Pest and disease damage	5	16.1	1	4.5
Over maturity/Immaturity	3	9.7		
Suppliers bunch all grade in a bunch	2	6.5	6	27.3
Not reject/Bunch all grade	1	3.2	1	4.5
Unsold			6	27.3
Buyer choose and reject			1	4.5
Cheap price			1	4.5
Get hot after transport			1	4.5
<i>Total</i>	<i>31</i>		<i>22</i>	

Wholesalers in HCMC indicated that when they checked and regraded the flowers delivered from Da Lat, most of the waste was attributed to poor quality flowers (27%). Bunching together flowers of mixed grades (27%) was a common problem for HCMC wholesalers.

However, at the wholesale level, some 27% of the wholesalers reported that they were unable to sell all the cut flowers that had been consigned to them at the end of the day's trading. As wholesalers quite simply did not have the capacity to store flowers that were surplus to requirements, these flowers were dumped.

For the traders, most of their low quality cut flowers were sold to the local markets (44%) or to wholesalers (28%) at a cheap price (28%). Only 25% were discarded (Table 8.25).

Table 8.25 Means for disposal of rejected flowers by market intermediaries

Factors	Da Lat traders		HCMC wholesalers	
	N	%	N	%
Sell in local markets/hawker/consumers	14	43.8	2	8.7
Bunch and sell to wholesalers	9	28.1	1	4.3
Sell at cheap price/Sell at reduce price	9	28.1	13	56.5
Discard	8	25.0	7	30.4
Deduct from supplier's money			2	8.7
Give pagoda			1	4.3
Good quality sell to central provinces, poor quality sell to HCMC	1	3.1		
<i>Total</i>	<i>32</i>		<i>23</i>	

At the wholesale level, 57% reported that they sold low quality flowers at a cheaper price to local retailers (8%), or deducted the waste from the payment they made to suppliers (9%). Some 30% revealed that they had to throw away those cut flowers that were no longer marketable.

When asked about the reason for the losses incurred in transport, 76% of traders and 50% of wholesalers indicated that the major losses arose from physical damage due to careless

handling (52% for local traders and 41% for HCMC wholesalers) and overloading/over packing (10% for local traders and 25% for HCMC wholesalers) (Table 8.26).

Table 8.26 Factors in transport losses at market intermediary level

Factors	Da Lat traders		HCMC wholesalers	
	N	%	N	%
Physical damage/broken and bruising	16	76.2	6	50.0
Careless load and unload	11	52.4	5	41.7
Long distance/Long time transport	7	33.3	1	8.3
Transport by motorbike	5	23.8		0.0
Rarely happened/Insignificant ratio	5	23.8		0.0
Weather	4	19.0	3	25.0
Carelessly packing/Over packing	2	9.5	1	8.3
Transport too much/Overloading	2	9.5	3	25.0
Torn carton/Damaged carton	2	9.5	1	8.3
Poor quality	1	4.8		0.0
Transport problems	1	4.8		0.0
Unsold/Sold at loss or breakeven price		0.0	1	8.3
Do not know/Do not know the ratio	1	4.8		0.0
<i>Total</i>	<i>21</i>		<i>12</i>	

Adverse weather conditions where flowers were transported without refrigeration was another factor contributing to the losses. Increased temperatures in the carton caused “*flowers to be steamed*”, one wholesaler reported. At the local level, transport by motorbike (24%) was also problematic for local traders.

8.5 Retailers’ activities and transaction cost analysis

Most Da Lat retailers purchased cut flowers from traders, whereas most HCMC retailers purchased cut flowers from wholesalers. Only three Da Lat retailers-hawkers harvested cut flowers from farmers who either had only a small quantity of cut flowers available or poor quality cut flowers (Table 8.27).

Table 8.27 Retailers’ activities when purchasing from the most preferred suppliers

Activities	Da Lat retailers				HCMC retailers			
	Yes		No		Yes		No	
	N	%	N	%	N	%	N	%
Harvest	3	7.1	39	92.9	0	0.0	53	100.0
Treatment	2	4.8	40	95.2	0	0.0	4	100.0
Grade	20	47.6	22	52.4	14	25.9	40	74.1
Bunch	22	52.4	20	47.6	19	35.2	35	64.8
Pack	9	21.4	33	78.6	0	0.0	54	100.0
Store	2	4.8	40	95.2	3	5.6	51	94.4
Delivery	13	31.0	29	69.0	16	29.6	38	70.4
Load	12	28.6	30	71.4	1	1.9	53	98.1

At the retail level, the major activities were associated with the regrading of the flowers purchased (48% for local retailers and 26% for HCMC retailers) and re-bunching (52% for

local retailers and 35% for HCMC retailers). The other major activity related to the delivery of the flowers purchased to downstream customers and consumers.

Labour was the major cost associated with regrading and re-bunching, and travelling to and from the wholesale market to buy flowers (Table 8.28).

Table 8.28 Retailers' average marketing costs for 2010 (VND/stem)

Activities	Da Lat retailers				HCMC retailers			
	N	Min	Max	Mean	N	Min	Max	Mean
Harvest	3	28.0	60.0	39.3				
Packing materials	17	7.1	67.2	38.4	6	30.0	400.0	241.3
Labour	7	2.8	18.8	9.4				
Transport	12	12.5	50.0	34.2	13	21.4	250.0	104.2
Load/Unload	14	5.0	48.7	25.9	1	25.0	25.0	25.0
<i>Marketing costs</i>	<i>28</i>	<i>12.5</i>	<i>99.5</i>	<i>56.9</i>	<i>20</i>	<i>21.43</i>	<i>400.0</i>	<i>141.4</i>

Packaging material was a significant cost at the retail level, for this included the bowls, baskets, plastic sleeves and ribbons associated with the making of formal arrangements and gift baskets. The other costs associated with rental, tax and electricity were not included in this study, as few retailers were willing to provide their marketing costs in detail.

The average activity cost incurred by a Da Lat retailer was VND 57 per stem. The cost of packing materials was the major cost for most retailers (VND 38), while harvest costs were incurred only by those retailers who were responsible for performing all postharvest activities. In Da Lat, the costs for transport and loading/unloading cut flowers were especially high (VND 34 and 30 per stem, respectively). The retailers themselves or traders transported the cut flowers to their stalls depending on the type of flowers and the market demand. When the demand was high, retailers often paid the transport cost to meet the customers' immediate demands.

Similarly, the main costs for HCMC retailers were packing materials, which ranged from VND 30 to 400 per stem. Small retailers tended to purchase from wholesale markets in the early morning and subsequently delivered the flowers to their stalls, while larger retailers ordered from wholesalers who were responsible for transporting the flowers to their shops. The transport cost therefore ranged from VND 21 to 250 per stem within HCMC. The average marketing cost for HCMC retailers was VND 141 per stem, excluding fixed costs.

The marketing costs differed not only between Da Lat retailers and HCMC retailers, but also between retailers in both Da Lat and HCMC. For Da Lat retailers who purchased direct from farmers, the marketing cost differed between those retailers who harvested cut flowers at the farm and retailers who just purchased surplus cut flowers from farmers. The average cost retailers incurred when purchasing flowers from farmers was VND 56 per stem, while the average cost of packing was VND 46 per stem and delivery was VND 28 per stem (Table

8.29). When Da Lat retailers purchased cut flowers from traders, they paid a higher cost for transport (VND 40 per stem), but lower costs for packing. The average marketing cost was VND 58 per stem when flowers were purchased from traders.

Table 8.29 Retailer average marketing cost when purchasing from each most preferred suppliers (VND/stem)

Retailers	Upstream suppliers	Average costs			
		Harvest	Pack	Delivery	Marketing cost
Da Lat retailers	Farmers	39.3	46.2	28.1	56.4
	Traders		36.5	40.4	58.2
HCMC retailers	Farmers			81.8	81.8
	Wholesalers		209.6	119.8	151.9
	Companies			45.8	45.8

The packing cost was higher in HCMC, due to the high cost of packing materials. Flowers purchased from wholesalers were packed according to the consumers' preference. For retailers who purchased from a company, no additional packing costs were incurred as packaging was provided by the company. HCMC retailers did not report the cost of packing when purchasing from farmers.

The average losses for Da Lat retailers were 4.5%. However, it varied from retailer-to-retailer depending on the activities they performed. While 50% of retailers reported that they had a waste rate of lower than 10%, losses at the retail level varied from 3% to 80% (Table 8.30).

Table 8.30 The percentage of losses and waste at retail level

Activities	Da Lat retailers				HCMC retailers			
	N	Min	Max	Mean	N	Min	Max	Mean
Harvest	4	0.0	6.2	1.9				
Grade/Waste	18	3.0	80.0	20.3	12	5.0	30.0	10.0
Delivery	12	0.0	10.0	5.0	13	0.0	5.0	2.2
Total	15	0.0	10.0	4.5	14	0.0	40.0	4.9

For the Da Lat retailers, the majority of the wastage occurred after grading. As some Da Lat retailers purchased reject cut flowers from farmers, the high rates of wastage were explained by the need to select those flowers that could be salvaged and those that needed to be dumped. For retailers who harvested cut flowers on farm, losses of 2% appeared at harvest and after grading. In HCMC, the losses ranged from 5% to 30% after grading, with an average loss of 5%.

There was a difference between Da Lat retailers and HCMC retailers with regard to the need to regrade cut flowers. Not unexpectedly, Da Lat retailers indicated that the main losses after grading were the results of cut flowers failing to meet customers' requirements (43%), poor

quality (38%) and physical damage. Retailers reported that about 5% of stems were broken or physically damaged after delivery to their stalls (Table 8.31).

Table 8.31 Factors resulting in grading losses at retail level

Factors	Da Lat retailers		HCMC retailers	
	N	%	N	%
Failure to meet the customer requirement	9	42.9	3	8.6
Poor quality	8	38.1	6	42.9
Physical damage	4	19.0	8	57.1
Short stems	4	19.0	2	14.3
Over maturity/Immaturity	2	9.6	3	21.4
Inappropriate grade	1	4.8	0	0.0
Pest and disease damage	0	0.0	2	14.3
Not fresh	0	0.0	4	28.6
<i>Total</i>	<i>21</i>		<i>14</i>	

The high rate of waste in HCMC arose from physical damage (57%), poor quality (43%) and the lack of freshness (29%). Inappropriate maturity (21%) and pest and disease damage (14%) were also reported to contribute to the losses among HCMC retailers.

Most retailers were generally able to move the rejected flowers quickly onto consumers at a cheap price (63% for Da Lat retailers and 31% for HCMC retailers) and to use a lot of the short or poor quality flowers in baskets, bouquets and/or wreaths (47% for Da Lat retailers and 39% for HCMC retailers) (Table 8.32).

Table 8.32 Means for disposal of rejected flowers by retailers

Factors	Da Lat retailers		HCMC retailers	
	N	%	N	%
Sell at cheap price/Sell at reduce price	12	63.2	4	30.8
Do funeral wreaths/arrangement cut flowers	9	47.4	5	38.5
Discard	4	21.1	7	53.8
<i>Total</i>	<i>19</i>		<i>13</i>	

The means of transport for retailers were most often by motorbike in Da Lat, and motorbike or tricycle in HCMC. At the retail level, physical damage during transport (50% for Da Lat retailers and 70% for HCMC retailers), overloading (30% for both retailers) and inclement weather (30% for Da Lat retailers and 20% for HCMC retailers) were primarily responsible for the losses incurred during transport. For Da Lat retailers, who transport flowers from the farm to their stalls, long distance also contributed to the losses, whereas in HCMC, over packing (30%) was another significant reason for the reduction in quality (Table 8.33).

Table 8.33 Factors in transport losses at retail level

Factors	Da Lat retailers		HCMC retailers	
	N	%	N	%
Physical damage/broken and bruising	5	50.0	7	70.0
Transport too much/Overloading	3	30.0	3	30.0
Weather	3	30.0	2	20.0
Long distance/Long time transport	3	30.0	1	10.0
Poor quality	1	10.0	1	10.0
Torn box	1	10.0	0	0.0
Carelessly packing/Over packing	0	0.0	3	30.0
Rarely happened/Insignificant ratio			1	10.0
<i>Total</i>	<i>10</i>		<i>10</i>	

8.6 Prices and marketing margins

8.6.1 Price

The high, low and average buying and selling price for each flower type was reported by farmers and each market intermediary. A comparison of the average prices received by farmers from their alternative buyers was undertaken. However, not all respondents sufficiently answered the questions on the prices at which they purchased and sold cut flowers.

Market prices were observed to fluctuate throughout the year at each level of the cut flower supply chain for roses and chrysanthemums in both Da Lat and HCMC. The precise price for cut flowers varied greatly depending on the demand and supply throughout the year, the variety, grade and region and thus it was difficult to obtain any meaningful average price. The present analysis is based on the respondents' oral estimates of the highest, lowest and average price for first grade flowers (Table 8.34).

The data showed a wide seasonal variation in cut flower selling prices at all levels of the supply chain. At the farm level, the variation in prices between the seasons for roses was about sixfold between the high season (VND 2,155) and the low season (VND 380) and nearly threefold between the regular season (VND 808) and the low season. For traders, the difference between the high price (VND 2,987) and the low price (VND 1,100) were more modest at 2.7 times, but for wholesalers, the margin between the high price (VND 4,183) and the low price (VND 1,020) was over four times. At the retail level, the prices in HCMC ranged from VND 3,739 to VND 8,978 per stem, a difference of 2.4.

The high demand season for roses extended from September to March, corresponding with many festival days such as Teacher's Day (20/11), Wedding Days (November to May), the New Year and the Lunar New Year, Valentine's Day (14/2) and Women's Day (8/3). Prices generally declined from March to September. This period was associated with the coming of

the rainy season. At this time, although it was an unfavourable time to cultivate cut flowers, the low demand also led to low prices.

Table 8.34 Seasonal trend of the average selling price of the first grade of rose and chrysanthemum at each actor level in Da Lat, 2010 (VND/stem)

Cut flowers	Actors	Highest	Lowest	Average
Rose	Farmer	2,155	380	808
	Trader	2,957	1,100	1,350
	Company	4,750	1,250	1,850
	Wholesaler	4,183	1,020	1,527
	Da Lat retailer	5,150	1,458	2,215
	HCMC retailer	8,978	3,739	5,237
Standard chrysanthemum	Farmer	1,615	831	1,169
	Trader	1,994	1,267	1,537
	Company	2,600	1,500	1,733
	Wholesaler	2,195	1,275	1,573
	Da Lat retailer	2,790	1,613	2,148
	HCMC retailer	3,694	2,100	2,673
Spray chrysanthemum	Farmer	1,341	471	840
	Trader	1,621	865	1,031
	Company	2,000	1,000	1,250
	Wholesaler	1,712	1,000	1,112
	Da Lat retailer	2,454	1,311	1,750
	HCMC retailer	4,000	2,040	2,186

Chrysanthemum prices also fluctuated considerably from the high season to the low season. For standard chrysanthemums, the difference in price between the high season (VND 1,615) and the low season (VND 831) were more modest at the farmer level – just twofold – with an average of VND 1,169 per stem. For traders, wholesalers and retailers, the difference between the high season and low season price was just 1.6, 1.7 and 1.8 times, respectively.

For spray chrysanthemums, however, at the farm level, the price difference between the low season (VND 471) and the high season (VND 1,341) was almost threefold, with the difference at the traders, wholesale and retail level approaching 1.9, 1.7 and 2.0 times, respectively.

For each month, lunar special days saw the price increase at the farm level to around VND 1,600 and VND 1,300 per stem for standard and spray chrysanthemum, respectively. This was due to the high demand for flowers for Buddhist worship. The highest peak was during the few months around the Lunar New Year (end of January or beginning of February) when the price level increased to VND 2,400 to 2,800 per stem in Da Lat and VND 3,700 to 4,000 per stem in HCM for standard and spray chrysanthemum.

As chrysanthemums were used more often for Buddhist offerings, whereas roses were associated with the occasion days, the price differences for chrysanthemums were much lower than roses. Furthermore, through manipulating the planting schedule and the use of artificial light, chrysanthemum farmers were able to program the crop to flower at the

desired times. Roses, on the other hand, are perennial crops and farmers have much less ability to time the crop to coincide with the occasion days.

The results also demonstrated that the retail prices in HCMC were more than double the retail price in Da Lat, especially for roses. When prices were at their highest, the trader margin declined to 1.4 times, while it fell to 1.9 times for the wholesalers. Retailers on-sold roses for about four times the price farmers had received. When the market prices were low, the farm-gate prices were proportionately much lower than the prices charged by the market intermediaries. For roses, at the farm level, the price could fall to as low as VND 380 per stem, but traders sold at VND 1,100 and wholesalers sold at VND 1,020 – approximately three times that. Retailers, on the other hand, on-sold the flowers at almost ten times the price farmers had received.

When there was a high demand of chrysanthemum, the price difference for standard chrysanthemum between farmers (VND 1,615) and traders (VND 1,994) was about 1.2 times, and with wholesalers (VND 2,195) about 1.4 times. At the retail level, the margin was 1.7 times for Da Lat retailers (VND 2,790) and 2.3 times for HCMC retailers (VND 3,694). In the low season, the price difference was 1.5 for traders and wholesalers, and 1.9 and 2.5 for Da Lat retailers and HCMC retailers, respectively.

Similarly, traders and wholesalers received a lower margin (only 1.2 times for both parties) in the high season than what they received in the low season (1.8 times for traders and 3 times for wholesalers). Da Lat and HCMC retailers received a margin of 1.8 times and 2.1 times, respectively in the high season, whereas they could extract a margin of 2.7 and 4.3 times, in the low season. In the low season, market intermediaries and retailers expected a higher rate of unsold cut flowers, and thus the higher selling prices conveyed to consumers was, in part, to compensate them for their anticipated losses.

The prices were also seen to vary depending on the quality of cut flowers. There were two grades, first and second, and a third grade that farmers and market intermediaries called reject. However, in some instances, farmers sold ungraded flowers, especially chrysanthemums, more so when the prices were low. As there was no uniform grading system, the perception of quality was very much dependent on the individual. A long stem length, good colour, and the good condition of leaves and the flower head constituted first grade, whereas most of what remained was classified as second grade.

Results indicate that there was a significant price difference between first grade, second grade and rejected cut flowers. At the farm level, the price difference between first grade roses (VND 808) and second grade roses (VND 495) was almost 1.6 times. However, at the

trader level, the difference in price was just VND 150 (1.1 times), at the wholesale level it was VND 389 (1.3 times) and at the retail level it was VND 486 (1.1 times) (Table 8.35).

Table 8.35 The difference in the average selling price of roses and chrysanthemums by grade at each actor level in Da Lat, 2010 (VND/stem)

Cut flowers	Actors	First	Second	Reject	Ungraded
Rose	Farmer	808	495	145	844
	Trader	1,350	1,200	575	1,075
	Company	2,150	1,500		
	Wholesaler	1,527	1,138	767	1,167
	Da Lat retailer	2,215	1,519	1,045	
	HCMC retailer	5,236	4,750	2,120	
Standard chrysanthemum	Farmer	1,168	588	6,000/kg	1,010
	Trader	1,537	1,143	600	1,125
	Company	1,733			
	Wholesaler	1,572	1,240	525	1,270
	Da Lat retailer	2,147	1,517	1,014	
	HCMC retailer	2,672	1,787	1,500	
Spray chrysanthemum	Farmer	840	550	4,000/kg	731
	Trader	1,030	600	425	750
	Company	1,250			
	Wholesaler	1,120	800	500	900
	Da Lat retailer	1,750	1,273	892	
	HCMC retailer	2,186	1,680	1,000	

For standard chrysanthemum, the difference between the first and second grade flowers was 2 times, whereas it was only 0.7 times between ungraded and first grade flowers at the farm level. At the trader levels, the difference in price between first and second grade flowers was 2 times, at the wholesale level it was 1.4 times, and at the Da Lat and HCMC retail level it was 1.3 and 1.5 times, respectively.

For spray chrysanthemums, the difference in price between the first grade (VND 840) and the second grade flowers (VND 550) was 1.5 times at the farm level. For traders, wholesalers and retailers, the difference in price between the first and second grade flowers was 1.7, 1.4 and 1.3 times, respectively.

With the price margin between the different grades diminishing at the market intermediary level, there was little incentive for farmers to grade cut flowers. Furthermore, as quality was very much determined by individual expectations, it was no surprise to find that farmers preferred to sell ungraded cut flowers.

8.6.2 Farm-gate prices from different market intermediaries

For ungraded roses, farmers reported that the highest prices for roses were received from wholesalers (VND 900 per stem), followed by companies (VND 800) and traders (VND 790), while the lowest price was received from retailers in Da Lat (VND 700 per stem) (Table 8.36).

Table 8.36 Average price of cut flowers received by farmers from each preferred market intermediary by grade in 2010 (VND/stem)

Cut flowers	Market intermediaries	The price received by farmers from different buyers			
		First	Second	Rejected	Ungraded
Rose	Trader	700	450	157	789
	Wholesaler	788	410	133	897
	Company	933	667		800
	Da Lat retailer				700
Standard chrysanthemum	Trader				950
	Wholesaler	1,136	500	100	1,021
	Company	1,400	1,200		1,000
	Da Lat retailer				
Spray chrysanthemum	Trader			3000/kg	590
	Wholesaler	808	463	4000/kg	748
	Company	1,050	900		700
	Da Lat retailer				900

Most farmers reported that the prices they received for ungraded roses was higher than what they received for first grade flowers – except for the companies who paid VND 933 for first grade roses. Not surprisingly, most farmers concluded that there was little benefit to be gained by grading roses prior to sale. As wholesalers generally paid the highest price, most farmers preferred to sell their roses to wholesalers. For those farmers who sold directly to local retailers, the price they received was less than what other buyers offered. This may have arisen because farmers only had one variety or one colour, or the flowers were of poor quality.

In examining the prices received for standard chrysanthemums, the highest price per stem (VND 1,136 and VND 1,400) was paid by wholesalers and companies, respectively, while the lowest price (VND 950) was received from traders. Farmers did not report the selling price for standard chrysanthemum to retailers in Da Lat. From wholesalers, the price for ungraded sprays was around VND 750 per stem, but wholesalers were prepared to pay up to VND 810 for first grade sprays. However, as the price difference between the first and second grade sprays was almost VND 350 per stem, it was no surprise to find that most spray chrysanthemums were sold ungraded to wholesalers. For companies, however, the price margin for first grade sprays was more attractive (VND 1,050 per stem). In this instance, the second grade stems were sold to retailers at around VND 900 per stem.

In selling to different market intermediaries, different costs were incurred by the farmers. While traders were willing to pay VND 930 for standard and VND 600 for spray chrysanthemums, there were no other costs involved. Wholesalers paid VND 1,135 for standards and VND 810 for sprays, but farmers were responsible for the cost of harvest, grading, bunching and transport. The impact of including the various costs of transacting with alternative buyers will be explored in the next section.

8.6.3 Marketing margins for farmers

Using the mean price and the marketing cost, the marketing margin for first grade roses, standard and spray chrysanthemums were calculated for each actor in the Da Lat cut flower supply chains. The net marketing margin was calculated as the difference between the buying and selling price, less the total marketing costs and an allowance for postharvest losses. However, it did not include the fixed costs or the operational costs associated with the management of the business.

At the farm level, given the limitations in the data with respect to the costs incurred by farmers in their transactions with preferred market intermediaries, the average cost of each value-added activity that was undertaken by the farmers was used. It was noted that the costs required to harvest, grade, bunch, pack and transport, and the postharvest losses were different for each market intermediary.

To simplify the analysis, production costs have been excluded, even although it is recognized that the production costs may differ as farmers endeavour to produce better quality flowers for more discerning buyers. In determining the average return, the price of ungraded cut flowers were used, since this was the price received by most farmers who sold to preferred traders and wholesalers. However, the price of first grade flowers was used in calculating the returns from the company, as this was what the buyer demanded. Companies rarely purchased ungraded cut flowers from farmers.

For those rose farmers who sold to traders at the farm-gate, their marketing costs were minimal. The major marketing cost was the cost of labour to harvest the roses (VND 33) and postharvest losses (VND 40). These farmers could extract a significant marketing margin (VND 716) (Table 8.37).

Table 8.37 Marketing margins farmers received from each market intermediary for cut flowers in Da Lat in 2010 (VND/stem)

Cut flowers	Price/Expenses	Trader	Wholesaler	Company	Da Lat retailer
Rose	Average return	789	897	933	700
	Marketing costs	33	105	87	98
	Loss	40	54	19	14
	<i>Marketing margin</i>	716	738	827	588
Standard chrysanthemum	Average return	950	1,021	1,400	
	Marketing costs		90	57	
	Loss	114	153	196	
	<i>Marketing margin</i>	836	778	1,147	
Spray chrysanthemum	Average return	590	748	1,050	900
	Marketing costs		107	51	122
	Loss	71	112	147	99
	<i>Marketing margin</i>	519	529	852	679

Those farmers who sold chrysanthemums without harvesting transacted with traders and a few Da Lat retailers. Not expectedly, the marketing costs were minimal for these farmers,

but they faced high postharvest losses, with VND 114 for standard chrysanthemums and VND 71 for spray chrysanthemum, due to the high rate of rejection by the traders. The prices that farmers received from traders were lower than received from others (VND 950 for standards and VND 590 for sprays). As a result, farmers extracted a net margin from the traders for spray chrysanthemum of VND 519 and VND 836 for standard chrysanthemum.

Those farmers who harvested and graded cut flowers and subsequently sold to wholesalers and Da Lat retailers, faced higher labour costs for harvesting, grading and bunching, packing material costs and the cost of transport. When their cut flowers did not meet specifications, the poor quality flowers were either included in mixed bunches and sent to wholesalers in HCMC and/or the reject flowers were sold to retailers in Da Lat. The marketing costs were VND 105 for roses, VND 90 for standard chrysanthemum and VND 109 for spray chrysanthemums. Postharvest losses were VND 54, 153 and 112 for roses, standards and sprays, respectively. The prices chrysanthemum farmers received from wholesalers were 1.1 – 1.3 times higher compared to what farmers received from traders, but only 0.7 times compared to those farmers selling to companies. The net margin that farmers were able to extract from wholesalers was VND 738 for roses, VND 778 for standard chrysanthemums and VND 527 for spray chrysanthemums. Farmers who had surplus cut flowers could sell if they wished to Da Lat retailers. Rose farmers who sold to Da Lat retailers received the lowest marketing margin (VND 588), but they often sold the better quality flowers to other cities and the second grade flowers to local markets.

Those farmers who harvested and sold to a company received the highest prices for roses (VND 933), standard chrysanthemum (VND 1,400) and spray chrysanthemums (VND 1,050). However, postharvest losses were high for standard chrysanthemum (VND 196) and sprays (VND 147) for that proportion of the crop that failed to meet the company's specifications. In selling direct to a company, the cut flower supply chain was shorter, transaction costs were lower and the marketing margins were higher. However, few smallholder farmers could access a company chain, due to the need for high quality flowers and the perquisite investments in production facilities and cultivation techniques.

8.6.4 Marketing margins for traders

For the traders, the marketing costs for harvesting (mainly chrysanthemums), hand sorting, packing and packing materials were high: for roses, the marketing cost was VND 104, standard chrysanthemum (VND 130) and for spray chrysanthemum (VND 123). The most significant component of the marketing cost was for transport (VND 61). Where traders purchased a standing crop (chrysanthemums) or ungraded cut flowers (roses), the postharvest losses were high. Traders who purchased a standing crop potentially incurred

losses from physical damage, rejection for poor quality, short stems, pest and disease damage, and the unexpected impact of adverse climatic factors. On average, the most significant costs for the traders when purchasing from farmers were the postharvest losses: VND 140 for roses, VND 160 for standard chrysanthemums and VND 107 for spray chrysanthemums (Table 8.38).

Table 8.38 Marketing margin of traders received from upstream farmers in Da Lat in 2010 (VND/stem)

Price/Expenses	Rose	Standard chrysanthemum	Spray chrysanthemum
Purchase price	917	1,191	771
Sale price	1,350	1,537	1,031
Marketing costs	104	130	123
Loss	140	160	107
<i>Marketing margin</i>	<i>189</i>	<i>56</i>	<i>30</i>

To monitor the quality of the cut flowers they had purchased, traders regularly visited and inspected the farmers' fields. In this way, traders could be assured that their quality expectations would be realized.

For roses, traders purchased cut flowers and paid after every two weeks, while for chrysanthemums, traders paid half of the negotiated price at the time the transaction was agreed and the balance after they had been paid by downstream customers.

To ensure their operation was profitable, traders: (i) calculated a higher percentage of reject flowers; (ii) purchased selectively; and (iii) purchased cut flowers from those farmers who had good cultivation techniques, rather than to make direct investments in the farmers' production. As any assessment of the percentage of rejected cut flowers was highly subjective, this could lead to conflict and disagreement between the parties.

The profit traders received ultimately depended on the purchasing price from farmers and the price at which they were able to sell the flowers they had purchased to wholesalers and retailers. Traders indicated that they received a small profit per stem for chrysanthemums (VND 56 for standards and VND 30 for sprays) after purchasing a standing crop, whereas the higher profits per stem for roses related to the smaller number of stems purchased.

As a market intermediary, traders expected to bear the majority of the marketing costs. Looking at the marketing cost traders spent and the margin they were able to extract from their transaction with wholesalers, traders achieved the highest margin for roses (VND 109) (Table 8.39). The selling price to wholesalers was lower than that to Da Lat retailers, but wholesalers were able to purchase a large volume of cut flowers. For those traders who chose to sell chrysanthemums to wholesalers, the marketing cost was higher, amounting to VND 127 for standard chrysanthemums and VND 127 for spray chrysanthemums.

Consequently, the margin that traders were able to extract for chrysanthemums was much lower: VND 65 for standards and VND 82 for sprays.

Table 8.39 Marketing margin of traders received from downstream customers in Da Lat in 2010 (VND/stem)

Cut flowers	Price/Expenses	Wholesaler	Da Lat retailer	Customer
Rose	Average return	1260	1750	
	Purchase price	917	917	
	Marketing costs	108	68	
	Loss	126	175	
	<i>Marketing margin</i>	109	590	
Standard chrysanthemum	Average return	1537		
	Purchase price	1191		
	Marketing costs	127		
	Loss	154		
	<i>Marketing margin</i>	65		
Spray chrysanthemum	Average return	1089		1000
	Purchase price	771		771
	Marketing costs	127		81
	Loss	109		100
	<i>Marketing margin</i>	82		48

For some traders selling roses, retailers in Da Lat were the most preferred buyers, whereas retailers in Da Lat were generally the second most preferred buyers for those traders dealing in chrysanthemum. Traders often sold cut flowers on consignment to retailers in Da Lat. Again, because of their personal relationship, traders received payment after the retailers had resold the flowers. For roses, traders not only received the highest price from retailers (VND 1,750) and the highest profit margin (VND 590), but also experienced the lowest cost (VND 223). However, this channel offered limited opportunities. As retail florists only purchased a small volume of many different types of cut flowers, the costs of servicing this market were high and the volume purchased was not sustainable.

Traders also sold cut flowers direct to customers. For the Lunar special days, some traders purchased cut flowers, usually spray chrysanthemums, direct from farms and transported them by motorbike to sell to other retailers and customers in other districts in Lam Dong province. In this way, they could reduce the transaction cost associated with purchasing from other traders. However, this chain accounted for only a small proportion of cut flower sales. Although the marketing margins for these traders were low (VND 48), they took advantage of getting prompt payment (in cash) and the high demand.

8.6.5 Marketing margins for wholesalers

Wholesalers bore activity costs such as the costs of labour, packing materials provided to farmers, transport costs to deliver flowers to buyers and the postharvest losses related to physical damage. In the absence of a uniform system for grading, wholesalers had to visually inspect the cut flowers on arrival in the wholesale markets. Not only did this incur additional

labour costs, but it also slowed the speed at which transactions with subsequent actors could be conducted. In most cases, wholesalers were able to extract the margin they desired irrespective of the purchase price and to pass on their activity costs to their suppliers. About 5% of the total quantity purchased by wholesalers was wasted or unsold.

From the wholesalers' perspective, there was little difference in the costs incurred by wholesalers when purchasing cut flowers from farmers and traders. While the costs of purchasing from farmers were VND 105, 118 and 97 for roses, standards and sprays, respectively, from traders, the costs were VND 113, 128 and 102, respectively (Table 8.40).

However, there was a considerable difference in the marketing margin wholesalers received when transacting with farmers and traders. The prices offered by chrysanthemum farmers (VND 1,290 and 876 for standards and sprays, respectively) were marginally more expensive than that offered by the traders (VND 1,100 and 800, respectively). Conversely, for roses, the prices offered by farmers (VND 1,133) were marginally cheaper than that offers by traders (VND 1,200). However, the price at which the flowers purchased from farmers were sold (VND 1,500, 1,570 and 1,109 for roses, standards and sprays, respectively) was much lower than the price at which wholesalers sold the flowers purchased from traders (VND 1,600, 1,650 and 1,160 for roses, standards and sprays, respectively). As a result, the marketing margin wholesalers extracted from traders (VND 287, 423 and 258 for roses, standards and sprays, respectively) was higher than that from farmers (VND 262, 163 and 137 for roses, standards and sprays, respectively). The main reason for the higher profitability was the superior quality of the flowers purchased from traders.

Table 8.40 Marketing margin of wholesalers in HCMC from upstream suppliers in 2010 (VND/stem)

Cut flowers	Price/Expenses	Farmers	Traders
Rose	Average return	1,500	1,600
	Purchase price	1,133	1,200
	Marketing costs	30	33
	Loss	75	80
	<i>Marketing margin</i>	262	287
Standard chrysanthemum	Average return	1,570	1,650
	Purchase price	1,290	1,100
	Marketing costs	39	45
	Loss	79	83
	<i>Marketing margin</i>	163	423
Spray chrysanthemum	Average return	1,109	1,160
	Purchase price	876	800
	Marketing costs	41	44
	Loss	56	58
	<i>Marketing margin</i>	137	258

For the wholesalers, roses purchased from farmers (VND 1,133) were generally cheaper than those purchased from traders (VND 1,200) but chrysanthemums were more expensive. Consequently, the marketing margin wholesalers were able to extract from farmers varied from VND 137 – 163 for chrysanthemums and an average of VND 262 for roses. This was much lower than that extracted from traders. However, the majority of the wholesalers business (81%) was derived from their direct transactions with farmers.

There were no real difference in either the marketing cost or the postharvest losses for roses (VND 33), standard (VND 45) and spray chrysanthemums (VND 44). However, wholesalers could extract a higher marketing margin per stem from traders for roses (VND 287), standard chrysanthemums (VND 423) and spray chrysanthemums (VND 258). The reason was that the selling prices at which wholesalers sold the cut flowers purchased from traders was much higher than that purchased from farmers, as a result of the higher quality of the cut flowers offered by traders.

The large number of retail flower shops in HCMC provided the customer base for the majority of the wholesalers operating in the market (66%). Wholesalers generally received lower prices when they sold chrysanthemum to retailers (VND 1,542 for standards and VND 1,086 for sprays), compared to the prices they received when they sold to other wholesalers (VND 1,625 and VND 1,150, respective) (Table 8.41).

Table 8.41 Marketing margin for HCMC wholesalers from downstream customers in 2010 (VND/stem)

Cut flowers	Price/Expenses	Retailer	Other wholesalers
Rose	Average return	1,533	1,522
	Purchase price	1,150	1,150
	Marketing costs	23	38
	Loss	77	76
	<i>Marketing margin</i>	283	258
Standard chrysanthemum	Average return	1,542	1,625
	Purchase price	1,262	1,262
	Marketing costs	42	42
	Loss	77	81
	<i>Marketing margin</i>	161	240
Spray chrysanthemum	Average return	1,086	1,150
	Purchase price	858	858
	Marketing costs	36	42
	Loss	54	58
	<i>Marketing margin</i>	138	192

However, the transaction costs for wholesalers when they sold to retailers were lower than when they sold to other wholesalers in other provinces. The main difference here was the transport costs to other wholesalers in other cities. Wholesalers could extract a higher marketing margin of VND 283 for roses from retailers, whereas the margins for standard chrysanthemum and spray chrysanthemum were VND 161 and VND 138, respectively. This

was explained by the volume of each flower sold. While the volume of roses exchanged was small, much larger volume of chrysanthemums was transacted.

When selling to wholesalers in other cities, HCMC wholesalers dispatched the cut flowers by truck in the early morning. Wholesalers incurred the labour cost to grade, repack and to transport the flowers to other provinces (VND 114 for roses, VND 123 for standard chrysanthemums and VND 100 for spray chrysanthemums). However, because of a higher selling price, wholesalers could achieve higher marketing margins when selling cut flowers to other wholesalers (VND 258 for roses, VND 240 for standards and VND 192 for sprays). Currently, only 34% of the wholesalers were transacting with other wholesalers. Those wholesalers who sold to other provinces needed to have reliable contacts and trust in their buyers.

8.6.6 Marketing margins for retailers

Da Lat retailers purchased cut flowers from farmers when they had a relationship with farmers and when they were able to extract a higher return. Retailers in Da Lat indicated that farmers generally sold cut flowers at a cheaper price (VND 1,650 for roses , VND 1,500 for standard chrysanthemum and VND 800 for spray chrysanthemums) compared to the traders (Table 8.42).

Table 8.42 Marketing margin of retailers in Da Lat from upstream suppliers in 2010 (VND/stem)

Cut flowers	Price/Expenses	Farmer	Trader
Rose	Average return	2,200	2,218
	Purchase price	1,650	1,738
	Marketing costs	47	49
	Loss	110	111
	<i>Marketing margin</i>	393	320
Standard chrysanthemum	Average return	1,900	2,205
	Purchase price	1,500	1,523
	Marketing costs	50	57
	Loss	95	111
	<i>Marketing margin</i>	255	515
Spray chrysanthemum	Average return	1,700	1,760
	Purchase price	800	1,275
	Marketing costs	70	69
	Loss	85	88
	<i>Marketing margin</i>	745	328

Retailers encountered the labour cost of sorting and arranging the flowers, packing materials and transporting the cut flowers when they purchased direct from farmers. The collective costs amounted to VND 157 for roses, VND 145 for standard and VND 155 for spray chrysanthemums. By purchasing direct from farmers, Da Lat retailers could extract a higher marketing margin for roses (VND 393) and spray chrysanthemums (VND 745), but for

standard chrysanthemums (VND 255), the margin was considerably lower than that obtained by transacting with traders.

Da Lat retailers indicated that the prices at which they purchased cut flowers from traders were generally higher than what they purchased from farmers (VND 1,738 for roses, VND 1,523 for standards and VND 1,275 for spray chrysanthemums). However, the prices at which they were able to sell those flowers were also higher: VND 2,218 for roses, 1,523 for standard chrysanthemums and VND 1,760 for spray chrysanthemums. Despite the higher purchase cost, retailers in Da Lat were still able to make a net return of VND 320 for roses, VND 515 for standard chrysanthemums and VND 328 for spray chrysanthemums.

In HCMC, the prices at which cut flowers were purchased from the wholesale market were generally higher than from other suppliers, except those purchased from other retailers when there was an urgent and immediate need. HCMC retailers paid an average price of VND 2,890 per stem for roses, VND 1,829 from standard chrysanthemums and VND 2,300 from spray chrysanthemums (Table 8.43).

Table 8.43 Marketing margins for HCMC retailers from upstream suppliers in 2010 (VND/stem)

Cut flowers	Price/Expenses	Farmer	Trader	Wholesaler	Company	Retailer
Rose	Average return	5,500	5,660	5,214	4,500	5,000
	Purchase price	2,500	1,500	2,896	2,000	3,000
	Marketing costs	82		152	46	400
	Loss	275	283	260	225	250
	<i>Marketing margin</i>	2,643	3,877	1,905	2,229	1,350
Standard chrysanthemum	Average return	2,500		2,850	2,500	
	Purchase price	1,500		1,829	2,000	
	Marketing costs	82		120	46	
	Loss	125		143	125	
	<i>Marketing margin</i>	793		759	329	
Spray chrysanthemum	Average return		1,500	2,300		
	Purchase price		1,200	1,650		
	Marketing costs			120		
	Loss		75	115		
	<i>Marketing margin</i>		225	415		

The marketing costs when purchasing from wholesalers were also high at VND 412 per stem for roses, VND 263 for standard chrysanthemums and VND 235 for spray chrysanthemums. The cost of high quality packing material and transport contributed to the high cost of purchasing cut flowers in HCMC. With more demanding customers in HCMC, retailers needed to arrange the cut flowers more attractively with special packing materials. The cost of transporting cut flowers from the wholesale market to their retail shop was also more expensive. Nevertheless, retailers in HCMC were able to extract an average marketing margin at VND 1,905 for roses, VND 759 for standard chrysanthemums and VND 415 for spray chrysanthemums.

HCMC retailers purchased cut flowers from companies to serve the higher quality requirements of their customers. Compared to their peers in Da Lat, there was a much higher rate of purchase from companies, implying that consumers and institutional buyers in HCMC could afford to pay higher prices to purchase higher quality cut flowers. Somewhat unexpectedly, the price of roses purchased from companies was lower (VND 2,000), but the prices for standard chrysanthemums were much higher than other suppliers (VND 2,000). Due to the lower marketing costs incurred, the marketing margin retailers extracted was much higher for roses (VND 2,229), but was very low for standard chrysanthemums (VND 329).

HCMC retailers purchased cut flowers from farmers when they needed a special type or colour of flower. For HCMC retailers, the price from farmers was not always the cheapest. For roses, the purchase price was higher (VND 2,500), but when combined, the marketing cost and transaction costs were somewhat lower, thereby enabling the retailers to earn a higher net margin (VND 2,643). Similarly, for standard chrysanthemums, the lower purchase price (VND 1,500) and the lower costs (VND 207), enabled retailers to extract a higher margin (VND 793).

For those retailers who were far from the HCMC wholesale market, it was possible to order cut flowers direct from traders. In this case, the retailers marketing costs were minimal. However, few retailers chose to purchase through traders because it increased the uncertainty of the supply and retailers could not be assured that they would receive the quality they desired. In the case of roses, by purchasing direct from traders, the buying price was the cheapest (VND 1,500), enabling them to achieve the highest net margin (VND 2,643). However, the small volume that retailers purchased discouraged traders from continuing to transact with them.

HCMC retailers often purchased cut flowers from other retailers when they needed a special colour, a particular variety or a particular type of cut flower. Such transactions were seldom profitable because of the high cost (VND 650) and the high price (VND 1,350) at which the flowers were purchased. However, in order to retain their customers, most retail florists had engaged in the practice at some time.

Retailers purchased their flowers from many sources to secure a wide range of cut flower varieties. Da Lat retailers normally purchased flowers from one to five traders and numerous farmers, during the peak season. In HCMC, retailers bought from various wholesalers who met their individual requirements for price and quality.

8.7 Summary

The results indicated that there were eight main supply chains in the Da Lat cut flower industry. Most farmers sold cut flowers to wholesalers who purchased all the cut flowers farmers produced. Farmers dealt with traders only when they had a small area of flowers or did not have the capacity to perform all the marketing activities. Farmers dealt directly with retailers when they had surplus flowers, poor quality flowers or a small volume.

Effective supply chains management aims to increase the extent to which the quality of the product satisfies the downstream buyers' need. In the Da Lat cut flower supply chains, most of the quality problems arose at the farm level. These constraints included the inability of most farmers to access new varieties, chemicals and fertilizers, inappropriate technology and limited information.

Inferior quality products added costs for each downstream actor irrespective of the chains. The main challenges all actors faced along cut flower supply chains were the high transaction costs derived from poor production and postharvest techniques; the perishability and short vase life; the high transport cost; the variation in quality; and the uncertainty of supply and demand.

While significant rewards in productivity and economic efficiency can be achieved by addressing production impediments at the farm level, without addressing the failure of the marketing system to adequately reward the farmers for producing superior quality product, little improvement will be forthcoming.

At all levels of the Da Lat cut flower supply chain, price margin analysis identified that postharvest losses and the high cost of transport were a very significant component of the total activity costs. Operational efficiency would be impaired if the quality of cut flowers and postharvest handling is poor. At the farm level, 6% of roses and 15% of chrysanthemum were discarded; whereas it was 17% at the trader level, 7% at the wholesale level and 5% at the retail level. As the losses were highest at the harvest and grading stage on-farm and at the trader level, most of the postharvest losses could be attributed to production impediments.

Over-packing, poor handling, the perishable nature of the product and the lack of any postharvest treatments to extend the shelf life resulted in significant losses (waste) at the wholesale and retail level. None of the actors in the Da Lat cut flower supply chains employed any postharvest treatments or cool storage to extend the shelf life of cut flowers.

With little incentive for quality, except when dealing with companies, farmers preferred to sell ungraded flowers on consignment to wholesalers or to sell a standing chrysanthemum crop to traders. While farmers did not perceive there to be a sufficient reward for quality,

wholesalers were able to extract higher price margins from traders as a result of better quality.

It was difficult to obtain any meaningful average price because the precise price for cut flowers varied greatly depending on the demand and supply throughout the year, the flower types, grade and region.

The data showed wide seasonal differences in market prices for roses and chrysanthemums at all level of the cut flower supply chains. As chrysanthemums were used more often for Buddhist offerings, whereas roses were associated with the occasion days, the price differences for chrysanthemums across the year were much lower than roses. While the high demand season for roses extended from September to March, corresponding with many festival days such as Teacher's Day (20/11), Wedding Days (November to May), the New Year and the Lunar New Year, Valentine's Day (14/2) and Women's Day (8/3); prices declined from March to September, corresponding with the coming of the rainy season. Even although the low season was an unfavourable time to cultivate cut flowers, the low demand at this time led to low prices.

For each month, lunar special days saw the chrysanthemum price increase. This was due to the high demand for flowers for Buddhist worship. However, the peak demand was during the Lunar New Year (end of January or beginning of February).

The variation in price was the main constraint for all actors in the Da Lat cut flower supply chains. As prices were highly volatile, occasioned by the seasonality of demand and supply, the majority of actors were unable to ascertain beforehand the price at which they should buy and sell cut flowers to maximize their profits and reduce their risks. For this reason, it was common practice, except at the retail level, delayed payment as a means of adjusting to price volatility and seasonal differences in price.

All actors along the chain received a lower margin in the peak season than what they received in the low season. Although this is counter intuitive, the reason is presumably because of greater competition and the larger volume of flowers available. In the low season, market intermediaries and retailers expected a higher rate of unsold cut flowers, and thus the higher selling prices conveyed to consumers was, in part, to compensate them for their anticipated losses.

In this study, most market intermediaries failed to provide any indication of the other activity costs associated with their business due to the confidentiality of the information. Moreover, most respondents were reluctant to disclose the sale and purchase prices. Although respondent were convinced that any price information given would not be passed onto other parties, respondents may have decisively overstated the buying price and understated the

selling price in order to reduce their perceived profit margin. As few respondents retained any written records, all the information provided was verbal and could neither be substantiated or verified. By necessity, this could lead to significant intentional and non-intentional errors in reporting.

The results of this chapter indicate that price margins alone are unable to explain how farmers choose a potential buyer. Evidence is presented to demonstrate that farmers often sell to customers at a lower price because those customers purchase in large volumes all year round. Furthermore, as most market intermediaries pay only after the flowers have been sold, there would seem to be a need to explore the nature of the long-term relationships between actors. As the results also demonstrate, not all farmers have the capacity to meet downstream buyers' needs all year round and thus many are potentially excluded from transacting with some buyers. This indicates the need for a pluralistic approach to resolve these issues.

Chapter 9. Gap analysis²

9.1 Chapter outline

This chapter sought to examine the gap between what the farmers wanted and what they actually received from their alternative downstream buyers, and what market intermediaries expected to receive and actually received from farmers. A similar analysis was performed to examine the capacity of traders and wholesalers to deliver what their downstream customers required and the extent to which alternative upstream suppliers were able to deliver what their downstream customers needed. In this way, it was possible to identify the various impediments that needed to be overcome to improve the offer quality and ultimately to improve the performance of the Da Lat cut flower industry.

9.2 Gap between what farmers want and what they actually get from their downstream buyers

9.2.1 What farmers wanted from downstream buyers

In choosing between alternative buyers, a high price was the variable most frequently cited by farmers (32%) (Table 9.1).

However, the promise of a high price was not enough: farmers needed assurances that they would be paid. Consequently, the second most frequently cited response was a good reputation (31%) and a close long-standing relationship (20%). To maintain their cash flow, and indeed, to facilitate the disposal of flowers when the demand was low, farmers preferred to transact with those buyers who purchased all year round (18%).

Some 16% of farmers recognized that it was important to trade with buyers who paid on time and in full, who purchased all the farmers' products (14%), and who purchased in large volumes (8%). Some farmers (4%) claimed that they had no desire to seek an alternative buyer, while others (4%) were willing to sell to whoever paid the highest price.

From the thirteen criteria that were thought to be important in choosing between alternative buyers, from the farmers' perspectives the five most important variables were the buyers willingness to purchase flowers all year round, to pay an acceptable price, to pay on time, trust and a good reputation (Table 9.2).

² The following chapter was developed from Le, Bich Nhu and Batt, Peter J. 2011. The Extent to which Downstream Buyers are able to Fulfil Flower Farmers Needs in Da Lat – Viet Nam. *Proceedings of Australian & New Zealand Marketing Academy Conference 2011*. Perth, Australia and Le, Bich Nhu and Batt, Peter J. 2012. *The Ability of Flower Farmers in Da Lat to Meet the Needs of Downstream Buyers*. Acta Hort.970:155-162.

Table 9.1 Farmers' criteria use in deciding to whom they would sell their flowers

Responses	Frequency	Percentage
Higher price/Meet my requirement for price	67	32.2
Reputation/Have confidence/Reliable/Prestige in transaction	64	30.8
Long-standing/Close relationship	41	19.7
Regular buyer/Regular demand/Purchase all year round	37	17.8
Pay on time	33	15.9
Consume all my product/Purchase all my product	30	14.4
Large volume exchange	17	8.2
Not do all activities/Purchase at farm-gate	16	7.7
Stable price	14	6.7
No price pressure	12	5.8
Buy non-grade product/No specific requirement/Easily purchase	11	5.3
Introduction of others: driver/farmer/wholesaler/Directly meet/visiting	10	4.8
Base on a contract/Suitable contract/Long-term contract (Hasfarm)	10	4.8
Trust/Loyal and faithful/Keep promise	10	4.8
Have no other buyers/Have no change to choose the other buyer	9	4.3
Sell to who pay higher price	8	3.8
Save cost: labour cost/Not pay transport fee and box	7	3.4
Geographically close/Local people	5	2.4
Purchase whole-farm/Can purchase my crop before harvest	5	2.4
Pay cash immediately and pay in full	4	1.9
Quickly sell/They have good output	4	1.9
Pay a deposit/Provide loan to build plastic greenhouses	4	1.9
Purchasing and selling agreement/Both reach a suitable agreement	3	1.4
Purchase my waste or rejected cut flower/Buy even small volume	2	1.4
Meet my requirement	2	1.4
Exchange sentiment/Easy going/Understand my problems	2	1.4
Pay even unsold	2	1.4
Provide technique advice	2	1.4
Decrease the risk of lower price	2	1.4
Unbound/Freedom	1	0.5
Have many buyers	1	0.5
Share price information	1	0.5
Nobody purchase cut flower	1	0.5
No risk	1	0.5
<i>Total</i>	208	

Farmers placed considerable importance on the frequency of communication (to know what price and what volume the buyer needed) and the willingness of the buyer to meet their immediate needs. Even though Lyon (2000) suggested that farmers preferred to transact with local buyers, geographic proximity was of little importance to most farmers when selling their cut flowers to HCMC, for the distance was over 300 km. Although farmers were responsible for the transport costs, farmers were looking for buyers who were willing to consolidate and to transport their flowers.

It was with some surprise to find that most farmers placed little importance on the provision of technical information/advice. However, in most instances, market intermediaries had limited experience in cultivating cut flowers.

Table 9.2 Important criteria to farmers in choosing between alternative buyers

Responses	Mean	SD
be able to buy my cut flowers all year round	1.52 ^a	0.944
have confidence together	1.63 ^a	0.755
pay on time	1.64 ^a	0.706
provide me with an acceptable price	1.69 ^a	0.688
has a good business reputation	1.87 ^a	1.027
is in frequent communication with me	2.34 ^b	1.378
is willing to meet my immediate needs	2.41 ^b	1.281
can transport cut flowers from my farm	2.70 ^b	1.655
we have a long-standing relationship	3.00 ^c	1.536
provides market information	3.10 ^c	1.769
do all activities: harvest, grade, pack and store cut flowers	3.59 ^d	1.901
is geographically close to me	4.19 ^e	1.849
provides technical information/advice	4.22 ^e	1.935
<i>Total</i>	<i>210</i>	

where 1.0 is very important and 6.0 is not at all important

where those items with the same superscript in the same column show no significant difference at p = 0.05

9.2.2 How well farmers most preferred buyers met their criteria

In comparing what farmers expected from their transactions with their most preferred buyers and what they actually received, it was apparent that even in their transactions with their most preferred buyers, buyers were unable to provide an acceptable price, to pay on time and to buy the farmers' flowers all year round (Table 9.3). While there was an element of distrust present in the transaction, the most preferred buyers were considered to have a good business reputation, which lowered the farmers' perceived risk.

Table 9.3 Criteria farmers required and the extent to which the most preferred buyers met these criteria

Criteria	Farmer wanted ¹		Farmer got ²		Sig.
	Mean	SD	Mean	SD	
be able to buy my cut flowers all year round	1.52	0.940	1.72	0.961	0.004
have trust/confidence together	1.63	0.755	1.83	0.830	0.001
pay on time	1.64	0.706	1.90	0.895	0.000
provide me with an acceptable price	1.69	0.688	2.30	0.741	0.000
has a good business reputation	1.87	1.027	1.90	1.030	0.557
is in frequent communication with me	2.34	1.381	2.44	1.426	0.231
is willing to meet my immediate needs	2.41	1.281	3.05	1.272	0.000
can transport cut flowers from my farm	2.70	1.655	4.48	1.919	0.000
we have a long-standing relationship	3.00	1.536	2.85	1.467	0.098
provides market information	3.10	1.769	4.06	1.533	0.000
do all activities: harvest, grade, pack and store cut flowers	3.59	1.901	4.64	1.664	0.000
is geographically close to me	4.19	1.849	4.56	1.890	0.016
provides technical information/advice	4.22	1.935	5.39	1.355	0.000
<i>Total</i>	<i>210</i>		<i>210</i>		

¹ where 1 is "very important" and 6 is "not at all important"² where 1 is "very well" and 6 is "not at all well"

Preferred buyers communicated with the farmers on enough occasions for the farmers to be generally satisfied, but most farmers were dissatisfied with the quality of the market

information conveyed. The poor quality of information related to both the poor generation and the poor transfer, but also to the farmers limited understanding of the market's needs (Chang, Spriggs and Newman 2008).

Furthermore, most preferred buyers were unable to meet the farmer's immediate needs. Although most farmers expected their most preferred buyers to collect the flowers they had harvested from the farm gate, for the majority of farmers, this was not the case: most farmers were responsible for transporting their flowers to wholesale buyers. Only traders and retailers picked up the flowers they had purchased.

9.2.3 How well farmers second most preferred buyers met their criteria

The second most preferred buyers were mostly traders (57%) and retailers (38%). These customers operated locally and were geographically much closer to the farmers. Farmers sold flowers to their second most preferred buyers: (i) to catch the high price on special occasions; (ii) to sell surplus flowers; or (iii) to sell the second grade (or reject) flowers, after having sold the better quality flowers to their most preferred buyers.

The gap between what farmers received from their most preferred buyer and their second most preferred buyer was subsequently explored. The second most preferred buyer not only offered a higher price, but payment was generally made on time, in cash, upon collecting the flowers from the farm gate (Table 9.4).

Table 9.4 Comparison between what farmers received from their most preferred and second most preferred buyer

Criteria	Farmer got from preferred buyer ¹		Farmer got from second buyer ¹		Sig.
	Mean	SD	Mean	SD	
have trust/confidence together	1.83	0.702	2.77	1.448	0.000
be able to buy my cut flowers all year round	1.89	0.814	4.79	1.122	0.000
has a good business reputation	2.02	1.053	3.60	1.664	0.000
pay on time	2.17	1.129	1.55	0.653	0.000
is in frequent communication with me	2.55	1.346	3.15	1.318	0.034
provide me with an acceptable price	2.55	0.775	1.98	0.776	0.000
we have a long-standing relationship	2.94	1.634	3.77	1.658	0.021
is willing to meet my immediate needs	3.00	1.216	4.19	1.409	0.000
provides market information	3.87	1.361	4.68	1.385	0.001
can transport cut flowers from my farm	4.57	2.008	2.79	2.053	0.000
is geographically close to me	4.89	1.684	2.55	1.530	0.000
do all activities: harvest, grade, pack and store cut flowers	4.91	1.561	3.30	1.817	0.000
provides technical information/advice	5.57	0.950	5.79	0.587	0.200
<i>Total</i>	<i>49</i>		<i>49</i>		

¹ where 1 is "very well" and 6 is "not at all well"

However, in this relationship, the second most preferred buyer was seldom able to purchase all year round. Most of these buyers were opportunistic, purchasing flowers from the farmers only when the demand was strong, primarily for the festivals. Consequently, there was little

evidence of any long-term relationship. Relationships between farmers and the second most preferred buyers were more casual, indicating that they did not sell to the same buyers year after year or season after season. There was little trust and the second most preferred buyer generally had a poor reputation. They communicated with the farmers much less frequently and not unexpectedly, they provided little market information.

9.2.4 How well each buyer met the farmers selling criteria

Farmers sold to traders where they: (1) did not have the labour to perform all the marketing activities; (2) were financially constrained; (3) did not have the capacity to deliver to wholesalers; or (4) were unable to access other buyers such as wholesalers, companies or retail buyers. Any one of more of these constraints could leave farmers with no choice other than to sell cut flowers to traders, who would subsequently perform all the marketing activities from harvest to transport.

In examining the gap between what farmers wanted and what they received from their most preferred traders, farmers placed most importance on the purchase of cut flowers all year round, the provision of an acceptable price and on-time payment (Table 9.5).

Table 9.5 Criteria farmers required and the extent to which downstream traders actually met these criteria

Criteria	Farmer wanted ¹		Farmer got ²		Sig.
	Mean	SD	Mean	SD	
be able to buy my cut flowers all year round	1.70	1.173	2.00	1.201	0.156
pay on time	1.77	0.803	2.00	0.778	0.160
provide me with an acceptable price	1.89	0.841	2.50	0.792	0.000
have trust/confidence together	1.91	0.884	1.98	1.067	0.555
has a good business reputation	2.14	1.173	2.05	1.077	0.633
is willing to meet my immediate needs	2.57	1.354	3.27	1.370	0.011
can transport cut flowers from my farm	2.59	1.452	1.98	1.338	0.047
is in frequent communication with me	2.75	1.400	2.77	1.344	0.875
is geographically close to me	3.25	1.754	2.36	1.331	0.000
we have a long-standing relationship	3.32	1.567	2.89	1.528	0.009
provides market information	3.39	1.768	4.14	1.564	0.002
do all activities: harvest, grade, pack and store cut flowers	3.61	1.701	2.73	1.301	0.002
provides technical information/advice	4.16	1.904	5.48	1.023	0.000
Total	44		44		

¹ where 1 is “very important” and 6 is “not at all important”

² where 1 is “very well” and 6 is “not at all well”

However, farmers indicated that they were often dissatisfied with the results of their transaction. Farmers believed that the price they ultimately received was often less than what they had been promised. Traders only communicated with farmers when farmers had cut flowers that the traders wanted. From the farmer’s perspective, traders seldom provided them with any technical or market information.

On a more positive note, farmers were very satisfied in their transactions with traders because of their ability to pay on time, to perform all the postharvest activities and to transport cut flowers from the farm. Most traders were geographically close to the farm and had a long-term relationship with the farmers. However, they were often unable to meet the farmer's immediate needs.

When asked why farmers did not transact with local traders, the main reason was the inability of local traders to purchase their flowers all year round (29%). The variation in the quantity of the cut flowers produced and their inability to purchase the flowers produced made traders an unstable buyer. The small size of the local trader's business was another reason why traders were unable to purchase all the farmers' produce (15%) (Table 9.6).

Table 9.6 Reasons farmers gave for not dealing with traders

Responses	Frequency	Percentage
Unstable buyer/Purchase only in the high season/Not purchase all year round	30	28.6
Purchase small volume/Small scale trader/Cannot purchase a large volume in the low season	16	15.2
Have the other good/preferred buyer/Contract with a company/Just have enough volume to sell for the main buyer	16	15.2
No reputation/No trust	13	12.4
Loose profit when selling through a market intermediary/ Lower profit/Trader take a profit percentage	13	12.4
Lower price/Unreasonable price/Cheap price	12	11.4
Unstable price/Depend on daily market price/Trader are also farmer, so they do not know exactly the price	9	8.6
Price pressure	9	8.6
Only buy select cut flowers	5	4.8
High waste ratio (when purchase whole-farm)	3	2.9
Sell to people who pay higher price/sell when buyer pay a good price	1	1.0
Not meet the requirement	1	1.0
Produce small volume/Have not enough volume to sell to trader	1	1.0
Assistance: No capital	1	1.0
High risk/Buyer does not pay their debt	1	1.0
Do not provide price information	1	1.0
<i>Total</i>	<i>105</i>	

Others reported that they were satisfied with their preferred buyers such as wholesalers or companies (15%). However, in terms of their relationship with traders, farmers perceived traders to have a poor reputation (12%) and to provide lower returns (12%). For some 9% of farmers, the instability in the price offered by the traders was an important consideration.

Among the buyers, wholesalers were generally the first choice for most farmers (68%). Most smallholder farmers transacted with wholesalers because of the wholesalers' ability to take flowers all year round, the large quantity purchased, relaxed quality specifications and the farmers' inability to transact with a company.

In their transactions with wholesalers, farmers were willing to do all the harvesting activities and to arrange for and to pay for the cost of transporting cut flowers to the wholesale markets in HCMC. However, there was a significant gap between what farmers wanted and what they received from wholesalers (Table 9.7).

Table 9.7 Criteria farmers required and the extent to which downstream wholesalers actually met these criteria

Criteria	Farmer wanted ¹		Farmer got ²		Sig.
	Mean	SD	Mean	SD	
be able to buy my cut flowers all year round	1.50	0.916	1.65	0.742	0.035
have trust/confidence together	1.54	0.688	1.81	0.76	0.001
pay on time	1.66	0.681	1.88	0.849	0.003
provide me with an acceptable price	1.67	0.646	2.26	0.717	0.000
has a good business reputation	1.85	1.013	1.89	0.99	0.701
is in frequent communication with me	2.28	1.381	2.42	1.451	0.143
is willing to meet my immediate needs	2.43	1.294	3.06	1.23	0.000
can transport cut flower from my farm	2.83	1.775	5.26	1.348	0.000
we have a long-standing relationship	2.88	1.498	2.9	1.464	0.852
provides market information	3.10	1.791	3.99	1.528	0.000
do all activities: harvest, grade, pack and store cut flowers	3.78	1.947	5.49	0.877	0.000
provides technical information/advice	4.51	1.809	5.66	0.862	0.000
is geographically close to me	4.51	1.762	5.51	1.071	0.000
Total	144		144		

¹ where 1 is “very important” and 6 is “not at all important”

² where 1 is “very well” and 6 is “not at all well”

Farmers indicated that most wholesalers were able to purchase all the flowers they had produced but at a lower price than what they expected. Furthermore, farmers believed that the price they received from wholesalers was often less than what they had been promised. As there was much volatility and uncertainty of price in the market, this comes as no surprise, for farmers were generally paid two weeks after delivery.

As the HCMC wholesalers were far from their farms, wholesalers communicated with the farmers on enough occasions for the farmers to be generally satisfied, but most farmers were dissatisfied with the quality of the market information conveyed. The poor quality of the information conveyed contributed to the farmers’ limited understanding of the market’s needs. For those farmers who transacted with the wholesalers, little importance was placed on the provision of technical information/advice, for in most instances, flower wholesalers had very little experience in cultivating cut flowers.

For those farmers who chose not to transact with a wholesaler, the lack of labour to perform all the activities, the lack of capital to bear all marketing costs and the absence of any long-term relationship with a potential wholesaler (21%) were the most frequently cited reasons for not transacting with wholesalers (Table 9.8).

Table 9.8 Reasons farmers gave for not dealing with wholesalers

Responses	Frequency	Percentage
Lack of labour/Have to do all postharvest activities	11	21.2
Have no wholesaler/Not create relationship with people from the other cities/Wholesalers not look for me	11	21.2
Bear all cost (harvest, pack and transport cost)	11	21.2
Unstable price/Have no respect the initial price agreement	10	19.2
Price pressure	7	13.5
Unstable output	5	9.6
Pay after selling and deducting expenses/Deduct unsuitable cost	4	7.7
Pay at lower daily market price/Unreasonable price/Unsuitable price/Price is same for all grade (even bad or good quality)	4	7.7
Unsafety (not pay money)/The risk of refusing to pay wholesaler's debt was high/Risky when wholesaler did not pay their debts	3	5.8
Produce small volume	3	5.8
Not meet wholesaler requirement	2	3.8
Have many unappropriated problems	1	1.9
No price decision/Cannot decide the price/Not meet price agreement	1	1.9
Decrease the quantity after grading	1	1.9
Have other good buyer/Have a preferred buyer/Contract with a company	1	1.9
Not provide technical advise	1	1.9
Not higher profits	1	1.9
<i>Total</i>	52	

Some 19% of farmers indicated that they were dissatisfied with the unstable price paid by wholesalers. The pressure on prices exerted by wholesalers (14%), variable output (10%), and the price deductions made after the sale (8%) were other reasons given why farmers chose not to sell their flowers to wholesalers.

In transacting with the companies, in comparison, the gap between what the farmers expected and what they received was minimal (Table 9.9). Those farmers who sold cut flowers to companies were able to benefit from the services offered by the company such as grading, packing and storing cut flowers and providing technical information. In transacting with the company, there was a long-standing relationship and frequent communication between the parties. The company was able to purchase cut flowers all year round, so that farmers had a reliable market.

However, as most farmers were under contract, they often felt dissatisfied when the company failed to increase the price during high demand periods. Furthermore, most farmers indicated that the company seldom provided any market information nor did they always pay on time.

Although companies provided the highest price, they required the farmers to make significant investments in protected cropping systems. For roses, companies only purchased cut flowers from farmers when they had insufficient of their own.

Table 9.9 Criteria farmers required and the extent to which downstream companies actually met these criteria

Criteria	Farmer wanted ¹		Farmer got ²		Sig.
	Mean	SD	Mean	SD	
be able to buy my cut flowers all year round	1.22	0.428	1.50	0.707	0.096
pay on time	1.28	0.575	2.11	1.410	0.020
provide me with an acceptable price	1.44	0.511	2.17	0.707	0.001
have trust/confidence together	1.5	0.618	1.50	0.514	1.000
has a good business reputation	1.5	0.618	1.61	0.778	0.682
is in frequent communication with me	1.56	0.616	1.39	0.608	0.269
is willing to meet my immediate needs	1.78	0.943	2.50	1.098	0.015
provides technical information/advice	2.11	1.711	2.44	1.947	0.163
do all activities: harvest, grade, pack and store cut flowers	2.11	1.367	2.89	1.745	0.022
can transport cut flower from my farm	2.17	0.985	4.50	1.505	0.000
provides market information	2.44	1.423	3.94	1.552	0.008
we have a long-standing relationship	2.89	1.641	2.06	0.802	0.020
is geographically close to me	4.11	2.139	2.33	1.847	0.002
<i>Total</i>	<i>18</i>		<i>18</i>		

¹ where 1 is “very important” and 6 is “not at all important”

² where 1 is “very well” and 6 is “not at all well”

The farmer’s reasons for not transacting with the companies were varied. Companies who purchased cut flowers from farmers had their own grading system and would only accept those cut flowers that met their specifications. Substandard flowers were simply rejected (26%) (Table 9.10).

Table 9.10 Reasons farmers gave for not dealing with company

Responses	Frequency	Percentage
Standard requirement/Not meet company’s requirement/Require quality standard/High demand/ Strict stipulation/Not consume bad quality	43	25.9
Have no company/Never cooperate with a company before/Company buy the other cut flowers/Not many company/If company have contract, I will sell to them	42	25.3
Constraint of contract/Put under strict condition: quality, time and grade/require a contract/Bind with a condition/Sign a contract	29	17.5
Just have enough volume to sell for the main buyer/Have other good buyers	20	12.0
Not purchase from farmer/Have no demand from farmer/Not suggest a contract with farmer/Not look for farmer/Company only contract with limited number of farmer, require soil analysis, electric bulb system	15	9.0
Pay unsuitable price/Low price/Cheap price/Not meet the requirement of price	12	7.2
Unstable buying/Only buy when company scare of cut flower/high season/festival season/Supply only when we have a contract	11	6.6
Only small scale cut flower production	8	4.8
No prestige/No reputation/Unmethodical business/working	8	4.8
Complicated classification/Require careful grade (farmer have high waste ratio)/Deduct unsuitable quality	7	4.2
Slow payment from company/Pay late/Irregular payment	5	3.0
Buy a large volume	4	2.4
Risk: company go bankrupt	3	1.8
Price pressure	3	1.8
Depend on varieties that company grow	3	1.8
Supplier have to deliver to company/long distance	2	1.2

Responses	Frequency	Percentage
Contract conditions does not benefit supplier/Have no respect for the initial price agreement	2	1.2
Purchase small volume	1	0.6
I do not like to sell to a company	1	0.6
Do not pay in advance	1	0.6
<i>Total</i>	<i>166</i>	

Transacting with retailers in Da Lat was not a major consideration for most farmers: only four farmers chose to transact directly with retailers. Retailers were very much a secondary consideration for farmers in selling their cut flowers. However, according to those farmers who did sell to retailers, there was no significant gap between what the farmers wanted and what they received from retail customers (Table 9.11).

Table 9.11 Criteria farmers required and the extent to which downstream retailers actually met these criteria

Criteria	Farmer wanted ¹		Farmer got ²		Sig.
	Mean	SD	Mean	SD	
provide me with an acceptable price	1.25	0.500	1.50	0.577	0.391
pay on time	1.25	0.500	1.00	0.000	0.391
has a good business reputation	1.25	0.500	2.25	0.957	0.182
be able to buy my cut flowers all year round	1.50	0.577	1.75	0.500	0.638
can transport cut flower from my farm	1.50	0.577	2.25	1.893	0.391
have trust/confidence together	2.25	1.258	2.50	1.000	0.638
do all activities: harvest, grade, pack and store cut flowers	2.75	1.708	2.50	1.291	0.391
is willing to meet my immediate needs	2.75	0.500	2.50	1.000	0.638
provides market information	3.25	2.217	4.50	1.732	0.412
is geographically close to me	3.50	1.291	3.00	1.414	0.604
is in frequent communication with me	3.50	1.732	4.25	2.062	0.391
provides technical information/advice	4.00	2.309	5.75	0.500	0.188
we have a long-standing relationship	4.50	1.291	3.75	1.500	0.215
<i>Total</i>	<i>4</i>		<i>4</i>		

¹ where 1 is “very important” and 6 is “not at all important”

² where 1 is “very well” and 6 is “not at all well”

For the majority of farmers who chose not to transact with local retailers, the primary reasons for not transacting directly with retailers were the small volumes of flowers purchased and the retailers inability to purchase flowers all year round (61%) (Table 9.12).

Retailers were perceived to be unstable buyers (15%), for they only purchased selected cut flowers (7%) for the major occasion days and festivals. Furthermore, 12% of farmers indicated that they only had enough flowers available to meet the needs of their preferred buyers. Generally speaking, retailers did not pay the farmers well, except during those times when the demand was strong.

Table 9.12 Reasons farmers gave for not dealing with retailers

Responses	Frequency	Percentage
Buy only small volume/Just consume a little volume while farmer produce a lot/Cannot consume all my product	93	60.8
Unstable transaction/Retailer can choose other suppliers if their cut flower have higher quality and cheaper price/Only buy when scare of cut flower/in the festival days	23	15.0
Just have enough volume to sell for the main buyer/Have other good buyer/Contract with a company	19	12.4
Labour costly/Have no labour/Waste labour/Have no time	15	9.8
Purchase only selective cut flower/Require good quality/Depend on the quality of cut flower of farmer that sell to retailer or not	10	6.5
Cheap price/Unsuitable price	10	6.5
Retailer have their own suppliers/Have no retailer/Not supply to retailer	8	5.2
Unstable price	6	3.9
Have to deliver to their shops/stalls	5	3.3
Require diversity of varieties/ Have only few varieties that retailers need	2	1.3
Price pressure	2	1.3
Do not meet retailer requirements	1	0.7
Poor reputation	1	0.7
Waste cut flower were sold in Da Lat market	1	0.7
<i>Total</i>	<i>153</i>	

To compare the extent to which one or more groups of buyers were better able to meet the farmers' requirements, a further comparison between what the farmers received from each downstream buyer was carried out. With regard to the small sample size, it was not possible to undertake any quantitative analysis with any degree of confidence and thus, by default, the responses were examined more subjectively (Table 9.13).

Table 9.13 Differences in the extent to which each most preferred buyers met farmers expected (T = traders, W = wholesalers, C= Companies, R = Da Lat retailers)

Criteria	Farmer got from				
	T	W	C	R	Sig.
provide me with an acceptable price	1.98 ^{ab}	1.81 ^{ab}	1.50 ^a	2.50 ^b	0.000
we have a long-standing relationship	1.98^a	5.26^b	4.50^b	2.25^a	0.072
be able to buy my cut flowers all year round	2.00 ^a	1.65 ^a	1.50 ^a	1.75 ^a	0.081
pay on time	2.00 ^b	1.88 ^{ab}	2.11 ^b	1.00 ^a	0.130
has a good business reputation	2.05 ^a	1.89 ^a	1.61 ^a	2.25 ^a	0.397
do all activities: harvest, grade, pack and store cut flowers	2.36^a	5.51^b	2.33^a	3.00^b	0.000
have trust/confidence together	2.50^b	2.26^{ab}	2.17^{ab}	1.50^a	0.030
can transport cut flower from my farm	2.73^a	5.49^b	2.89^a	2.50^a	0.000
provides technical information/advice	2.77^{ab}	2.42^{ab}	1.39^a	4.25^b	0.000
is geographically close to me	2.89 ^{ab}	2.90 ^{ab}	2.06 ^a	3.75 ^b	0.066
provides market information	3.27 ^a	3.06 ^a	2.50 ^a	2.50 ^a	0.131
is willing to meet my immediate needs	4.14 ^a	3.99 ^a	3.94 ^a	4.50 ^a	0.861
is in frequent communication with me	5.48^b	5.66^b	2.44^a	5.75^b	0.000
<i>Total</i>	<i>144</i>	<i>44</i>	<i>18</i>	<i>4</i>	

where 1 = "very well" and 6 = "not very well"

where those items with the same superscript in the same row are not significantly different at p = 0.05

Among the alternative buyers, most farmers preferred to sell cut flowers to wholesalers for a number of reasons. Wholesalers purchased flowers all year round, paid an acceptable price

on time, and had a good reputation. However, as expected, wholesalers were unable to assist with harvesting, grading, packing and transporting flowers to HCMC. Traders, on the other hand, were able to perform all of these activities including the transport of cut flowers from the farm to HCMC.

Based on the prices received, farmers who transacted with companies, wholesalers and traders were more satisfied with the price offered by their buyers than farmers who transacted with retailers. However, farmers indicated that retailers generally paid cash on the spot so they were considered as providing the most favourable terms of payment.

While most of the downstream buyers were unwilling to provide any market information, through regular visits from field technicians, most companies provided technical information. Farmers who dealt with companies also indicated that they had the most frequent communication with companies.

Based on the relationships between actors, for farmers who chose to transact with the preferred local traders and retailers, one of the reasons for doing so was the close long-term relationships between them. Most of the preferred retailers were relatives or had a close long-term relationship with the farmers.

9.3 What downstream buyers wanted

9.3.1 What downstream buyers wanted from upstream suppliers

In choosing from whom they would purchase cut flowers, traders indicated that a good reputation for producing good quality flowers, reliably and consistency, at a competitive price, were the most frequently cited variables (Table 9.14).

Traders preferred to transact with those farmers with whom they had developed a good relationship (18%). The relational criteria were important, as traders generally paid farmers half the negotiated value of the anticipated sale price at the time the purchase agreement had been made. Farmers then had to take responsibility for the crop, to spray, water and maintain it, until the traders wished to harvest. To ensure a reliable supply, traders were more likely to transact with farmers who could supply flowers all year round (20%), and were able to offer a sufficient trading volume (15%).

Table 9.14 Criteria used by traders in deciding from whom they will purchase the produce

Responses	Frequency	Percentage
Good cultivation technique/Have experience to grow cut flower	18	45.0
Reasonable price/Follow daily market price	18	45.0
Good quality/Have high quality ratio	17	42.5
Reputation/Prestige	9	22.5
Have stable flower source/Have cut flower volume all year round	8	20.0
Have good-looking cut flower/ Uniform cut flower	7	17.5
Have long-term relationship and transaction/ Good relationship	7	17.5
Got enough trading volume/Sufficient flower source	6	15.0
Meet my demand	4	10.0
Geographically close/Easy to transport to my place	3	7.5
Lower waste ratio	3	7.5
Correct timing of the sale	2	5.0
Buy directly from producer/Not through market intermediary	2	5.0
Provide diversified varieties and colour/Have new varieties	2	5.0
Help together/Farmer have no buyer	1	2.5
Accept payment after selling/ Sold on credit	1	2.5
No price pressure	1	2.5
Trust/Honesty/Loyal and faithful	1	2.5
<i>Total</i>	<i>40</i>	

From the wholesalers' perspective, the situation was not dissimilar. Some 30% were concerned about sourcing good-looking cut flowers with an additional 24% citing the need to secure a supply of good quality cut flowers (Table 9.15).

Table 9.15 Criteria used by wholesalers in deciding from whom they will purchase the produce

Responses	Frequency	Percentage
Have good-looking cut flower/ Uniform cut flower	11	29.7
Reputation/Prestige	10	27.0
Good quality/Have high quality ratio	9	24.3
Got enough trading volume/Sufficient flower source	9	24.3
Reasonable price/Follow daily market price	7	18.9
Have stable flower source/Have cut flower volume all year round	7	18.9
Have long-term relationship and transaction/ Good relationship	5	13.5
Provide diversified varieties and colour/Have new varieties	5	13.5
Accept payment after selling/ Sold on credit	5	13.5
Buy directly from producer/Not through market intermediary	4	10.8
Trust/Honesty/Loyal and faithful	3	8.1
Good cultivation technique/Have experience to grow cut flowers	2	5.4
Have large volume	2	5.4
Meet my demand	1	2.7
Help together/Farmers have no buyers	1	2.7
Good packing skill	1	2.7
Ready follow company production plan	1	2.7
Share risk/Safety	1	2.7
Stable price/Less price movement	1	2.7
Easy to contact/Easy to buy/Can bargain	1	2.7
<i>Total</i>	<i>37</i>	

In terms of the relational criteria, 27% of the wholesalers preferred to transact with suppliers who had a good reputation and 14% preferred to transact with those suppliers with whom they had a good relationship. Others preferred to deal with suppliers who provided a regular and reliable supply (19%) of a diverse variety of cut flowers (14%). However, from the wholesalers' perspective, the willingness to offer a stable price was very much a secondary consideration (19%), for wholesalers had to adjust the prices daily and even throughout the day depending on supply and demand. Farmers and traders had to accept the wholesalers' terms of payment (14%), which were generally two weeks after the sale had been made to downstream customers. In this manner, wholesalers were able to manage the price risk and the uncertainty.

Retailers, who were the closest to consumers, endeavoured to deal with suppliers who offered a reasonable price (53%) (Table 9.16). Most retailers required a diverse range (24%) of good quality (38%), good-looking cut flowers (20%). Preferred suppliers had a good reputation (20%) and were able to deliver cut flowers reliably and consistently (17%).

Table 9.16 Criteria used by retailers in deciding from whom they will purchase the produce

Responses	Frequency	Percentage
Reasonable price/Follow daily market price	49	52.7
Good quality/Have high quality ratio	35	37.6
Provide diversified varieties and colour/Have new varieties	22	23.7
Reputation/Prestige	19	20.4
Have good-looking cut flower/ Uniform cut flower	19	20.4
Have stable flower source/Have cut flower volume all year round	18	19.4
Early delivery/ Delivery exact quantity/ Reputation in delivery	16	17.2
Meet my demand	13	14.0
Preserved cut flower/Long vase life	9	9.7
Have long-term relationship and transaction/ Good relationship	8	8.6
Geographically close/Easy to transport to my place	8	8.6
Accept payment after selling/ Sold on credit	6	6.5
Easy to contact/Easy to buy/Can bargain	6	6.5
Buy directly from producer/Not through market intermediary	5	5.4
Do all activities: grade, pack and transport to my house	5	5.4
Only purchase when lack of cut flower from my preferred supplier	3	3.2
Inform the quality of cut flower, adjust the price if bad quality	2	2.2
Good packing skill	2	2.2
Trust/Honesty/Loyal and faithful	2	2.2
Know product origin	2	2.2
Got enough trading volume/Sufficient flower source	2	2.2
Good cultivation technique/Have experience to grow cut flowers	1	1.1
Lower waste ratio	1	1.1
Correct timing of the sale	1	1.1
Save packing and transporting cost	1	1.1
Have services to guarantee mutual profit	1	1.1
No need to bargain	1	1.1
Have different grades that buyer need	1	1.1
Have large volume	1	1.1
<i>Total</i>	93	

Retailers were the first of the market intermediaries to express any concern about the vase life of cut flowers. In striking contrast to both traders and wholesalers, retailers were less concerned about the social dimensions such as a long-term relationship (9%), the ease of contact (7%) and trust (2%).

From a review of the literature, each of market intermediaries was asked to indicate how important 19 fixed statements were in their decision to purchase cut flowers from upstream suppliers. To explore any potential gap at the farm level, cut flower farmers were asked to respond to the same 19 statements on what they believed their downstream buyers required.

Farmers believed that in choosing between alternative suppliers, their downstream buyers preferred to transact with those suppliers who could provide a regular volume of good quality flowers that had been harvested at the desired stage of maturity, looked good and were free of pests, diseases and physical injury. Preferred suppliers were perceived to have a good reputation and could be relied upon to deliver the desired quantity of flowers when they were required (Table 9.17).

Table 9.17 Importance of purchase criteria between alternative actors (F = farmers, T = traders, W = wholesalers, RDL = Da Lat retailers; RHCMC: HCMC retailers)

Criteria	F	T	W	R _{DL}	R _{RHCMC}
have a good reputation	1.63 ^a	1.44 ^a	1.80 ^a	2.02 ^e	1.83 ^b
have cut flowers that are good-looking	1.69 ^a	1.49 ^a	2.05 ^a	1.88 ^d	1.65 ^a
have cut flowers in the desired quality	1.70 ^a	1.59 ^a	1.68 ^a	1.62 ^b	1.59 ^a
have confidence together	1.70 ^a	1.71 ^a	2.10 ^a	2.26 ^f	2.50 ^d
provide regular and stable volume	1.83 ^a	1.63 ^a	1.59 ^a	1.36 ^a	1.83 ^b
have cut flowers that free of pests and disease	1.89 ^b	1.49 ^a	2.10 ^a	1.69 ^b	2.30 ^c
have cut flowers that are free of physical injury	1.98 ^a	1.98 ^a	1.85 ^a	1.74 ^c	1.85 ^b
have cut flowers with the right maturity	2.02 ^a	1.85 ^a	1.76 ^a	2.14 ^e	2.59 ^d
ability to deliver cut flowers when required	2.26 ^a	1.95 ^a	2.17 ^a	2.26 ^f	2.72 ^d
be willing to meet their intermediate needs	2.46 ^b	1.88 ^a	2.17 ^a	2.29 ^f	2.37 ^d
provide cut flowers that are competitively priced	2.53 ^b	2.98 ^d	2.56 ^a	2.40 ^f	1.76 ^b
be able to give credit (deferred payment)	2.57 ^c	2.83 ^c	1.95 ^a	2.71 ^g	3.13 ^e
have cut flowers that are appropriately packed	2.85 ^d	4.85 ^f	2.32 ^a	2.93 ^g	3.15 ^e
we have a long-standing relationship	3.27 ^e	3.49 ^e	2.90 ^a	3.17 ^h	3.61 ^f
provide quality information of cut flowers	3.29 ^f	2.44 ^b	2.20 ^a	3.43 ^h	3.59 ^f
have cut flowers that are well graded	3.33 ^f	4.63 ^f	2.51 ^b	2.43 ^g	2.87 ^e
offer a wide range of fresh cut flowers	3.53 ^f	3.54 ^e	2.39 ^a	2.76 ^g	2.54 ^d
have cut flowers that store well	3.72 ^g	5.17 ^f	4.76 ^c	4.14 ^h	4.15 ^g
have a contract	4.99	4.54 ^f	5.27 ^c	5.36 ^k	4.78 ^g
<i>Total</i>	206	41	41	42	54

where 1 = “very important” and 6 = “not at all important”

where those items with the same superscript in the same column are not significantly different at p =0.05

Price was perceived to be secondary consideration. Of even less importance was the need to provide a range of cut flowers that were appropriately packed, well graded and stored well.

In their transaction with both traders and wholesalers, the farmers understanding of their downstream buyers needs were remarkably accurate.

In choosing between alternative suppliers, traders also placed the most importance on transacting with those suppliers who had a good reputation for delivering a regular volume of good quality flowers that were good-looking, of the desired maturity, free from pests and diseases and free from physical injury. However, traders placed more importance on the willingness of suppliers to meet their immediate needs. While price was not so much of an issue, traders did need quality information. They were not at all concerned about the need for flowers to be graded and packed, for traders generally purchased the flowers in bulk and were often responsible for harvesting, packaging and grading the cut flowers. Traders who purchased cut flowers at the farm gate were not at all concerned about the shelf life.

For the wholesalers, 15 of the 19 statements were of equal importance. Like the traders, wholesalers were not at all concerned about the need for flowers to store well or for flower farmers to have a contract. However, the wholesalers placed more importance on the need for flowers to be competitively priced, appropriately packed and well graded. In order to meet the needs of their retail customers, wholesalers preferred to transact with those suppliers who could offer a wide range of different flower types.

For the Da Lat retailers, the need to have flowers of the desired quality that were good-looking and competitively priced were the most important considerations. Da Lat retailers were also concerned about the reputation of the suppliers, preferring to transact with suppliers who could deliver cut flowers when required and were willing to meet their immediate needs. While retailers preferred to receive a wide range of cut flowers that were well graded, retailers believed that the shorter the vase life, the more often consumers would need to repurchase. Chrysanthemums, which were primarily used for religious purposes, had a vase life of at least one week and thus a long vase life was of little concern. However, the required vase life of roses depended on how the customer intended to use them. Roses were used primarily for special occasions or events such as wedding days or funerals and were generally discarded very quickly. However, where the flowers had been purchased as a personal gift or for decoration, a short vase life was likely to leave consumers dissatisfied.

For the HCMC retailers, the technical quality and functional quality dimensions and a competitive price were the most important considerations. To meet their anticipated customers' demands, they also required a wide range of cut flowers that were appropriately graded. Again, the HCMC retailers placed very little importance on the vase life.

While it was evident that different market intermediaries placed varying amounts of importance on each of the supplier selection criteria, ANOVA was performed to identify any significant difference in the means between farmers and the market intermediaries

participating in the value chain. It was immediately apparent that the importance of trust and reputation was more important at the farm level than the retail level (Table 9.18).

Table 9.18 Differences between farmers' perceptions and the criteria the downstream buyers used when choosing between alternative suppliers (F = farmers, T = traders, W = wholesalers, RDL = Da Lat retailers; RHCMC: HCMC retailers)

Criteria	F	T	W	R _{DL}	R _{HCMC}
have a good reputation	1.63^{ab}	1.44^a	1.80^{ab}	2.02^b	1.83^{ab}
have cut flowers that are good-looking	1.69^{ab}	1.49^a	2.05^c	1.88^{ab}	1.65^{ab}
have cut flowers in the desired quality	1.70 ^a	1.59 ^a	1.68 ^a	1.62 ^a	1.59 ^a
have trust/confidence together	1.70^a	1.71^a	2.10^{ab}	2.26^{ab}	2.50^b
provide regular and stable volume	1.83 ^a	1.63 ^a	1.59 ^a	1.36 ^a	1.83 ^a
have cut flowers that free of pests and disease	1.89^b	1.49^a	2.10^c	1.69^{ab}	2.30^c
have cut flowers that are free of physical injury	1.98 ^a	1.98 ^a	1.85 ^a	1.74 ^a	1.85 ^a
have cut flowers with the right maturity	2.02^{ab}	1.85^a	1.76^a	2.14^{ab}	2.59^b
ability to deliver cut flowers when required	2.26^{ab}	1.95^a	2.17^{ab}	2.26^{ab}	2.72^b
be willing to meet their intermediate needs	2.46 ^a	1.88 ^a	2.17 ^a	2.29 ^a	2.37 ^a
provide cut flowers that are competitively priced	2.53^b	2.98^b	2.56^b	2.40^{ab}	1.76^a
be able to give credit (deferred payment)	2.57^{ab}	2.83^b	1.95^a	2.71^b	3.13^b
have cut flowers that are appropriately packed	2.85^{ab}	4.85^c	2.32^a	2.93^{ab}	3.15^b
we have a long-standing relationship	3.27 ^a	3.49 ^a	2.90 ^a	3.17 ^a	3.61 ^a
provide quality information of cut flowers	3.29^{bc}	2.44^{ab}	2.20^a	3.43^c	3.59^c
have cut flowers that are well graded	3.33^c	4.63^d	2.51^{ab}	2.43^a	2.87^{ab}
offer a wide range of fresh cut flowers	3.53^b	3.54^b	2.39^a	2.76^{ab}	2.54^a
have cut flowers that store well	3.72^a	5.17^c	4.76^{bc}	4.14^{ab}	4.15^{ab}
have a contract	4.99 ^a	4.54 ^a	5.27 ^a	5.36 ^a	4.78 ^a
Total	206	41	41	96	54

where 1 = "very important" and 6 = "not at all important"

where those items with the same superscript in the same row are not significantly different at p = 0.05

Trust and a good reputation were of utmost importance in the relationship between farmers and traders, but were significantly less important in the relationship with retailers. For wholesalers, it was evident that a long-term relationship with suppliers was of considerable importance, as they needed to procure a reliable supply of cut flowers. However, for both traders and retailers, as they purchased direct from the farmers only during the major festivals, a long-term relationship was much less important.

In examining the market intermediaries' choice criteria when purchasing cut flowers from farmers and suppliers, all customers acknowledged that desired quality, a sufficient quantity and a competitive price were the most important criteria. As expected, market intermediaries endeavoured to purchase the best quality cut flowers as cheaply as possible to maximize the margin they could extract upon reselling the flowers.

However, many of the quality attributes were considered to be more or less important by each of the different actors in the supply chain. For example, while farmers placed some importance on flowers being appropriately packed, traders and HCMC retailers considered it to be less important. For the wholesalers, having cut flowers of the desired quality that had

been appropriately graded and packaged was very important. Most downstream buyers placed less importance on purchasing flowers of the appropriate maturity than farmers. The importance of a competitive price however, was of much greater importance at the retail level than at the farm level. Typical of most fresh produce supply chains where prices were determined by supply and demand, smallholder farmers and traders had little capacity to influence the price and were largely price takers.

In their position, most farmers perceived that their downstream buyers did not require a wide range of cut flowers or well graded cut flowers. However, the importance of providing a wide range of cut flowers that were appropriately graded was significantly more important at the retail level. In contrast, while farmers placed considerable importance on supplying flowers that stored well, downstream buyers were not at all concerned about extending the vase life.

In this study, the reasons which prevented suppliers from meeting their downstream customers' needs were examined. At the farm level, the variability in quality (26%), the unstable climate (21%), pest and disease problems (20%), and poor productivity (14%) were the most frequently cited reasons (Table 9.19).

For traders, price instability (27%), the variability in quality (21%) and limited productivity (12%) were seen as the major constraints, whereas for wholesalers, the variation in quality (52%), slow payment from buyers (17%) and the uncertain or unstable demand (13%) were the main reasons given why they were unable to meet their downstream buyers' needs.

In a similar manner, the reasons which prevented buyers from meeting their upstream suppliers' needs were also examined. Both traders and wholesalers agreed that price instability was the major constraint that prevented them from meeting their upstream suppliers' needs. For traders, the low market demand (13%), unstable buyers (10%) and the lack of capital (10%) were secondary considerations (Table 9.20).

For wholesalers, the most frequently cited reason was the low price in the market that made it difficult for them to meet their supplier's expectations (39%). The variation in demand (16%) and poor quality (16%) were other considerations. Wholesalers also recognized that slow payment (7%) and non-payment from buyers (3%) made it difficult for them to pay their suppliers leading to dissatisfaction.

Retailers indicated that in the low season they could not accommodate all the flowers available for sale (24%), irrespective of the price. Quite simply, there was no demand (7%) and a lack of buyers (21%). Retailers were also aware of the small volume that they purchased (19%) and their inability to provide any technical information (13%).

Table 9.19 What prevented suppliers from meeting downstream buyers' needs (%) (F = farmers, T = traders, W = wholesalers, R = retailers)

Factors	F	T	W
Quality/Unstable quality/Quality volatility	26.3	20.6	52.2
Unstable climate/ Unfavourable climate	20.7	5.9	
Pest and disease problems	20.2	2.9	
Produce unstable volume/Limited productivity	13.6	11.8	
Limited cultivation technique	8.6		
Unstable price	6.6	26.5	8.7
False timing of the sale/Lack of farm planting plan	6.1		
Stable production areas	6.1		
Seasonal production	5.6		
Not enough variety quantities in the high season production	5.1		
Have not diversified cut flower/Have only some varieties	5.1		
Lack of standard varieties/Bad varieties	4.0		
Price pressure/Price pressure in the high season	3.0		
Lack of capital	3.0	5.9	
Damage of plant/Broken and bruising	2.5		
Lack of labour /Skill of labour	1.5		
Degenerated land/Infectious land	1.5		
Not store, grade and pack cut flower/High waste ratio	1.5		4.3
Failure of crops/Have no cut flower to harvest	1.5		
Slow payment	1.0	5.9	17.4
Lack of trust together/Lack of reputation	1.0	5.9	4.3
Loss during transport	1.0		
Downgraded glass house/ Insufficient infrastructure	1.0		
Depend on my preferred buyer	1.0		
High input cost	1.0		
Unstable buying/transaction/ Unstable demand		5.9	13.0
No contact	0.5		
Production area is in urban planning area	0.5		
Do not want to give an opinion	0.5		
Bear cost for transport	0.5		
Late delivery		2.9	
High competition from other buyers		2.9	4.3
Not take care of cut flower after receiving money		2.9	
<i>Total</i>	198	34	23

Table 9.20 What prevents buyers from meeting upstream suppliers' needs (%) (F = farmers, T = traders, W = wholesalers, R = retailers)

Factors	T	W	R
Unstable price/Not provide exactly the daily market price/Unstable and uncontrolled price/Daily market price/Fluctuated price/Cannot predict the price	26.7	25.8	
Depend on market demand/ Lower market demand	13.3	16.1	7.1
Cheap price/Pay lower price than the others/ Unsuitable price/ Sometimes unreasonable price/Not inform the price	10.0	38.7	1.4
Unstable buyer/Only purchase when supplier has good quality cut flowers/when lack of cut flower source/Unstable selling volume	10.0		21.4
Lack of capital to pay cash immediately/Cannot support a large amount of money	10.0		
Supplier has bad quality cut flowers	6.7	16.1	5.7
Slow payment/Cannot pay quickly due to slow selling	6.7	6.5	5.7
Require high quality cut flower/Purchase selective cut flower	6.7		
Unsold/Limited capacity of selling/Slowly sell/Low seasons in a year	3.3	3.2	24.3
Not inform the quantity that they need/Unstable order	3.3		1.4
Charge high waste ratio	3.3		
Purchase small volume/Cannot consume a large volume			18.6
Cannot provide technical information/No transport from farm to my shop/ Do not do all postharvest activities			12.9
Not frequently contact/Do not inform the market information			5.7
High competition with other shop			4.3
Unreliable/Depend on each supplier's characteristic/Not keep prestige/Depend on profit		3.2	
Meet my requirement/Always respond to my requests/Meet supplier's requirement		3.2	1.4
Not pay money		3.2	1.4
Pay after selling/Pay after 1/2 - 1 month		3.2	1.4
Supplier stayed in an extensive area		3.2	
Price pressure			2.9
Not inform the varieties and colour that they need			1.4
Buyer/wholesaler decide the price			1.4
Transport for a long distance that effects quality of cut flower and grade/Long distance			1.4
<i>Total</i>	<i>30</i>	<i>31</i>	<i>70</i>

How well farmers met traders criteria

The difference between what each downstream buyer expected and what farmers were able to deliver is examined in this section. From the traders' perspective, farmers were generally unable to provide flowers of the desired quality, reliably and consistently. Traders were often dissatisfied with what farmers offered in terms of flowers that were free of pests and diseases, well graded and good-looking (Table 9.21).

Although packaging and grading was of little importance for traders because they generally purchased the flowers in bulk and were often responsible for harvesting, grading and packing the flowers themselves, they were often disappointed with what they received from farmers.

Table 9.21 Criteria downstream traders required and the extent to which farmers actually met these criteria

Criteria	Trader wanted ¹		Trader got ²		Sig.
	Mean	SD	Mean	SD	
Good reputation	1.44	0.634	1.90	0.800	0.004
Free of pests and disease	1.49	0.597	2.20	0.901	0.000
Good-looking	1.49	0.553	2.20	0.679	0.000
Desired quality	1.59	0.499	2.10	0.664	0.000
Regular volume	1.63	0.829	2.32	1.011	0.000
Trust	1.71	0.750	2.02	1.012	0.062
Right maturity	1.85	1.014	2.02	0.758	0.302
Meet intermediate needs	1.88	0.872	2.07	0.721	0.088
Deliver when required	1.95	1.117	2.07	0.787	0.453
Free of physical injury	1.98	1.313	2.15	0.727	0.460
Quality information	2.44	1.415	3.00	1.565	0.011
Give credit	2.83	1.687	2.71	1.750	0.635
Competitively priced	2.98	1.541	3.12	1.435	0.498
Long relationship	3.49	1.675	3.15	1.574	0.216
Wide range	3.54	1.776	4.49	1.485	0.002
Have a contract	4.54	1.567	4.32	1.695	0.238
Well graded	4.63	1.624	5.59	0.774	0.000
Appropriately packed	4.85	1.574	5.51	1.003	0.005
Store well	5.17	1.672	5.61	1.093	0.040
Total	41		41		

¹ where 1 is “very important” and 6 is “not at all important”

² where 1 is “very well” and 6 is “not at all well”

However and perhaps most importantly, since traders had already paid up to 50% of the anticipated price to farmers, it was the farmers’ poor reputation. This suggested that farmers could not always be relied upon to fulfil their promises. Even though the traders and farmers were geographically close, farmers seldom conveyed information to the traders on the quality of the flowers they had or were about to purchase.

Traders were also disappointed by the limited range of flowers farmers had available.

How well wholesalers preferred upstream farmers and the others met their criteria

For wholesalers, it was evident that most farmers had a poor reputation. The poor reputation stemmed primarily from the inability of farmers to deliver a wide range of flowers of the desired quality, reliably and consistently. The flowers delivered were seldom free of pests and diseases or of the desired maturity. Wholesalers indicated that cut flowers harvested prematurely or when over-mature to capture premium prices were more likely to cause problems for downstream buyers (Table 9.22).

For wholesalers, farmers were seldom able to deliver a sufficient quantity of good quality flowers. Such was the result of the very rudimentary way in which the flowers were cultivated rather than any opportunistic trading, for there was evidence of a high degree of trust in the transaction.

Table 9.22 Criteria downstream wholesalers required and the extent to which farmers actually met these criteria

Criteria	Wholesaler wanted ¹		Wholesaler got ²		Sig.
	Mean	SD	Mean	SD	
Regular volume	1.58	0.830	2.52	1.395	0.000
Desired quality	1.70	0.918	2.55	1.034	0.000
Right maturity	1.76	0.969	2.42	1.001	0.000
Free of physical injury	1.85	1.004	3.03	1.212	0.000
Good reputation	1.85	0.795	2.39	1.298	0.007
Good-looking	2.00	1.458	2.39	1.171	0.191
Give credit	2.06	1.223	1.97	1.185	0.662
Quality information	2.09	1.100	3.21	1.763	0.002
Trust	2.12	1.139	2.00	1.173	0.513
Free of pests and disease	2.18	1.357	2.79	0.893	0.014
Meet intermediate needs	2.24	1.173	3.21	1.293	0.000
Deliver when required	2.24	1.001	3.21	1.269	0.001
Appropriately packed	2.36	1.578	2.58	1.300	0.386
Wide range	2.55	1.641	4.21	1.616	0.000
Well graded	2.58	1.370	3.03	1.551	0.105
Competitively priced	2.67	1.594	3.67	1.534	0.005
Long relationship	2.85	1.584	2.39	1.298	0.146
Store well	4.79	1.654	5.64	0.929	0.011
Have a contract	5.21	1.474	5.00	1.500	0.427
Total	33		33		

¹ where 1 is “very important” and 6 is “not at all important”

² where 1 is “very well” and 6 is “not at all well”

However, when wholesalers needed a large volume of cut flowers, the farmers were generally unable to meet their requirements. Conversely, farmers continued to deliver cut flowers to wholesalers even when there was little demand.

The narrow range of flowers available was a much greater problem, as was the capacity of farmers to meet wholesalers’ immediate needs. Of surprise was the very low level of importance attached to the shelf life of cut flowers. Even so, wholesalers were dissatisfied with the short vase life of the flowers they received from farmers.

At the wholesale level, purchasing flowers that had been appropriately graded was very important if wholesalers were to meet the needs of their more discerning downstream customers. Quite simply, wholesalers had neither the time nor the facilities to regrade cut flowers in the wholesale market.

As wholesalers acted as consignment agents, they had no idea of the volume of the flowers they might receive on any one evening. To minimise their risk, the price of the flowers was determined after the sale had been made. The wholesalers’ costs (or commission) were then deducted and the balance paid to the farmers. Furthermore, where the quality was poor, if the wholesalers’ customers were dissatisfied and the wholesaler found it necessary to reduce the price, a lower price would be paid to the farmers.

Wholesalers could purchase cut flowers from various suppliers including farmers, traders and companies. Looking at what wholesalers received from each alternative supplier, it was evident that wholesalers preferred to transact with traders, given their superior capacity to deliver a greater volume of flowers and in some instances, a wider range of flowers. As traders were more experienced in grading and packing cut flowers, their cut flowers were easier to sell in the wholesale market than the farmers' product (Table 9.23).

Table 9.23 Performance of wholesalers most preferred suppliers (F= farmers, T = traders, C= companies)

Criteria	Wholesaler got from			
	F	T	Sig.	C
Give credit	1.97	1.86	0.969	1.00
Trust	2.00	2.00	0.836	1.00
Good-looking	2.39	1.86	0.264	3.00
Good reputation	2.39	2.29	1.000	1.00
Long relationship	2.39	2.14	0.723	1.00
Right maturity	2.42	2.00	0.328	3.00
Regular volume	2.52	2.14	0.615	3.00
Desired quality	2.55	2.29	0.483	4.00
Appropriately packed	2.58	2.14	0.621	3.00
Free of pests and disease	2.79	2.57	0.700	3.00
Free of physical injury	3.03	2.00	0.038	3.00
Well graded	3.03	3.14	0.594	3.00
Meet intermediate needs	3.21	1.86	0.011	3.00
Deliver when required	3.21	2.14	0.043	3.00
Quality information	3.21	3.57	0.624	1.00
Competitively priced	3.67	3.57	0.913	1.00
Wide range	4.21	3.14	0.196	5.00
Have a contract	5.00	4.43	0.389	6.00
Store well	5.64	5.57	0.241	3.00
<i>Total</i>	<i>33</i>	<i>7</i>		<i>I</i>

where 1 is "very well" and 6 is "not at all well"

those values with the bolded figures represent significance at $p = 0.05$

the independent t-test only performed the difference between farmers and traders, company was excluded from analysis due to only one response

How well retailers preferred upstream farmers and other suppliers met their criteria

It was somewhat surprising to find that most smallholder flower farmers were generally able to meet the retailers' needs. On the whole, for most smallholder farmers, transacting directly with Da Lat retailers, they could deliver a sufficient quantity of good quality flowers of the desired maturity that were free of pests and diseases and physical injury (Table 9.24).

However, farmers had more difficulty in supplying a sufficient quantity of good-looking flowers that were well graded and appropriately packed. Despite the geographic proximity, farmers could not always deliver the flowers when they were required, nor could they always meet the retailers' immediate needs. It was also evident that smallholder farmers could not always deliver flowers that were competitively priced.

Table 9.24 Criteria Da Lat retailers required and the extent to which farmers actually met these criteria

Criteria	Retailer wanted ¹		Retailer got ²		Sig.
	Mean	SD	Mean	SD	
Regular volume	1.43	0.756	1.57	0.938	0.500
Desired quality	1.43	0.646	1.86	0.864	0.082
Free of pests and disease	1.43	0.514	1.64	0.745	0.272
Trust	1.50	0.519	1.79	0.426	0.040
Good reputation	1.57	0.756	1.64	0.633	0.720
Good-looking	1.79	1.122	2.50	1.454	0.003
Free of physical injury	1.86	0.770	1.93	0.829	0.720
Meet intermediate needs	1.93	1.141	2.29	1.326	0.019
Deliver when required	1.93	1.141	2.64	1.277	0.045
Competitively priced	2.00	0.877	2.50	1.092	0.047
Right maturity	2.07	0.616	2.43	0.938	0.136
Give credit	2.07	1.072	2.14	0.770	0.775
Well graded	2.36	1.008	3.79	1.762	0.005
Appropriately packed	3.07	1.385	4.36	1.692	0.016
Long relationship	3.07	2.056	3.07	1.940	1.000
Wide range	3.29	1.773	4.43	1.284	0.063
Quality information	3.50	1.698	3.57	1.453	0.818
Store well	3.64	1.737	5.21	1.122	0.003
Have a contract	5.36	1.216	5.43	1.284	0.671
Total	14		14		

¹ where 1 is “very important” and 6 is “not at all important”

² where 1 is “very well” and 6 is “not at all well”

In comparing the performance of the smallholder farmers and the traders to meet the Da Lat retailers’ needs, with the exception of providing a wider range of cut flowers and flowers that were more appropriately packed, smallholder farmers were generally better able to meet the retailers’ needs (Table 9.25).

Traders were less able to provide flowers of the desired quality that were free of pests and diseases and physical injury. Nor were the traders any better able to meet the retailers’ immediate needs. Generally, smallholder farmers had a better reputation than the traders.

While retailers in Da Lat often dealt directly with flower farmers in Da Lat, retailers in HCMC rarely dealt directly with farmers in Da Lat. HCMC retailers purchased cut flowers primarily from traders, wholesalers, companies and others retailers. While only one Da Lat retailer regularly purchased flowers from a company, seven HCMC retailers dealt with companies.

Among their various suppliers, wholesalers and traders were perceived to make a better offer than other suppliers. Wholesalers were the best able to supply a sufficient quantity of flowers of the desired maturity that were well graded. Furthermore, wholesalers could provide a comprehensive range of flowers (Table 9.26).

Table 9.25 Performance of Da Lat retailers most preferred suppliers (F = Farmers, T = traders)

Criteria	Da Lat retailer got from			
	F	T	Sig.	C
Regular volume	1.57	1.96	0.057	1.00
Free of pests and disease	1.64	2.85	0.000	4.00
Good reputation	1.64	2.59	0.032	5.00
Trust	1.79	2.07	0.186	1.00
Desired quality	1.86	2.56	0.021	2.00
Free of physical injury	1.93	2.74	0.035	4.00
Give credit	2.14	2.48	0.274	5.00
Meet intermediate needs	2.29	3.26	0.040	3.00
Right maturity	2.43	2.85	0.337	2.00
Good-looking	2.50	2.85	0.343	2.00
Competitively priced	2.50	2.96	0.334	4.00
Deliver when required	2.64	3.11	0.379	3.00
Long relationship	3.07	2.63	0.829	1.00
Quality information	3.57	3.93	0.500	1.00
Well graded	3.79	3.22	0.260	4.00
Appropriately packed	4.36	3.07	0.013	2.00
Wide range	4.43	2.59	0.000	4.00
Store well	5.21	5.04	0.811	5.00
Have a contract	5.43	5.04	0.201	4.00
<i>Total</i>	<i>14</i>	<i>27</i>		<i>1</i>

where 1 is “very well” and 6 is “not at all well”

those values with the bolded figures represent significance at p = 0.05

the independent t-test only performed the difference between farmers and traders, company was excluded from analysis due to only one response

Table 9.26 Performance of HCMC retailers most preferred suppliers (F= farmers, T = traders, W = wholesalers, C= companies, R = other retailers)

Criteria	HCMC retailer got from					
	F	T	W	C	R	Sig.
Good-looking	1.50 ^a	2.00 ^a	1.97 ^a	2.14 ^a	2.50 ^a	0.603
Good reputation	1.75 ^a	1.33 ^a	2.13 ^a	1.86 ^a	3.00 ^a	0.363
Competitively priced	2.50 ^a	3.33 ^a	2.66 ^a	2.86 ^a	2.00 ^a	0.768
Free of physical injury	2.75 ^a	2.67 ^a	2.32 ^a	2.14 ^a	3.00 ^a	0.502
Wide range	2.75^{ab}	3.00^{ab}	2.13^a	3.71^b	2.00^a	0.010
Trust	2.75 ^a	2.33 ^a	2.50 ^a	2.57 ^a	3.00 ^a	0.941
Desired quality	3.00 ^a	2.00 ^a	2.16 ^a	2.14 ^a	2.50 ^a	0.332
Free of pests and disease	3.00 ^a	2.67 ^a	2.37 ^a	2.57 ^a	3.50 ^a	0.257
Regular volume	3.25^{ab}	1.67^a	2.21^{ab}	3.71^b	2.50^{ab}	0.001
Long relationship	3.75 ^a	2.33 ^a	3.24 ^a	3.43 ^a	3.50 ^a	0.763
Store well	4.00^a	5.00^a	5.05^a	3.00^a	4.50^a	0.008
Meet intermediate needs	4.00 ^a	2.33 ^a	2.66 ^a	2.71 ^a	4.00 ^a	0.093
Quality information	4.00 ^a	4.67 ^a	3.79 ^a	3.57 ^a	4.00 ^a	0.905
Well graded	4.25^a	2.00^a	2.82^{ab}	2.71^{ab}	3.00^a	0.047
Deliver when required	4.25 ^a	1.67 ^a	2.76 ^a	2.71 ^a	3.50 ^a	0.059
Give credit	4.25^{ab}	4.00^{ab}	2.92^{ab}	4.43^b	1.50^a	0.019
Right maturity	4.50^b	2.33^{ab}	2.66^{ab}	2.14^a	2.50^{ab}	0.030
Appropriately packed	4.75 ^a	2.33 ^a	3.03 ^a	2.86 ^a	3.00 ^a	0.116
Have a contract	6.00 ^a	5.67 ^a	5.18 ^a	3.86 ^a	4.50 ^a	0.187
<i>Total</i>	<i>4</i>	<i>3</i>	<i>38</i>	<i>7</i>	<i>2</i>	

where 1 is “very well” and 6 is “not at all well”

those values with the bolded figures represent significance at p = 0.05

HCMC retailers were unlikely to transact directly with farmers because most farmers were less able to provide flowers of the desired maturity that had been well graded. Furthermore, few farmers were either willing or able to extend credit.

For HCMC retailers, traders were the best able to supply a sufficient quantity of cut flowers. Companies generally provided cut flowers of the desired maturity that were well graded, but were unable to extend credit.

9.3.2 What upstream suppliers wanted from downstream buyers

In choosing between alternative buyers, traders preferred to sell to those buyers who had a good reputation (56%), who paid a high price (56%) and were willing to purchase all year round (47%) (Table 9.27).

Table 9.27 Criteria used by traders in deciding to whom they will sell the produce

Responses	Frequency	Percentage
Reputation/Have confidence/Reliable/Have long-lasting reputation	20	55.6
Pay high price/Good price/Acceptable price	20	55.6
Purchase all year round/Stable buying	17	47.2
Long-standing relationship/Close relationship/ Long-term transaction/ Preferred buyer	9	25.0
Pay on time	9	25.0
Large volume	5	8.3
Meet buyers quantity and quality/Meet supplier's need	2	5.6
Easy buying/Do not require quality standard	2	5.6
Pay cash immediately and pay in full	1	2.8
No risk (never lost farmer money)/ Safe (know for sure, close house)	1	2.8
Have trust/Loyalty	1	2.8
Stable price	1	2.8
Selling quickly /Sell all their products	1	2.8
Have no other buyers/suppliers	1	2.8
Save cost	1	2.8
<i>Total</i>	<i>36</i>	

Traders preferred to transact with those buyers with whom they had developed a long-term relationship (25%), who paid in full and on time (25%) and those buyers who purchased a large volume of cut flowers (8%).

Most wholesalers reflected a strong desire to transact with those buyers who were willing to purchase all year round (47%) in large volumes (27%) (Table 9.28).

Wholesalers preferred to transact with those buyers who had a good reputation (27%) and with whom they had developed a good long-term relationship (24%). Those wholesalers who delivered cut flowers on consignment to buyers in other cities preferred to transact with buyers who paid good prices (18%), paid on time (15%) and in full (12%).

Table 9.28 Criteria used by wholesalers in deciding to whom they will sell the produce

Responses	Frequency	Percentage
Purchase all year round/Stable buying/ Purchase all their product	16	47.1
Reputation/Have confidence/Reliable/Have long-lasting reputation	9	26.5
Large volume exchange	9	26.5
Long-standing relationship/Close relationship/Long-term transaction/ Preferred buyer	8	23.5
Pay high price/Good price/Acceptable price	6	17.6
Pay on time	5	14.7
Pay cash immediately/Pay in full	4	11.8
No risk (never lost farmer money)/ Safe (know for sure, close house)	2	5.9
Have trust/Loyalty	2	5.9
Personal relationship (invited wedding and worship together)/Easy going/Understand my problems	1	2.9
Unstable buyer/Sell to who pay higher price	1	2.9
Stable price	1	2.9
Have good cooperation/Suitable agreement	1	2.9
<i>Total</i>	<i>34</i>	

Of the thirteen criteria that were believed to be the most influential in choosing between alternative buyers, traders placed the most importance on transacting with buyers in whom they had trust and those who had the capacity to purchase cut flowers all year round at an acceptable price. Those buyers generally had a good reputation for paying on time. In selecting buyers, traders placed little importance upon the capacity of the buyers to grade, pack, transport or to store the flowers, nor was the provision of technical information considered advantageous. Geographic proximity to the buyers was seldom a major consideration (Table 9.29).

Table 9.29 Importance of purchase criteria between market intermediaries (T = traders, W = wholesalers)

Criteria	T	W
have trust together	1.44 ^a	1.68 ^a
be able to buy my cut flowers all year round	1.49 ^a	2.39 ^b
provide me with an acceptable price	1.49 ^a	1.98 ^b
has a good business reputation	1.54 ^b	1.80 ^a
pay on time	1.66 ^b	1.54 ^a
is in frequent communication with me	2.10 ^c	2.49 ^b
is willing to meet my immediate needs	2.39 ^c	2.88 ^c
provides market information	2.71 ^c	3.66 ^d
we have a long-standing relationship	3.63 ^d	2.90 ^c
can transport cut flowers from my place	4.34 ^e	2.88 ^c
provides technical information/advice	4.85 ^e	5.12 ^f
is geographically close to me	4.98 ^e	4.41 ^e
do all activities: harvest, grade, pack and store cut flowers	5.10 ^e	5.68 ^f
<i>Total</i>	<i>41</i>	<i>41</i>

where 1 = "very important" and 6 = "not at all important"

results followed with the same letters in the same column show no significant difference detected by Turkey HSD at p =0.05

Wholesalers were similarly concerned about the business reputation of the buyers with whom they transacted. Trust and on-time payment was equally important. Wholesalers preferred to transact with those buyers who were able to purchase all year round at the acceptable price.

How well traders preferred downstream buyers met their criteria

The difference between what traders expected from their downstream buyers and what they actually received are examined in this section. There was no significant difference between what traders received from their wholesaler buyers and retailers in Da Lat (Table 9.30).

Table 9.30 Performance of traders most preferred buyers (W = wholesalers, R_{DL} = Da Lat retailers)

Criteria	Traders got from		
	W	R _{DL}	Sig.
provide me with an acceptable price	1.61	2.00	0.156
have trust together	1.64	1.67	0.909
has a good business reputation	1.70	2.17	0.136
pay on time	1.82	2.33	0.192
is in frequent communication with me	2.03	2.50	0.183
be able to buy my cut flowers all year round	2.55	2.67	0.815
is willing to meet my immediate needs	2.82	3.17	0.370
we have a long-standing relationship	3.00	3.00	1.000
provides market information	3.12	4.33	0.076
can transport cut flowers from my place	5.42	5.17	0.673
provides technical information/advice	5.45	5.67	0.713
is geographically close to me	5.61	4.50	0.108
do all activities: harvest, grade, pack and store cut flowers	5.64	5.50	0.700
<i>Total</i>	<i>33</i>	<i>6</i>	

where 1 is "very well" and 6 is "not at all well"

those values with the bolded figures represent significance at p = 0.05

the independent t-test only performed the difference between farmers and traders, company was excluded from analysis due to only one response

How well wholesalers preferred downstream buyers met their criteria

In comparing what wholesalers received from their downstream buyers, it was also evident that there was no significant difference between their transactions with other wholesalers (in other provinces) and their retail buyers in HCMC (Table 9.31).

9.4 Summary

The results indicated that there was a significant difference between farmers and their downstream buyers' perceived purchasing criteria. While farmers looked primarily for a stable market that offered high prices and guaranteed payment, downstream buyers were more concerned about securing a regular and reliable supply of good quality cut flowers.

Table 9.31 Performance of wholesalers most preferred buyers (W = wholesalers, R_{HCMC} = HCMC retailers)

Criteria	Wholesaler got from		
	R _{HCMC}	Other W	Sig.
pay on time	1.77	2.00	0.503
have confidence together	1.85	1.96	0.694
has a good business reputation	1.85	2.21	0.276
we have a long-standing relationship	2.23	2.82	0.130
provide me with an acceptable price	2.31	2.14	0.592
is in frequent communication with me	2.31	2.36	0.896
be able to buy my cut flowers all year round	2.85	3.07	0.649
is willing to meet my immediate needs	2.92	3.29	0.234
can transport cut flowers from my place	3.00	2.18	0.119
provides market information	4.92	4.25	0.129
is geographically close to me	5.00	3.93	0.072
provides technical information/advice	6.00	5.11	0.009
do all activities: harvest, grade, pack and store cut flowers	6.00	5.86	0.043
<i>Total</i>	<i>13</i>	<i>28</i>	

In choosing between buyers, farmers placed the most importance on transacting with buyers who were willing to purchase flowers all year round and to pay an acceptable price on time. As there was an element of risk in the exchange, farmers endeavoured to transact with those buyers who had a good reputation.

The importance attached to the need for flowers to be appropriately packed and well graded depended on the intended customer. Given that traders generally purchased the flowers in bulk and were often responsible for harvesting the flowers, packaging and grading was of little importance. Conversely, for both the wholesalers and retailers, appropriate grading and packaging was very important.

Because wholesalers act only as market intermediaries, and because of the informal nature of the wholesale market in HCMC, wholesalers did not have the time to re-sort and regrade flowers. Having flowers of the desired maturity was an important consideration for the wholesaler, as flowers that were sold immature would fail to open and flowers that were over-mature were difficult to sell. Flowers had to be free of physical damage as most flowers were resold to retail florists in Ho Chi Minh City. However, for retail florists in Da Lat, freedom from physical damage was not a major consideration.

It was also evident that wholesalers and retailers preferred to transact with those suppliers who could offer a wide range of flowers, reliably and consistently to fulfil the needs of their downstream customers. Of surprise was the very low level of importance attached to the shelf life of cut flowers. It would appear that for market intermediaries believe that the shorter the vase life, the more often consumers will need to repurchase. However, nothing could be further from the truth, for when cut flowers fail to meet consumers' expectations,

the more likely it is that they will purchase substitute products. However, that said, it also depends on how the flowers are used.

For wholesalers, it was evident that long-term relationships were of considerable importance as they needed to procure a reliable supply of cut flowers. However, for both traders and retailers, as they purchased direct from the farmers only during the major festivals, a long-term relationship was much less important.

For farmers, their buyers actually were unable to provide an acceptable price, to pay on time and to buy the farmers' flowers all year round. In their relationship with farmers, traders reported that farmers were generally unable to produce flowers of the desired quality, reliably and consistently. Consequently, most farmers had a poor reputation. Although both were rated as much less important, traders were also disappointed by the narrow range of flowers available, the manner in which the flowers had been graded and packed and the poor vase life.

In the similar manner, for wholesalers and retailers, farmers were seldom able to deliver a sufficient quantity of good quality flowers. The flowers delivered were seldom free of pests and diseases or of the desired maturity. The narrow range of flowers available was a much greater problem, as was the capacity of farmers to meet their immediate needs.

While most smallholder flower farmers were able to meet the wholesalers' needs, they were much less able to meet the retailers' needs. In part, this was because of the small volumes of flowers sold direct to retailers. Retailers only purchased direct from farmers during the main festival periods.

For both wholesalers and traders, it was evident that most farmers had a poor reputation. The poor reputation stemmed primarily from the inability of farmers to deliver a wide range of flowers of the desired quality, reliably and consistently. Such was the result of the very rudimentary way in which the flowers were cultivated rather than any opportunistic trading, for there was a high level of trust in all transactions.

Chapter 10. Relationship analysis³

10.1 Chapter outline

This chapter describes the nature of the long-term relationships between the actors in the Da Lat cut flower industry by making comparisons between the buyers and suppliers perceptions of their relationships. The key dimensions that are explored include satisfaction with the transaction, trust between the trading partners, commitment, cooperation, communication and power.

10.2 Farmers' relationships

In the horticulture industry, transactions between buyers and suppliers are increasingly being conducted on the basis of long-standing relationships because of the perishability of the product and the uncertainty associated with the quality and quantity of the fresh produce available (Nawi 2009), and information asymmetries, power imbalances and knowledge impediments (Georgiev, Staykov and Valkenburgh 2005; Hobbs 2007). By developing relationships with their suppliers, customers can anticipate improved access to markets and more reliable market information; a more reliable supply of production inputs; improved product quality and performance; and a higher level of technical interaction in the form of information exchange, potential product adaptations and technical assistance. However, the greatest benefit of a long-standing relationship is the reduction in uncertainty (Batt 2000a).

In Da Lat, the cut flower supply chain was not long, but rather complex, due to the multiple number of market intermediaries farmers could decide to sell to. However, it was also abundantly clear that because of the considerable uncertainty associated with price and the prevailing practice among the wholesalers to defer payment to farmers and traders until after the flowers had been sold, enduring long-term relationships based on trust and reputation played a significant role in the exchange process.

10.2.1 Farmers' relationship with the most preferred buyers and the second most preferred buyers

In this study, farmers were asked to describe their relationship with their downstream buyers. Data was available for 198 preferred buyer relationships and 48 relationships with the second most preferred buyer.

³ The following chapter was developed from Le, Bich Nhu and Batt, Peter J. 2013. *Farmer-Buyers relationships in the cut flower supply chain in Da Lat Viet Nam*. In Batt, P.J (ed). Proceedings of an International Symposium to Improve the Performance of Supply Chains in the Transitional Economies. Acta Hort.1006:209-216.

In examining the relationship between farmers and their preferred downstream buyers, it was immediately evident that the relationship, which had often been facilitated by a relative or neighbour, was close and long-standing (Table 10.1).

Table 10.1 Description of farmers' relationship with their preferred buyers

Responses	F>T	F>W	F>R	F>C
Purchasing and selling agreement/Purchasing and selling relationship/ Transaction relationship	13	29	3	4
Good relationship/Long-standing relationship/Close relationship (Relative/ Neighbour/ Countrymen)	9	35	-	3
Moderate/Average/Common transaction/Have a common courtesy/Through acquaintance	8	38	1	3
Good, positive (without disagreement)/ Currently good	6	11	-	3
Unstable/Buyer can buy cut flowers when they need/ Sell to whom pay higher price/Have no relationship/sell to who want to purchase cut flower/ Purchase at farm-gate when farmer harvest their cut flower/Do not know who is buyer	4	1	1	-
Keep contact to ask the daily market price/ Frequently contact/ Working together	2	5	-	-
Meet buyer and supplier's requirement/ Depend on together/Mutual profits/Meet both actor's requirements	1	12	-	1
Rely on trust/ Trust together/ Absolutely trust (without contract)	1	8	-	-
Good reputation	1	3	-	1
Only contact through telephone/ No contact, only contact when we have problems to solve/Sometimes meet together	-	12	-	1
Satisfactory	-	7	-	-
No comment, no problem	-	2	-	-
Straightforward and transparent	-	1	-	-
Cooperative	-	-	-	4
<i>N = 198</i>	<i>43</i>	<i>134</i>	<i>4</i>	<i>17</i>

F>T demonstrates the farmers' relationship with their preferred traders

F>W demonstrates the farmers' relationship with their preferred wholesalers

F>R demonstrates the farmers' relationship with their preferred retailers

F>C demonstrates the farmers' relationship with their preferred companies

The relationship was characterised by a mutually acceptable buying and selling arrangement that provided an acceptable return. Exchange partners were able to fulfil each other's needs and both exchange partners benefited from the transaction.

However, there were also marked differences in the nature of the relationship between different actors. For those farmers selling to traders, the relationship was largely based on a mutually acceptable selling arrangement with a relative, a neighbour or a person with whom a long-standing personal relationship had been crafted. However, there was also some evidence of farmers selling to that trader who offered the highest price on the day.

For those farmers who traded directly with wholesalers in HCMC, it was evident that in many instances they had never met. Their relationship, which had been facilitated through a mutual friend or acquaintance, was maintained through regular contact with each other,

primarily by telephone. Over time, the parties had become mutually dependent and a high degree of trust was evident in the exchange.

For those farmers selling to retailers, the relationship was based entirely on price. However, those farmers selling directly to retailers were generally small-scale farmers who had planted only a small area of roses or had planted chrysanthemums primarily for the festival period.

In the farmers' relationship with their second most preferred buyer – retailers and wholesalers – the relationship, where there was one, was largely unstable (Table 10.2). Farmers simply sold whatever flowers they had available to whichever buyers offered the highest price.

Table 10.2 Description of farmers' relationship with their second most preferred buyers

Responses	F>T	F>W	F>R	F>Co
Good relationship/Long-standing relationship/Close relationship (Relative/ Neighbour/ Countrymen)	-	2	4	-
Purchasing and selling agreement/Purchasing and selling relationship/ Transaction relationship	-	8	4	1
Moderate/Average/Common transaction/Have a common courtesy/Through acquaintance	1	5	1	-
Unstable/Buy cut flowers when they need/ Sell to whom pay higher price/Have no relationship/Sell to who want to purchase cut flower/ Purchase at farm-gate when farmer harvest their cut flower/Do not know who is buyer	-	15	9	-
Good, positive (without disagreement)/ Currently good	-	1	-	-
Only contact through telephone/ No contact, only contact when we have problems to solve/Sometimes meet together	-	1	-	-
<i>N = 48</i>	<i>1</i>	<i>28</i>	<i>18</i>	<i>1</i>

F>T demonstrates the farmers' relationship with their second preferred traders

F>W demonstrates the farmers' relationship with their second preferred wholesalers

F>R demonstrates the farmers' relationship with their second preferred retailers

F>C demonstrates the farmers' relationship with their second preferred companies

In evaluating the relationship between farmers and their most preferred trading partner, it was immediately evident that the most preferred buyer was able to purchase cut flowers all year round (Table 10.3). The most preferred buyer was able to pay a mutually agreed price on time, and to meet the farmer's expectations. Preferred buyers were quick to respond to the farmers' concerns in general and they shared a close personal friendship. However, most preferred buyers did not always pay the highest price, nor did they always make the best offer relative to the alternatives.

In examining the level of trust evident in the exchange between farmers and their most preferred buyer, it was evident that the preferred buyer had a good reputation and always kept their promises. The preferred buyer was honest, the information they provided was accurate and they always acted in the farmer's best interest. Consequently, the farmers expected their relationship with their preferred buyer to continue into the foreseeable future.

Nevertheless, the farmers most preferred trading partner was not always willing to help them.

Table 10.3 Examining downstream relationships between farmers and their most and second most preferred buyers

Relationships/Items	Most preferred buyers	Second most preferred buyers	Sig.
SATISFACTION			
My trading partner purchase products all year round	1.58	4.64	0.000
I am satisfied with the pay in full at an agreed time	1.95	1.74	0.164
I am satisfied with my transaction with my trading partner	2.09	2.45	0.039
Dealing with my trading partner is less risky than others	2.31	2.36	0.789
I am satisfied with the prices received from my trading partner	2.62	2.04	0.000
My trading partner quickly respond to my concerns	2.89	4.00	0.000
My trading partner often meet my expectations	2.94	3.64	0.005
My trading partner purchase cut flowers at a mutually agreed price	3.36	2.45	0.000
My trading partner and I have a close personal relationship	3.48	4.04	0.020
My trading partner has the best offer relative to the other traders	3.64	2.62	0.000
TRUST			
My trading partner has a good reputation	1.91	3.17	0.000
I trust my trading partner	1.96	2.87	0.000
My trading partner always keep their promises	2.31	3.49	0.000
My trading partner follows to the agreement between us	2.49	2.85	0.065
My trading partner is always honest	2.73	3.51	0.000
I know my trading partner very well	3.22	3.7	0.068
I believe in the information provided by my trading partner	3.27	4.09	0.001
My trading partner always considers my best interests	3.58	4.72	0.000
I understand my trading partner's problems	4.43	4.77	0.161
COMMITMENT			
I expect my relationship with my trading partner to continue in the future	1.89	3.06	0.000
I do not intend to change my trading partner	2.79	4.15	0.000
My trading partner buyer do not breach the agreement/contract between us	2.83	3.91	0.000
It is more cost effective for me to rely on my trading partner rather than search for alternative buyers	3.17	2.91	0.235
My trading partner makes efforts to help me	3.38	4.87	0.000

COMMUNICATION			
There is frequent contact with my trading partner	2.23	3.23	0.000
It is relatively easy to contact my trading partner	2.53	2.81	0.212
My trading partner keeps me well informed on price in the cut flower market	3.61	4.3	0.005
My trading partner frequently asks me how they might improve the level of product quality	4.41	4.98	0.012
We often discuss better way to pack, grade, store and transport cut flowers	4.82	5.7	0.000
COOPERATION			
My trading partner and me work together for mutual benefits	2.17	3.13	0.000
My trading partner is willing to share the risk (crop failure, unsold)	3.39	4.34	0.000
There is a good cooperation between my buyer and myself	3.40	4.94	0.000
My trading partner provides financial assistance	3.42	5.51	0.000
I prefer to transact with local buyers	3.84	4.13	0.333
Cooperation based on the contract between my buyer and me	5.26	5.77	0.000
My trading partner keeps me well informed on technical matters	5.32	5.74	0.001
POWER			
My trading partner have a right to buy/provide or not to buy/provide cut flowers	3.24	2.38	0.002
My trading partner will not take advantage of a strong bargaining position (not price pressure)	3.47	3.62	0.599
My trading partner exerts a strong influence over us	4.14	5.36	0.000
I must to do what my trading partner says	4.22	5.32	0.000
My trading partner controls all the information in our relationship	4.3	5.19	0.000
My trading partner has all the power in our relationship	4.4	5.45	0.000
<i>Total</i>	198	48	

where: 1 is "I strongly agree" and 6 is "I strongly disagree"

While there was frequent contact between the farmer and their preferred trading partner, it was evident that the preferred trading partner did not always keep the farmers advised on price, nor were they willing to discuss how the farmers could improve product quality. Similarly, although the preferred trading partner often indicated how they were willing to work together for mutual benefits, they were seldom willing to share the risk, to provide financial assistance or to keep the farmer well advised on technical matters.

In examining the power relationship between farmers and their preferred buyers, it was immediately evident that preferred buyers did not possess all the power in the relationship nor did they control all the information. To a large extent, farmers were free to choose who they transacted with.

In evaluating the relationship between farmers and their second most preferred trading partner, it was evident that the farmers' satisfaction with the exchange was derived from the

high price and payment at a mutually agreed time. However, high price did not sustain their relationship. The second most preferred buyer was unable to purchase cut flowers all year round. In the relationship between farmers and the second preferred buyers, there was little trust and the second buyer generally had a poor reputation. Generally, the second buyer was perceived to be dishonest and they did not always act in the farmers best interests.

Farmers only sought to transact with the second most preferred buyer when prices suddenly increased or where they had flowers that were surplus to their preferred buyers' requirements. Most of these buyers purchased flowers for the major festivals. This discrete transaction was short-term and demand driven. They communicated with the farmer much less frequently and consequently provided little market information. It was evident that the second most preferred buyer rarely discussed the price with the farmers, nor did they discuss how farmers could improve their product quality and other marketing activities. Similarly, the second most preferred buyers did not provide any financial assistance, nor did they offer any technical advice. Not unexpectedly, they were generally unwilling to share the risk with the farmers.

In some instances, the second most preferred buyer had the right to buy the flowers. However, in the majority of cases, the second most preferred buyer was unable to exert much power in their relationship. Although farmers were able to get a higher price from the second most preferred buyer, few farmers chose to transact with them on a regular basis.

10.2.2 Relationship between farmers and their most preferred traders

Firstly, looking at the nature of the relationship between farmers and their most preferred traders, farmers sold their cut flowers to traders where they did not have a connection with a wholesaler or where they could not afford to hire the labour to undertake the additional activities required by wholesalers. Not surprisingly, farmers preferred to transact with those market intermediaries who paid the highest price, but their decision to sell was moderated by the quantity of product the farmers had available to sell and the likelihood of retaining the customers' business in the long run (Batt and Morooka 2003).

The nature of the farmers' relationship with traders was generally satisfactory. Farmers were generally satisfied with the price, for in many instances they had received half of the negotiated price at the time the transaction was made and were paid the remaining balance after the cut flowers had been sold to wholesalers and retailers.

Farmers preferred to transact with traders because they were local people and were significantly less risky to deal with than other buyers. However, to some extent, traders did not always offer the best price compared to other trading partners (Table 10.4).

Table 10.4 Examining relationships between farmers and traders

Constructs/Items	F>T	F<T	Sig.
SATISFACTION			
My most preferred trading partner purchase/provide products all year round	2.09	1.78	0.208
I am satisfied with the pay in full at an agreed time	2.11	1.56	0.003
I am satisfied with my transaction with my most preferred trading partner	2.25	1.61	0.000
Dealing with my most preferred trading partner is less risky than others	2.61	2.54	0.790
My most preferred trading partner often meet my expectations	2.70	2.34	0.179
My most preferred trading partner quickly respond to my concerns	2.86	2.27	0.012
I am satisfied with the prices received from my most preferred trading partner	2.93	1.54	0.000
My most preferred trading partner purchase/provide cut flowers at a mutually agreed price	3.00	2.68	0.314
My most preferred trading partner and I have a close personal relationship	3.57	3.61	0.900
My most preferred trading partner has the best offer relative to the other traders	3.68	2.24	0.000
TRUST			
I trust my most preferred trading partner	2.18	1.76	0.036
My most preferred trading partner has a good reputation	2.18	1.66	0.003
My most preferred trading partner always keep their promises	2.50	2.1	0.067
My most preferred trading partner follows to the agreement between us	2.59	2.27	0.211
I know my most preferred trading partner very well	2.66	3.05	0.241
My most preferred trading partner is always honest	3.23	2.98	0.362
I believe in the information provided by my most preferred trading partner	3.27	3.17	0.738
I understand my most preferred trading partner's problems	3.86	3.27	0.107
My most preferred trading partner always considers my best interests	3.95	3.76	0.549
COMMITMENT			
I expect my relationship with my preferred trading partner to continue in the future	2.25	1.44	0.001
My preferred trading partner do not breach the agreement/contract between us	2.68	2.41	0.395
I do not intend to change my most preferred trading partner	2.93	2.07	0.008
It is more cost effective for me to rely on my most preferred trading partner rather than search for alternative buyers	3.14	2.49	0.008
My most preferred trading partner makes efforts to help me	3.64	3.32	0.338
COMMUNICATION			
There is frequent contact with my most preferred trading partner	2.20	2.12	0.721
It is relatively easy to contact my most preferred trading partner	2.36	1.95	0.121
My most preferred trading partner keeps me well informed on price in the cut flower market	3.93	3.59	0.290
My most preferred trading partner frequently asks me how they might improve the level of product quality	4.07	4.17	0.772
We often discuss better way to pack, grade, store and transport cut flowers	5.32	4.68	0.058

COOPERATION				
My most preferred trading partner and me work together for mutual benefits	2.20	2.27	0.745	
I prefer to transact with local buyers	2.52	3.9	0.000	
My most preferred trading partner provides financial assistance	3.61	4.93	0.000	
My most preferred trading partner is willing to share the risk (crop failure, unsold)	3.66	3.49	0.610	
There is a good cooperation between my buyer and myself	3.89	2.37	0.000	
Cooperation based on the contract between my buyer and me	5.02	4.73	0.391	
My most preferred trading partner keeps me well informed on technical matters	5.59	4.61	0.000	
POWER				
My most preferred trading partner have a right to buy/provide or not to buy/provide the cut flower	3.07	2.80	0.456	
My most preferred trading partner will not take advantage of a strong bargaining position (not price pressure)	3.45	3.20	0.472	
My most preferred trading partner controls all the information in our relationship	4.30	5.22	0.002	
My most preferred trading partner exerts a strong influence over us	4.32	4.07	0.463	
My most preferred trading partner has all the power in our relationship	4.36	5.27	0.001	
I must to do what my preferred trading partner says	4.57	4.46	0.747	
<i>Total</i>	<i>44</i>	<i>41</i>		

where 1 is “I strongly agree” and 6 is “I strongly disagree”; and

F>T demonstrates the farmer’s relationship with their preferred trader

F<T demonstrates the trader’s relationship with their preferred farmer

Although there was an element of trust present in the relationship, traders were perceived to not always operate in the farmer’s best interest, nor were they always honest. Furthermore, farmers did not always believe the information provided by traders. However, because of the financial assistance that traders extended to farmers, farmers expected their relationship with the traders to continue. Although communication between farmers and their preferred trader was easy and frequent, farmers indicated that traders seldom informed them of the prevailing market price, nor were they willing to offer any advice on how to improve the quality of the cut flowers offered for sale. There was a little evidence of the exercise of any coercive market power by the traders.

On the other hand, the majority of traders indicated a high level of satisfaction in their exchange with their most preferred farmers. It was evident that many farmers were willing to offer the traders flowers all year round. Traders were generally satisfied with the agreed price and farmers generally responded quickly to the traders’ expectations. However, most farmers were perceived not to have a close personal friendship with their preferred traders.

Not unexpectedly, the level of trust between traders and their preferred farmers was high. As the traders were local people, they could choose to buy from those farmers who had a good reputation and were known to produce the best cut flowers. While most farmers were perceived to keep their promises and to honour their agreements, there was an element of dishonesty and some evidence that farmers did not always act in the traders best interests.

Few farmers were able to offer any financial assistance nor were they able to exert any power.

10.2.3 Relationship between farmers and their most preferred wholesalers

Most Da Lat farmers chose to sell their cut flowers to wholesalers even though they had to undertake more activities such as harvesting, grading, packing and transporting the flowers. In most cases, farmers received payment two weeks after the transaction, which led to an element of dissatisfaction with the prices received and the manner in which prices had been negotiated. Ordinarily, this would suggest the exercise of some coercive market power, but there was little evidence to support this proposition (Table 10.5).

Table 10.5 Examining relationships between farmers and wholesalers

Constructs/Items	F>W	F<W	Sig.
SATISFACTION			
My most preferred trading partner purchase/provide products all year round	1.43	1.73	0.144
I am satisfied with the pay in full at an agreed time	1.88	1.45	0.011
I am satisfied with my transaction with my most preferred trading partner	2.05	2.06	0.983
Dealing with my most preferred trading partner is less risky than others	2.29	2.39	0.628
I am satisfied with the prices received from my most preferred trading partner	2.63	1.88	0.000
My most preferred trading partner quickly respond to my concerns	3.03	2.70	0.204
My most preferred trading partner often meet my expectations	3.11	2.45	0.010
My most preferred trading partner and I have a close personal relationship	3.56	2.48	0.000
My most preferred trading partner purchase/provide cut flowers at a mutually agreed price	3.68	3.36	0.270
My most preferred trading partner has the best offer relative to the other traders	3.74	2.45	0.000
TRUST			
My most preferred trading partner has a good reputation	1.84	1.91	0.646
I trust my most preferred trading partner	1.90	2.06	0.364
My most preferred trading partner always keep their promises	2.31	2.21	0.629
My most preferred trading partner follows to the agreement between us	2.56	2.42	0.568
My most preferred trading partner is always honest	2.67	2.52	0.499
I believe in the information provided by my most preferred trading partner	3.41	2.94	0.092
I know my most preferred trading partner very well	3.46	2.52	0.000
My most preferred trading partner always considers my best interests	3.61	3.18	0.089
I understand my most preferred trading partner's problems	4.52	2.88	0.000
COMMITMENT			
I expect my relationship with my preferred trading partner to continue in the future	1.81	1.67	0.478
I do not intend to change my most preferred trading partner	2.85	2.15	0.014
My preferred trading partner do not breach the agreement/contract between us	2.96	2.64	0.265
It is more cost effective for me to rely on my most preferred trading partner rather than search for alternative buyers	3.25	2.58	0.010
My most preferred trading partner makes efforts to help me	3.38	3.12	0.387

COMMUNICATION				
There is frequent contact with my most preferred trading partner	2.23	1.85	0.026	
It is relatively easy to contact my most preferred trading partner	2.66	2.30	0.175	
My most preferred trading partner keeps me well informed on price in the cut flower market	3.44	4.64	0.000	
We often discuss better way to pack, grade, store and transport cut flowers	4.67	2.97	0.000	
My most preferred trading partner frequently asks me how they might improve the level of product quality	4.70	3.73	0.005	
COOPERATION				
My most preferred trading partner and me work together for mutual benefits	2.19	2.06	0.579	
My most preferred trading partner provides financial assistance	3.39	5.42	0.000	
My most preferred trading partner is willing to share the risk (crop failure, unsold)	3.4	2.79	0.042	
There is a good cooperation between my buyer and myself	3.40	2.85	0.042	
I prefer to transact with local buyers	4.33	4.15	0.595	
My most preferred trading partner keeps me well informed on technical matters	5.60	4.33	0.000	
Cooperation based on the contract between my buyer and me	5.69	4.70	0.004	
POWER				
My most preferred trading partner have a right to buy/provide or not to buy/provide cut flowers	3.16	2.85	0.348	
My most preferred trading partner will not take advantage of a strong bargaining position (not price pressure)	3.65	4.18	0.116	
My most preferred trading partner exerts a strong influence over us	4.17	4.30	0.644	
I must to do what my preferred trading partner says	4.17	3.88	0.389	
My most preferred trading partner controls all the information in our relationship	4.36	5.18	0.000	
My most preferred trading partner has all the power in our relationship	4.55	5.36	0.000	
<i>Total</i>	140	33		

where 1 is “I strongly agree” and 6 is “I strongly disagree”; and
F>W demonstrates the farmer’s relationship with their preferred wholesaler
F<W demonstrates the wholesaler’s relationship with their preferred farmer

A high level of trust was evident in the farmers’ relationship with their preferred wholesaler, even although it was perceived that wholesalers did not always act in the farmers’ best interests, nor did the farmers always believe the information provided by wholesalers. Nevertheless, while most farmers expected to continue to transact with their preferred wholesalers, that did not mean that they did not look for better alternatives. Wholesalers seldom offered any technical advice nor did they provide any suggestions on how the farmers could improve product quality. However, farmers continued to transact with the wholesalers because of their capacity to purchase flowers all year round. Despite the distance, most farmers indicated that it was relatively easy to contact their preferred wholesaler and indeed, they were in frequent contact with the wholesaler.

Wholesalers were likely to transact with a large number of alternative farmers and traders to ensure a continuous supply of good quality cut flowers. Wholesalers generally viewed their relationship with their preferred farmers as being very positive and satisfactory. Wholesalers

were satisfied with the price and the way that most farmers' responded to their requirements. However, there was some evidence of conflict in the exchange, primarily associated with price.

In examining the level of trust between wholesalers and their preferred farmers, it was evident that the wholesalers generally trusted them. For the wholesalers, most farmers were perceived to be honest and to keep their promises. Wholesalers indicated that they believed the information provided by farmers and were generally cognisant of the problems farmers faced such as the impact of an unfavourable climate and the high incidence of pests and diseases.

Most wholesalers anticipated that their relationship with preferred farmers would continue into the future. For the wholesalers, it was more cost effective to maintain their relationship with existing farmers rather than to seek alternative suppliers. Given that the majority of producers were smallholder farmers with limited technology, there was little to differentiate between alternative suppliers. Wholesalers preferred to transact with those suppliers they already knew, rather than to enter into a relationship with unproven suppliers.

From the wholesalers' perspective, there was frequent contact between themselves and smallholder farmers, however, the quality of the information exchange was poor. They rarely exchanged information on how to improve the quality of cut flowers and prices were very seldom discussed. In contrast to the farmers, wholesalers believed that they had established a close personal relationship with their preferred farmers. While there were some evidence of cooperation and a desire to work together to achieve mutual benefits, smallholder farmers had to shoulder the majority of the risk and were seldom able to offer any financial assistance.

From the wholesalers' perspective, while farmers had the right to choose who they would sell their flowers to, they had little power in the relationship and little control over the information permeating the relationship.

10.2.4 Relationship between farmers and their most preferred retailers

Farmers only sold directly to retailers when they either had a small volume of flowers available or when wholesalers had rejected their flowers. Despite this, farmers reported that they were often able to achieve the best prices from retailers. However, most retailers were unable to purchase flowers all year round and the volume purchased was very small. Consequently, there was little evidence of any close personal relationship. Their relationship was largely transactional and provided an opportunity for farmers to dispose of flowers that no one else wanted (Table 10.6).

Table 10.6 Examining relationships between farmers and retailers

Constructs/Items	F>R	F<R	Sig.
SATISFACTION			
My most preferred trading partner purchase/provide cut flowers at a mutually agreed price	1.75	2.50	0.201
I am satisfied with the prices received from my most preferred trading partner	2.25	1.43	0.340
I am satisfied with the pay in full at an agreed time	2.25	1.43	0.253
My most preferred trading partner has the best offer relative to the other traders	2.50	2.64	0.654
My most preferred trading partner purchase/provide products all year round	2.50	1.57	0.050
I am satisfied with my transaction with my most preferred trading partner	2.75	1.14	0.007
Dealing with my most preferred trading partner is less risky than others	2.75	2.00	0.088
My most preferred trading partner quickly respond to my concerns	2.75	2.71	0.910
My most preferred trading partner often meet my expectations	3.00	2.50	0.422
My most preferred trading partner and I have a close personal relationship	5.00	3.14	0.068
TRUST			
My most preferred trading partner always keep their promises	2.50	2.14	0.340
My most preferred trading partner follows to the agreement between us	2.50	2.00	0.395
My most preferred trading partner has a good reputation	2.75	1.36	0.003
I trust my most preferred trading partner	3.50	1.43	0.004
My most preferred trading partner is always honest	3.50	1.71	0.005
I believe in the information provided by my most preferred trading partner	3.50	2.14	0.035
My most preferred trading partner always considers my best interests	3.75	3.07	0.353
I know my most preferred trading partner very well	5.00	1.93	0.002
I understand my most preferred trading partner's problems	5.75	3.07	0.005
COMMITMENT			
It is more cost effective for me to rely on my most preferred trading partner rather than search for alternative buyers	2.00	2.07	0.903
I expect my relationship with my preferred trading partner to continue in the future	3.00	1.57	0.025
My most preferred trading partner makes efforts to help me	3.75	2.64	0.166
I do not intend to change my most preferred trading partner	3.75	1.93	0.061
My preferred trading partner do not breach the agreement/contract between us	5.00	2.14	0.006
COMMUNICATION			
It is relatively easy to contact my most preferred trading partner	4.00	1.57	0.008
There is frequent contact with my most preferred trading partner	4.50	1.86	0.002
My most preferred trading partner keeps me well informed on price in the cut flower market	4.75	2.14	0.011
My most preferred trading partner frequently asks me how they might improve the level of product quality	4.75	3.79	0.250
We often discuss better way to pack, grade, store and transport cut flowers	4.75	4.71	0.618

COOPERATION			
I prefer to transact with local buyers	2.25	2.93	0.546
My most preferred trading partner and me work together for mutual benefits	2.75	1.79	0.027
There is a good cooperation between my buyer and myself	3.50	1.64	0.011
My most preferred trading partner provides financial assistance	4.50	4.00	0.620
My most preferred trading partner is willing to share the risk (crop failure, unsold)	4.75	2.43	0.010
Cooperation based on the contract between my buyer and me	5.00	5.29	0.626
My most preferred trading partner keeps me well informed on technical matters	5.50	4.36	0.114
POWER			
My most preferred trading partner will not take advantage of a strong bargaining position (not price pressure)	2.50	2.71	0.866
My most preferred trading partner have a right to buy/provide or not to buy/provide cut flowers	2.50	4.64	0.042
My most preferred trading partner has all the power in our relationship	5.25	5.29	0.808
My most preferred trading partner exerts a strong influence over us	5.25	4.43	0.273
My most preferred trading partner controls all the information in our relationship	5.50	4.86	0.291
I must to do what my preferred trading partner says	5.50	4.86	0.284
<i>Total</i>	<i>4</i>	<i>18</i>	

where 1 is “I strongly agree” and 6 is “I strongly disagree”; and
F>R demonstrates the farmer’s relationship with their preferred retailer
F<R demonstrates the retailer’s relationship with their preferred farmer

It was apparent that the farmers rarely knew the buyers, nor was it important that they did, for the retailers generally paid in cash and there was no expectation of any repeat sale. In such an environment, very little technical information was exchanged on how to improve the way to pack, grade, store and transport cut flowers. Consequently, there was little discussion on price, although both trading partners were generally satisfied with the exchange. In this relationship, the retailers had little power or influence – farmers were able to accept or to reject the retailers offer.

From the retailers’ perspective, most retailers were highly satisfied in their transactions with farmers. They knew the farmers very well and understood the farmers’ problems. There was a high element of trust. Furthermore, retailers expected to continue their relationship with preferred farmers. Therefore, there was frequent communication, most often about prices or to let retailers know that farmers had flowers available. In this respect, there was an element of cooperation as the retailers purchased flowers that no one else wanted. In a similar manner to the transactions with traders and wholesalers, farmers had little power in their relationship with retailers.

10.2.5 Relationship between farmers and their most preferred companies

In Da Lat, few farmers had a contract with companies. In examining the relationship between farmers and their preferred company, it was evident that the farmers were very satisfied in their transactions with companies. Companies generally met the farmers’

expectations, providing them with a fair price and an assurance that they would buy their flowers all year round. Providing that the farmers were able to meet the company's rigid quality standards, as a buyer, companies were perceived to offer the least amount of risk (Table 10.7).

Farmers indicated a high level of trust in their transaction with companies, even although farmers indicated that they did not always understand the company's problems. Companies had a good reputation. Farmers believed that they always kept their promise, they were honest and they would always adhere to the agreements they had made. As a result, those farmers trading with a company expected their relationship to continue into the future.

Despite the frequent contact, farmers indicated that companies seldom kept them informed about prices in the market. However, they did make an effort to help farmers improve the quality of cut flowers they were cultivating and to provide some financial assistance. Furthermore, there was an element of risk sharing, where the company was willing to assist in the unlikely event of crop failure or where flowers remained unsold. A high level of cooperation was evident in this relationship with both parties working together for mutual benefit. Despite the need for the farmers to adhere to the companies demand, power was seldom employed in a coercive manner.

Table 10.7 Examining relationships between farmers and companies

Constructs/Items	F>C
SATISFACTION	
I am satisfied with my transaction with my most preferred trading partner	1.78
I am satisfied with the prices received from my most preferred trading partner	1.89
I am satisfied with the pay in full at an agreed time	2.06
Dealing with my most preferred trading partner is less risky than others	1.67
My most preferred trading partner purchase/provide cut flowers at a mutually agreed price	2.17
My most preferred trading partner often meet my expectations	2.17
My most preferred trading partner quickly respond to my concerns	1.89
My most preferred trading partner and I have a close personal relationship	2.22
My most preferred trading partner has the best offer relative to the other traders	2.94
My most preferred trading partner purchase/provide products all year round	1.28
TRUST	
I trust my most preferred trading partner	1.50
My most preferred trading partner has a good reputation	1.61
My most preferred trading partner is always honest	1.83
My most preferred trading partner always considers my best interests	2.39
My most preferred trading partner always keep their promises	1.72
I believe in the information provided by my most preferred trading partner	2.17
My most preferred trading partner follows to the agreement between us	1.72
I know my most preferred trading partner very well	2.39
I understand my most preferred trading partner's problems	4.78

COMMITMENT	
I expect my relationship with my preferred trading partner to continue in the future	1.33
It is more cost effective for me to rely on my most preferred trading partner rather than search for alternative buyers	2.83
My most preferred trading partner makes efforts to help me	2.67
I do not intend to change my most preferred trading partner	1.72
My preferred trading partner do not breach the agreement/contract between us	1.78
COMMUNICATION	
My most preferred trading partner keeps me well informed on price in the cut flower market	3.94
My most preferred trading partner frequently asks me how they might improve the level of product quality	2.89
We often discuss better way to pack, grade, store and transport cut flowers	4.72
There is frequent contact with my most preferred trading partner	1.83
It is relatively easy to contact my most preferred trading partner	1.61
COOPERATION	
My most preferred trading partner provides financial assistance	2.94
My most preferred trading partner keeps me well informed on technical matters	2.44
I prefer to transact with local buyers	3.67
My most preferred trading partner is willing to share the risk (crop failure, unsold)	2.39
My most preferred trading partner and me work together for mutual benefits	1.78
There is a good cooperation between my buyer and myself	2.22
Cooperation based on the contract between my buyer and me	2.50
POWER	
My most preferred trading partner has all the power in our relationship	3.17
My most preferred trading partner controls all the information in our relationship	3.56
My most preferred trading partner will not take advantage of a strong bargaining position (not price pressure)	2.33
My most preferred trading partner exerts a strong influence over us	3.22
I must to do what my preferred trading partner says	3.50
My most preferred trading partner have a right to buy/provide or not to buy/provide cut flowers	4.39
N	18

where 1 is “I strongly agree” and 6 is “I strongly disagree”; and
 F>C demonstrates the farmer’s relationship with their preferred companies

10.3 Market intermediaries’ relationships with upstream and downstream partners

It was apparent that most traders described their relationship with farmers as being positive and long-standing, for they were often relatives and/or neighbours (Table 10.8).

There was a strong element of trust with minimal conflict in the exchange and a general desire to work together. Other traders described their relationship as being purely transactional, implying that it was primarily a business relationship: a purchasing and selling agreement. For some, there was an element of interdependence in the transaction and a desire to work together to meet the downstream buyers requirements.

Table 10.8 Description of traders' relationship with their preferred suppliers

Responses	F<T
Good relationship/Long-standing relationship/Close relationship/ Relative/Neighbour/ Countrymen	13
Purchasing and selling agreement/Purchasing and selling relationship/ Transaction relationship	9
Rely on trust/Trust together/Absolute trust	4
Good, positive (without disagreement)/Currently good	3
Meet buyer and supplier's requirement/Work together/Help together	3
Good reputation	3
Not comment/no problem	2
Satisfied with our relationship	2
Cooperation	1
Frequent contact/Frequent contact to ask about the price	1
N = 28	28

F<T demonstrates the farmer's relationship with their preferred traders

In a similar way, the relationship traders had with their downstream buyers was also described as long-standing for both wholesalers and retailers. According to the traders, trust, a favourable reputation and satisfaction were the crucial factors in keeping their relationship with their buyers alive. However, other traders indicated that their relationship with buyers was purely transactional (Table 10.9).

Table 10.9 Description of traders' relationship with their preferred buyers

Responses	T>W	T>R
Good relationship/Long-standing relationship	8	2
Purchasing and selling agreement/Purchasing and selling relationship/ Transaction relationship	6	-
Good, positive (without disagreement)/ Currently good	2	-
Not comment/no problem	2	-
Meet buyer and supplier's requirement/Work together/Help together	1	-
Rely on trust/ Trust together/ Absolute trust	1	-
Satisfied with our relationship	1	-
Good reputation	1	-
Cooperation	1	-
No desire to change buyer	1	-
N = 21	19	2

T>W demonstrates the traders' relationship with their preferred wholesalers

T>R demonstrates the traders' relationship with their preferred retailers

Wholesalers were also asked to describe their relationship with preferred upstream suppliers, including farmers, traders and companies. In most cases, wholesalers indicated that their relationships with preferred farmers and traders were good. There was some evidence of a close, long-term personal relationship. However, seven of the 22 respondents indicated that their relationship was a purchasing and selling agreement and thus largely devoid of personal relationships. Other positive aspects such as reputation, trust and satisfaction were described by wholesalers (Table 10.10).

Table 10.10 Description of wholesalers' relationship with their preferred suppliers

Responses	F<W	T<W	C<W
Good relationship/Long-standing relationship/Close relationship/ Relative/ Neighbour/ Countrymen	9	4	-
Purchasing and selling agreement/Purchasing and selling relationship/ Transaction relationship	7	-	-
Good, positive (without disagreement)/ Currently good	2	1	1
Good reputation	2	-	-
Working in the same cut flower industry	1	-	-
Meet buyer and supplier's requirement/Work together/Help together	1	-	-
Rely on trust/ Trust together/ Absolute trust	1	-	-
Not comment/no problem	1	1	-
Satisfied with our relationship	1	-	-
N = 29	22	6	1

F<W demonstrates the wholesalers' relationship with their upstream farmers

T<W demonstrates the wholesalers' relationship with their upstream traders

C<W demonstrates the wholesalers' relationship with their upstream companies

Similarly, wholesalers described their relationship with other wholesale-buyers in other cities and retail-buyers as being positive, due to both parties meeting their mutual requirements. Through a long-standing relationship and introductions from others, trust and cooperation was evident in the exchange. However, other wholesalers indicated that their relationship with downstream buyers were entirely business and for others, there was an element of instability in their transactions with downstream buyers (Table 10.11).

Table 10.11 Description of wholesalers' relationship with their preferred buyers

Responses	W>W	W>R
Good, positive (without disagreement)/ Currently good	2	2
Purchasing and selling agreement/Purchasing and selling relationship/ Transaction relationship	1	2
Meet buyer and supplier's requirement/Work together/Help together	1	2
Good relationship/Long-standing relationship/Close relationship	1	1
Through the introduction of the others	-	1
Moderate/Average/Common transaction/Have a common courtesy/Through acquaintance	2	1
Rely on trust/ Trust together/ Absolute trust	1	1
Unstable transaction/Have no relationship	-	1
Satisfied with our relationship	1	1
Good reputation	-	1
Cooperation	-	1
N = 21	8	13

W>W demonstrates the wholesalers' relationship with their downstream wholesalers

W>R demonstrates the wholesalers' relationship with their downstream retailer

When asked to describe their relationships with upstream suppliers, the retailers in Da Lat responded very differently to their peers in HCMC. Most retail relationships in Da Lat were derived from either farmers or traders, whereas in HCMC, the retailers transacted primarily with wholesale suppliers. Retailers in Da Lat indicated that they generally had an enduring long-standing relationship with farmers, whereas it seemed that their relationship with traders was more transactional and fundamentally based on securing flowers at the lowest

possible price (Table 10.12). Most Da Lat retailers sold cut flowers from their families and relatives, purchasing cut flowers from traders only to extend the range of flowers available.

Table 10.12 Description of Da Lat retailers' relationship with their preferred suppliers

Responses	F<R	T<R
Good relationship/Long-standing relationship/Close relationship/ Relative/ Neighbour/ Countrymen	7	6
Purchasing and selling agreement/Purchasing and selling relationship/ Transaction relationship	2	11
Good, positive (without disagreement)/ Currently good	-	4
Meet buyer and supplier's requirement/Work together/Help together	2	2
Frequent contact/Frequent contact to ask about the price	2	1
Not comment/not problem	-	2
Moderate/Average/Common transaction/Have a common courtesy/Through acquaintance	1	-
Rely on trust/ Trust together/ Absolute trust	1	-
Unstable transaction/Have no relationship	-	1
<i>N = 36</i>	<i>12</i>	<i>24</i>

F<R demonstrates the Da Lat retailers' relationship with their upstream farmers

T<R demonstrates the Da Lat retailers' relationship with their upstream traders

Retailers in HCMC described their relationship with preferred upstream suppliers as being largely transactional. Retailers endeavoured, whenever possible, to purchase cut flowers at the lowest possible price. Nevertheless, in order to secure a wide range of flowers of the desired quality and price, many retailers had established a long-standing relationship with preferred suppliers (Table 10.13).

Table 10.13 Description of HCMC retailers' relationship with their preferred suppliers

Responses	F<R	T<R	W<R	C<R	R<R
Purchasing and selling agreement/Purchasing and selling relationship/ Transaction relationship	-	1	18	3	1
Good relationship/Long-standing relationship	1	-	10	2	-
Moderate/Average/Common transaction/Have a common courtesy/Through acquaintance	1	-	8	-	-
Unstable transaction/Have no relationship	-	-	5	-	1
Good, positive (without disagreement)/ Currently good	1	1	4	-	-
Frequent contact/Frequent contact to ask about the price	-	-	4	1	-
Through the introduction of the others	-	-	-	2	-
Based on a contract	-	-	-	2	-
Satisfied with our relationship	-	-	1	-	-
Good reputation	-	-	1	-	-
Not satisfied due to bad quality	1	-	-	-	-
<i>N = 52</i>	<i>4</i>	<i>2</i>	<i>37</i>	<i>7</i>	<i>2</i>

F<R demonstrates the HCMC retailers' relationship with their upstream farmers

T<R demonstrates the HCMC retailers' relationship with their upstream traders

W<R demonstrates the HCMC retailers' relationship with their upstream wholesalers

C<R demonstrates the HCMC retailers' relationship with their upstream companies

R<R demonstrates the HCMC retailers' relationship with their upstream retailers

10.3.1 Traders' relationships with their downstream buyers

As a market intermediary in the cut flower supply chain, traders had relationships with both upstream suppliers and downstream buyers. However, in comparing the market intermediaries' relationships, not all relationships could be taken into consideration because of the lack of sufficient respondents. Even then, it was not always possible to rely on statistical evidence to identify any significant difference between the relationships. As the traders' relationships with farmers were described in an earlier section, this section will discuss the traders' relationships with downstream buyers.

In examining the nature of the traders' relationship with downstream wholesalers, the majority of traders indicated a strong desire to maintain their existing relationship into the future (Table 10.14). There was evidence of a high degree of trust and satisfaction with the exchange. However, despite the ease and the frequency of communication, there was little discussion on how the quality of the flowers presented for sale might be improved. Although the traders indicated their desire to cooperate with downstream partners, it was apparent that most buyers acted independently of the traders. Traders were expected to shoulder the majority of risk and downstream buyers seldom provided any financial assistance or technical advice.

Table 10.14 Examining relationships between traders and their downstream buyers

Constructs/Items	T>W	T>R	Sig.
SATISFACTION			
I am satisfied with my transaction with my most preferred buyer	1.55	2.00	0.196
My most preferred buyer purchase products all year round	1.67	1.83	0.360
I am satisfied with the pay in full at an agreed time	2.00	2.67	0.166
I am satisfied with the prices received from my most preferred buyer	2.12	3.00	0.008
My most preferred buyer quickly respond to my concerns	2.61	3.33	0.161
Dealing with my most preferred buyer is less risky than others	2.73	2.83	0.795
My most preferred buyer has the best offer relative to the other traders	2.73	3.33	0.122
My most preferred buyer often meet my expectations	2.79	4.33	0.176
My most preferred buyer and I have a close personal relationship	3.88	3.50	0.590
My most preferred buyer purchase cut flowers at a mutually agreed price	3.91	4.38	0.208
TRUST			
My most preferred buyer has a good reputation	1.82	1.83	0.950
I trust my most preferred buyer	1.85	2.00	0.645
My most preferred buyer always keep their promises	2.42	2.33	0.716
My most preferred buyer follows to the agreement between us	2.42	2.33	0.931
I know my most preferred buyer very well	2.82	2.67	0.513
I believe in the information provided by my most preferred buyer	3.21	3.67	0.549
My most preferred buyer is always honest	3.33	3.50	0.811
My most preferred buyer always considers my best interests	3.73	5.00	0.202
I understand my most preferred buyer's problems	4.42	3.33	0.163

COMMITMENT			
I expect my relationship with my preferred buyer to continue in the future	1.42	2.33	0.017
I do not intend to change my most preferred buyer	1.94	2.00	0.546
It is more cost effective for me to rely on my most preferred buyer rather than search for alternative buyers	2.45	2.83	0.333
My preferred buyer do not breach the agreement/contract between us	2.48	3.00	0.196
My most preferred buyer makes efforts to help me	2.91	3.50	0.227
COMMUNICATION			
It is relatively easy to contact my most preferred buyer	2.33	2.17	0.720
There is frequent contact with my most preferred buyer	2.39	2.67	0.337
My most preferred buyer keeps me well informed on price in the cut flower market	2.94	3.83	0.130
We often discuss better way to pack, grade, store and transport cut flowers	3.79	3.67	0.809
My most preferred buyer frequently asks me how they might improve the level of product quality	4.58	5.00	0.488
COOPERATION			
My most preferred buyer and me work together for mutual benefits	2.27	2.17	0.886
There is a good cooperation between my buyer and myself	2.67	2.67	0.984
My most preferred buyer is willing to share the risk (crop failure, unsold)	3.85	4.67	0.285
My most preferred buyer provides financial assistance	4.45	4.33	0.559
I prefer to transact with local buyers	5.09	4.00	0.079
Cooperation based on the contract between my buyer and me	5.27	5.17	0.471
My most preferred buyer keeps me well informed on technical matters	5.52	5.50	0.337
POWER			
My most preferred buyer have a right to buy/provide or not to buy/provide cut flowers	2.63	2.83	0.795
My most preferred buyer will not take advantage of a strong bargaining position (not price pressure)	3.45	2.83	0.388
I must to do what my preferred buyer says	4.48	4.00	0.430
My most preferred buyer exerts a strong influence over us	4.76	3.83	0.232
My most preferred buyer controls all the information in our relationship	4.82	5.33	0.448
My most preferred buyer has all the power in our relationship	5.06	5.50	0.387
<i>Total</i>	32	6	

where 1 is "I strongly agree" and 6 is "I strongly disagree"; and

T>W demonstrates the trader's relationship with their preferred wholesaler

T>R demonstrates the trader's relationship with their preferred retailer

Despite the need for the traders to have a secure and stable market for the flowers they had purchased, it was evident that neither the wholesalers nor the retailers were prepared to exercise any coercive market power. With relatively few retailers to sell to, traders indicated that they were seldom satisfied with the price they were able to secure from retailers. Furthermore, retailers were often slow in making payment and seldom met the traders' expectations. Although the level of trust was high, retailers were seldom perceived to act in the traders' best interest. Consequently, their relationship with retailers was much less durable. Although it was relative easy to contact a retailer, retailers seldom advised traders how they could improve the quality of cut flowers they had available. Furthermore, the retailers' willingness to share the risk with traders was low.

10.3.2 Wholesalers' relationships with upstream suppliers and downstream buyers

When asked to assess their relationship with upstream suppliers, wholesalers seemed to be equally satisfied in their relationship with both farmers and traders. Wholesalers tended to transact and to maintain relationships with a large number of farmers and traders in order to secure a continuous supply of cut flowers. In the majority of cases, suppliers kept their promises. However, suppliers did not always act in the buyers' best interest. Wholesalers understood that farmers were sometimes unable to meet their commitments due to bad weather conditions, pest and disease problems or where alternative buyers offered a higher price. To some extent, wholesalers preferred to transact with traders rather than farmers, as traders were better able to meet the wholesalers' expectations in providing flowers all year round and were more able to respond quickly to their concerns.

As expected, wholesalers were in frequent contact with their upstream suppliers, presumably with a view towards securing a regular supply of good quality cut flowers. Suppliers who sold to wholesalers were encouraged to harvest, grade, pack and transport the cut flowers, since HCMC wholesalers seldom regraded or repacked the flowers before selling. Consequently, there was much discussion with suppliers as to how they might best work together to improve quality. However, suppliers seldom asked how they could improve the level of product quality. At the wholesale level, suppliers absorbed the majority of price risk, for the flowers were often sold on consignment and prices were determined on the day according to quality, supply and demand. From the wholesalers' perspective, both farmers and traders had little countervailing market power and thus little control over the information being exchanged in the relationship (Table 10.15).

Table 10.15 Examining relationships between wholesalers and their upstream suppliers

Constructs/Items	F<W	T<W	Sig.
SATISFACTION			
I am satisfied with the pay in full at an agreed time	1.45	1.29	0.544
My most preferred supplier provide me products all year round	1.73	1.57	0.890
I am satisfied with the prices paid to my most preferred supplier	1.88	1.57	0.369
I am satisfied with my transaction with my most preferred supplier	2.06	1.71	0.577
Dealing with my most preferred supplier is less risky than others	2.39	2.29	0.984
My most preferred supplier often meet my expectations	2.45	2.14	0.456
My most preferred supplier has the best offer relative to the other traders	2.45	2.43	0.896
My most preferred supplier and I have a close personal relationship	2.48	2.29	0.970
My most preferred supplier quickly respond to my concerns	2.70	2.57	0.780
My most preferred supplier provide cut flowers at a mutually agreed price	3.36	3.29	0.957

TRUST			
My most preferred supplier has a good reputation	1.91	1.86	0.648
I trust my most preferred supplier	2.06	1.57	0.221
My most preferred supplier always keep their promises	2.21	1.86	0.460
My most preferred supplier follows to the agreement between us	2.42	2.00	0.398
My most preferred supplier is always honest	2.52	2.43	0.927
I know my most preferred supplier very well	2.52	2.86	0.437
I understand my most preferred supplier's problems	2.88	3.14	0.573
I believe in the information provided by my most preferred supplier	2.94	2.71	0.582
My most preferred supplier always considers my best interests	3.18	3.43	0.623
COMMITMENT			
I expect my relationship with my preferred supplier to continue in the future	1.67	1.29	0.555
I do not intend to change my most preferred supplier	2.15	1.43	0.144
It is more cost effective for me to rely on my most preferred supplier rather than search for alternative buyers	2.58	2.86	0.476
My preferred supplier do not breach the agreement/contract between us	2.64	1.86	0.115
My most preferred supplier makes efforts to help me	3.12	2.86	0.701
COMMUNICATION			
There is frequent contact with my most preferred supplier	1.85	1.86	0.939
It is relatively easy to contact my most preferred supplier	2.30	2.14	1.000
We often discuss better way to pack, grade, store and transport cut flowers	2.97	3.86	0.156
My most preferred supplier frequently asks me how they might improve the level of product quality	3.73	4.14	0.587
My most preferred supplier keeps me well informed on price in the cut flower market	4.64	5.14	0.474
COOPERATION			
My most preferred supplier and me work together for mutual benefits	2.06	2.71	0.136
My most preferred supplier is willing to share the risk (crop failure, unsold)	2.79	2.86	0.647
There is a good cooperation between my buyer and myself	2.85	3.43	0.328
I prefer to transact with local buyers	4.15	4.57	0.769
My most preferred supplier keeps me well informed on technical matters	4.33	4.29	0.796
Cooperation based on the contract between my buyer and me	4.70	5.00	0.506
My most preferred supplier provides financial assistance	5.42	5.00	0.356
POWER			
My most preferred supplier have a right to buy/provide or not to buy/provide cut flowers	2.85	2.43	0.826
I must to do what my preferred supplier says	3.88	3.29	0.337
My most preferred supplier will not take advantage of a strong bargaining position (not price pressure)	4.18	4.14	0.811
My most preferred supplier exerts a strong influence over us	4.30	4.57	0.714
My most preferred supplier controls all the information in our relationship	5.18	4.57	0.194
My most preferred supplier has all the power in our relationship	5.36	4.86	0.178
N	33	7	

where 1 is "I strongly agree" and 6 is "I strongly disagree"; and

F<W demonstrates the wholesaler's relationship with their upstream preferred farmer

T<W demonstrates the wholesaler's relationship with their upstream preferred trader

According to wholesalers, retailers regularly went to the wholesale market. They were free to choose which wholesalers they wished to transact with, to buy whatever cut flowers met their requirements and to pay whatever prices they could afford. With their downstream

wholesalers in other provinces, wholesalers reported that their relationship with them was very flexible. Conditions such as what flowers they needed, the quantity, the time of delivery and the payment terms were openly discussed. However, in their transactions with other wholesale buyers, wholesalers were not happy with the price that was ultimately agreed nor were they happy with the delays in payment. However, selling to other wholesalers provided a more stable and secure market, for it was evident that many retailers did not buy flowers all year round (Table 10.16).

Table 10.16 Examining relationships between wholesalers and their downstream buyers

Constructs/Items	W>W	W>R	Sig.
SATISFACTION			
My most preferred buyer purchase products all year round	1.62	2.57	0.009
I am satisfied with my transaction with my most preferred buyer	2.31	2.21	0.778
I am satisfied with the prices received from my most preferred buyer	2.38	2.25	0.539
My most preferred buyer quickly respond to my concerns	2.46	2.61	0.751
My most preferred buyer often meet my expectations	2.69	2.71	0.959
My most preferred buyer and I have a close personal relationship	2.85	3.43	0.229
I am satisfied with the pay in full at an agreed time	2.92	2.14	0.035
Dealing with my most preferred buyer is less risky than others	3.00	2.75	0.404
My most preferred buyer has the best offer relative to the other traders	3.54	3.32	0.583
My most preferred buyer purchase cut flowers at a mutually agreed price	3.92	2.96	0.033
TRUST			
I trust my most preferred buyer	2.00	2.39	0.281
My most preferred buyer has a good reputation	2.31	2.39	0.764
My most preferred buyer always keep their promises	2.38	2.75	0.324
My most preferred buyer follows to the agreement between us	2.46	2.89	0.141
I know my most preferred buyer very well	2.62	3.25	0.109
I believe in the information provided by my most preferred buyer	3.38	3.50	0.809
My most preferred buyer is always honest	3.62	3.04	0.199
My most preferred buyer always considers my best interests	4.23	3.61	0.199
I understand my most preferred buyer's problems	4.38	3.82	0.152
COMMITMENT			
I expect my relationship with my preferred buyer to continue in the future	2.00	2.11	0.756
I do not intend to change my most preferred buyer	2.00	2.61	0.135
My preferred buyer do not breach the agreement/contract between us	2.77	3.19	0.444
It is more cost effective for me to rely on my most preferred buyer rather than search for alternative buyers	3.15	3.25	0.738
My most preferred buyer makes efforts to help me	4.00	3.68	0.565
COMMUNICATION			
It is relatively easy to contact my most preferred buyer	2.15	2.14	0.970
There is frequent contact with my most preferred buyer	2.31	2.64	0.335
My most preferred buyer keeps me well informed on price in the cut flower market	4.15	3.71	0.439
My most preferred buyer frequently asks me how they might improve the level of product quality	5.00	4.21	0.091
We often discuss better way to pack, grade, store and transport cut flowers	5.00	4.29	0.204

COOPERATION				
My most preferred buyer and me work together for mutual benefits	2.85	2.46	0.207	
My most preferred buyer is willing to share the risk (crop failure, unsold)	3.54	4.00	0.389	
There is a good cooperation between my buyer and myself	3.77	3.39	0.352	
I prefer to transact with local buyers	4.54	4.11	0.504	
My most preferred buyer provides financial assistance	5.38	5.36	0.948	
My most preferred buyer keeps me well informed on technical matters	5.77	5.04	0.035	
Cooperation based on the contract between my buyer and me	5.85	5.30	0.067	
POWER				
My most preferred buyer have a right to sell or not to sell the cut flower	2.31	2.54	0.637	
I must to do what my preferred buyer says	4.23	3.86	0.499	
My most preferred buyer exerts a strong influence over us	4.69	4.89	0.670	
My most preferred buyer will not take advantage of a strong bargaining position (not price pressure)	4.85	3.68	0.047	
My most preferred buyer controls all the information in our relationship	5.15	5.18	0.947	
My most preferred buyer has all the power in our relationship	5.46	5.04	0.199	
<i>Total</i>	<i>13</i>	<i>28</i>		

where 1 is "I strongly agree" and 6 is "I strongly disagree"; and

W>W demonstrates the wholesaler's relationship with their preferred wholesaler in other provinces

W>R demonstrates the wholesaler's relationship with their preferred retailer

Generally, there was a high element of trust evident in the exchange with other wholesalers and retail buyers. However, it was evident that downstream buyers did not always understand the problems wholesalers experienced in securing a sufficient volume of good quality flowers, nor did they always consider the wholesalers best interests. Irrespective, wholesalers expected their relationship with other wholesale buyers and retail buyers to continue into the foreseeable future.

Although there was regular and frequent communication between wholesalers and their downstream buyers, there was very little discussion on how the quality might be improved, nor was there any feedback on the prevailing prices in the market. By withholding price information, downstream buyers were in a better bargaining position. While wholesalers agreed that both parties transacted to achieve mutual benefits, there was limited cooperation between the parties and little willingness among the downstream buyers to share risks. There was virtually no exchange of technical information that might improve or assist wholesalers to deliver superior quality product.

Although there was no evidence of any coercive market power being employed in the exchange, it was evident that downstream buyers would, at every opportunity, seek to take advantage of the wholesalers' weak bargaining position. Although the preferred downstream buyers did not control all the information, it was also evident that they did not willingly offer

information, especially on prices. As both parties could readily identify alternative exchange partners, neither party was able to exercise any control over their exchange partner.

10.3.3 Comparison of the retailers' relationships with upstream suppliers

Due to significant differences in the availability of alternative suppliers between Da Lat and HCMC, the Da Lat retailer relationships and HCMC retailer relationships with their upstream suppliers were analysed separately.

Overall, Da Lat retailers indicated a high level of satisfaction and trust in their trading relationship with suppliers. Not unexpectedly, farmers received a higher rating for both trust and satisfaction than traders. Farmers were perceived to be more honest and to have a better reputation. Farmers could offer the retailers a consistent supply of cut flowers all year round at a more competitive price than the traders (Table 10.17).

Table 10.17 Examining relationships between Da Lat retailers and their upstream suppliers

Constructs/Items	F<R	T<R	Sig.
SATISFACTION			
I am satisfied with my transaction with my most preferred supplier	1.14	1.70	0.000
I am satisfied with the prices received from my most preferred supplier	1.43	2.00	0.024
I am satisfied with the pay in full at an agreed time	1.43	1.96	0.083
My most preferred supplier provide me products all year round	1.57	2.67	0.001
Dealing with my most preferred supplier is less risky than others	2.00	2.44	0.160
My most preferred supplier provide cut flowers at a mutually agreed price	2.50	3.48	0.014
My most preferred supplier often meet my expectations	2.50	3.07	0.134
My most preferred supplier has the best offer relative to the other traders	2.64	2.15	0.174
My most preferred supplier quickly respond to my concerns	2.71	2.63	0.842
My most preferred supplier and I have a close personal relationship	3.14	3.78	0.246
TRUST			
My most preferred supplier has a good reputation	1.36	2.04	0.004
I trust my most preferred supplier	1.43	2.48	0.000
My most preferred supplier is always honest	1.71	3.15	0.000
I know my most preferred supplier very well	1.93	3.19	0.000
My most preferred supplier follows to the agreement between us	2.00	3.04	0.001
My most preferred supplier always keep their promises	2.14	2.81	0.051
I believe in the information provided by my most preferred supplier	2.14	3.19	0.004
My most preferred supplier always considers my best interests	3.07	3.78	0.127
I understand my most preferred supplier's problems	3.07	3.96	0.038

COMMITMENT				
I expect my relationship with my preferred supplier to continue in the future	1.57	1.89	0.309	
I do not intend to change my most preferred supplier	1.93	2.85	0.061	
It is more cost effective for me to rely on my most preferred supplier rather than search for alternative buyers	2.07	3.19	0.000	
My preferred supplier do not breach the agreement/contract between us	2.14	2.89	0.049	
My most preferred supplier makes efforts to help me	2.64	4.07	0.005	
COMMUNICATION				
It is relatively easy to contact my most preferred supplier	1.57	2.59	0.003	
There is frequent contact with my most preferred supplier	1.86	2.67	0.008	
My most preferred supplier keeps me well informed on price in the cut flower market	2.14	3.07	0.067	
My most preferred supplier frequently asks me how they might improve the level of product quality	3.79	4.26	0.288	
We often discuss better way to pack, grade, store and transport cut flowers	4.71	4.30	0.314	
COOPERATION				
There is a good cooperation between my buyer and myself	1.64	3.52	0.000	
My most preferred supplier and me work together for mutual benefits	1.79	2.48	0.009	
My most preferred supplier is willing to share the risk (crop failure, unsold)	2.43	3.74	0.005	
I prefer to transact with local buyers	2.93	2.85	0.869	
My most preferred supplier provides financial assistance	4.00	5.04	0.021	
My most preferred supplier keeps me well informed on technical matters	4.36	4.74	0.385	
Cooperation based on the contract between my buyer and me	5.29	5.11	0.716	
POWER				
My most preferred supplier will not take advantage of a strong bargaining position (not price pressure)	2.71	3.41	0.182	
My most preferred supplier exerts a strong influence over us	4.43	4.56	0.778	
My most preferred supplier have a right to sell or not to sell the cut flower	4.64	3.52	0.027	
My most preferred supplier controls all the information in our relationship	4.86	5.04	0.590	
I must to do what my preferred supplier says	4.86	4.44	0.320	
My most preferred supplier has all the power in our relationship	5.29	5.33	0.863	
<i>Total</i>	<i>14</i>	<i>27</i>		

where 1 is “I strongly agree” and 6 is “I strongly disagree”; and F<R demonstrates the retailer’s relationship with their preferred farmer T<R demonstrates the retailer’s relationship with their preferred trader

Although it was very easy for the Da Lat retailers to stay in contact with their suppliers, they rarely discussed ways to improve the packing, grading or transport of the cut flowers. Nevertheless, farmers were willing to absorb the majority of risk. Both the farmers and the Da Lat retailers recognised the benefits of cooperation to achieve mutual benefits, but not unexpectedly, smallholder farmers were unable to provide any financial assistance or technical advice to their customers. There was no evidence of the exercise of any coercive market power in the relationship between both farmers and traders in their relationship with Da Lat flower retailers. It was evident that Da Lat retailers tried to maintain the relationship with both their upstream suppliers.

In HCMC, the retailers' relationship with their cut flower suppliers was less satisfactory. Most noteworthy was the very negative trading relationship between retailers and the general inability of those farmers who traded with the retailers to meet their expectations (Table 10.18).

Table 10.18 Examining relationships between HCM retailers and their upstream suppliers

Constructs/Items	F<R	T<R	W<R	C<R	R<R
SATISFACTION					
My most preferred supplier provide me products all year round	1.75 ^a	2.33 ^a	2.39 ^a	2.00 ^a	3.50 ^a
I am satisfied with the prices received from my most preferred supplier	2.00 ^a	2.00 ^a	2.18 ^a	2.57 ^a	3.00 ^a
My most preferred supplier provide cut flowers at a mutually agreed price	2.25 ^a	4.33 ^a	3.32 ^a	2.86 ^a	2.00 ^a
I am satisfied with my transaction with my most preferred supplier	2.50	2.00^a	1.89^a	2.00^a	4.00^b
I am satisfied with the pay in full at an agreed time	3.00	2.00	2.05	1.57^a	3.50^b
My most preferred supplier and I have a close personal relationship	3.50 ^a	2.33 ^a	3.71 ^a	3.14 ^a	4.50 ^a
My most preferred supplier has the best offer relative to the other traders	3.50	2.33^a	2.68^a	2.14^a	5.00^b
Dealing with my most preferred supplier is less risky than others	3.75 ^a	2.33 ^a	2.92 ^a	2.29 ^a	4.00 ^a
My most preferred supplier often meet my expectations	4.00^b	2.00^a	2.89	3.00	4.50^b
My most preferred supplier quickly respond to my concerns	4.00 ^a	2.33 ^a	3.08 ^a	2.57 ^a	3.50 ^a
TRUST					
My most preferred supplier follows to the agreement between us	2.75 ^a	2.67 ^a	2.76 ^a	2.86 ^a	2.50 ^a
My most preferred supplier always keep their promises	3.50 ^a	2.00 ^a	3.11 ^a	2.71 ^a	4.00 ^a
I trust my most preferred supplier	4.25^b	2.00^a	2.37	2.00^a	3.50
I believe in the information provided by my most preferred supplier	4.25 ^a	2.67 ^a	3.08 ^a	2.86 ^a	4.00 ^a
My most preferred supplier has a good reputation	4.50^c	1.67^a	2.29	1.71^a	4.00^b
My most preferred supplier is always honest	4.50	3.33	3.63	2.57^a	5.00^b
My most preferred supplier always considers my best interests	4.50 ^a	3.00 ^a	4.08 ^a	3.00 ^a	5.00 ^a
I know my most preferred supplier very well	4.50	2.33^a	3.53	3.14	5.00^b
I understand my most preferred supplier's problems	5.50 ^a	3.67 ^a	4.21 ^a	3.29 ^a	5.50 ^a
COMMITMENT					
I expect my relationship with my preferred supplier to continue in the future	3.50	2.00 ^a	2.03 ^a	1.71 ^a	4.50 ^b
My preferred supplier do not breach the agreement/contract between us	3.75 ^a	2.33 ^a	3.11 ^a	2.14 ^a	3.50 ^a
It is more cost effective for me to rely on my most preferred supplier rather than search for alternative buyers	4.25^b	2.00^a	2.76	2.43	4.00
I do not intend to change my most preferred supplier	4.25^{bc}	1.67^a	2.79^c	2.29	5.00^c
My most preferred supplier makes efforts to help me	4.50 ^a	3.67 ^a	3.87 ^a	3.14 ^a	5.00 ^a

COMMUNICATION					
There is frequent contact with my most preferred supplier	3.50	1.67^a	2.95	2.14	4.50^b
It is relatively easy to contact my most preferred supplier	4.00 ^a	1.67 ^a	2.47 ^a	1.86 ^a	3.00 ^a
My most preferred supplier keeps me well informed on price in the cut flower market	4.75 ^a	2.67 ^a	2.76 ^a	2.86 ^a	4.00 ^a
My most preferred supplier frequently asks me how they might improve the level of product quality	5.50 ^a	4.33 ^a	4.66 ^a	4.00 ^a	4.50 ^a
We often discuss better way to pack, grade, store and transport cut flowers	5.75 ^a	4.67 ^a	4.53 ^a	4.14 ^a	5.50 ^a
COOPERATION					
My most preferred supplier and me work together for mutual benefits	3.00 ^a	2.00 ^a	2.53 ^a	2.29 ^a	3.50 ^a
My most preferred supplier is willing to share the risk (crop failure, unsold)	4.50 ^a	4.33 ^a	3.74 ^a	4.14 ^a	5.00 ^a
My most preferred supplier provides financial assistance	4.75 ^a	3.67 ^a	4.37 ^a	4.86 ^a	4.00 ^a
I prefer to transact with local buyers	4.75 ^a	2.67 ^a	2.84 ^a	3.14 ^a	3.50 ^a
There is a good cooperation between my buyer and myself	5.00 ^b	2.00 ^a	3.05	2.29 ^a	3.50
My most preferred supplier keeps me well informed on technical matters	5.25 ^a	5.00 ^a	4.37 ^a	4.00 ^a	4.00 ^a
Cooperation based on the contract between my buyer and me	5.75 ^a	6.00 ^a	5.47 ^a	4.00 ^a	5.00 ^a
POWER					
My most preferred supplier have a right to sell or not to sell the cut flower	1.75 ^a	3.67 ^a	3.37 ^a	4.57 ^a	2.50 ^a
My most preferred supplier has all the power in our relationship	3.00 ^a	5.00 ^a	5.13 ^a	4.71 ^a	4.00 ^a
My most preferred supplier controls all the information in our relationship	3.50 ^a	4.33 ^a	4.87 ^a	4.71 ^a	4.50 ^a
I must to do what my preferred supplier says	4.00 ^a	2.67 ^a	4.61 ^a	4.86 ^a	3.50 ^a
My most preferred supplier will not take advantage of a strong bargaining position (not price pressure)	4.75 ^a	3.33 ^a	3.16 ^a	3.57 ^a	4.50 ^a
My most preferred supplier exerts a strong influence over us	4.75 ^a	4.00 ^a	3.82 ^a	4.00 ^a	4.50 ^a
<i>N</i>	4	3	38	7	2

where 1 is "I strongly agree" and 6 is "I strongly disagree"; and

F<R demonstrates the HCMC retailer' relationship with their preferred farmers

T<R demonstrates the HCMC retailer' relationship with their preferred traders

W<R demonstrates the HCMC retailer' relationship with their preferred wholesalers

C<R demonstrates the HCMC retailer' relationship with their preferred companies

R<R demonstrates the HCMC retailer' relationship with their preferred retailers

Results followed with the same letters in the same row show no significant difference detected by Turkey HSD^{a,b} test at significant level of 0.05

There was little evidence of any long-term relationship between HCMC retailers and Da Lat farmers. HCMC retailers reported that they were generally dissatisfied with their transactions, there was little trust present in the relationship and there was little communication or cooperation. Although trading with farmers directly provided the best opportunity to secure cut flowers at the cheapest price, farmers were slow to respond to the retailers needs and were considered the most risky suppliers. Furthermore, they expected payment in full at the time the sale was made. Because direct trading with farmers was the

most risky, the level of trust in the exchange was particularly low. Farmers could not be relied upon, nor were they always honest.

It was evident that the relationship between retailers and traders was more transactional than relational. In examining the relationship between HCMC retailers and other retail suppliers, there was a low level of satisfaction and trust. A low level of trust was also evident in the retailers' relationship with other retailers. For this reason, retailers chose to transact with other retailers only when they needed specific cut flowers.

HCMC retailers preferred to transact with local wholesalers and companies rather than to transact with farmers, traders and other retailers. HCMC retailers were generally more satisfied and indicated a higher level of trust in their transaction with companies and wholesalers, primarily because these suppliers could deliver a wide range of good quality cut flowers, reliably and consistently. HCMC retailers could meet face-to-face with wholesalers in the wholesale market.

Some retailers indicated that they had a contract with companies to sell their cut flowers through the introduction of others. Retailers in HCMC were generally satisfied with the quality of the cut flowers that companies provided. However, as many of the companies specialized in only a few cut flower varieties, retail florists could not purchase the range of cut flowers that they required. Furthermore, most companies did not offer credit to retailers or provide a regular volume.

Irrespective of the source, there was no evidence of the exercise of any coercive market power in the exchange. While there was ample evidence of cooperation between traders, wholesalers, companies and the HCMC retailers, there was a little evidence of any cooperation between farmers and other retailers.

10.4 Review

In this chapter, the nature of the relationship between smallholder farmers and their trading partners and between buyers and their upstream suppliers and downstream buyers were examined for Da Lat cut flower supply chains.

Informal selling and purchasing arrangements between farmers and alternative market intermediaries were common in the supply chains, mainly because most farmers and market intermediaries were small scale. Since smallholder farmers only had a limited area of production, there was considerable uncertainty in the availability of a regular and sufficient supply of cut flowers. Each actor showed that in dealing with their preferred trading partner, uncertainty and risk were reduced. While most actors looked primarily for economically

rational goals, they were embedded in a long-term relationship with their most preferred trading partners in whom they trusted.

The results reveal that most actors had an enduring long-term relationship with their most preferred trading partners. The bond which was perceived to be the most persuasive and enduring was a close personal friendship. The extent to which farmers choose to trust or not to trust a potential exchange partner was largely derived from their personal knowledge of the trading partner and their past experience. Most actors preferred to transact with exchange partners with whom they had dealt in the past. Repeat buying/selling resulted for a number of reasons including: habit, a lack of decision making, a perceived absence of choice, or, the lack of time to evaluate alternative trading partners. According to Sheth and Parvatiyar (1995), repeat transactions foster trust, which facilitates future marketing. When both parties know they are in an extended arrangement, they are more willing to accept short-term disadvantages because things will even out in the long run (Batt 2000b). In this case, when farmers developed a repeat relationship with their buyers, they had access to a stable and predictable outlet, with a commensurate reduction in uncertainty (Batt 2004c). Through these relationships, the required quantity of the desired quality cut flowers could be secured, product information exchanged and prices negotiated.

However, a long-standing relationship did not guarantee a higher price and in this regard, most farmers were looking for better exchange partners and, in the absence of any significant transaction specific investments, could readily switch whenever a better opportunity presented itself. On those occasions when these enduring long-standing relationships were terminated, the reasons were mostly because of price, quality, the inability to supply or structural changes. Spot exchanges still occurred between some trading partners such as farmers and some traders and between farmers and retailers. This discrete transaction was short-term and demand driven.

The results reveal that relationships in the Da Lat cut flower supply chain were largely based on trust and satisfaction, which emerged as the two most important constructs for relational continuity. It was apparent that most farmers were satisfied with their exchange relationships and demonstrated considerable trust in their downstream buyers. Nowhere was this more evident than the relationship between suppliers and wholesalers. In this relationship, farmers and traders sold cut flowers to wholesalers on consignment. As farmers and traders did not get paid until after the wholesalers had sold the flowers, it was evident that there was a high level of trust present in the exchange. Trust played an important role in reducing the risk and the transaction cost between farmers and their downstream customers. Where it was necessary to terminate a relationship, the main reason for doing so was the lack of trust. However, the absence of trust did not preclude or prevent a transaction.

Minimal information was exchanged between farmers and their trading partners. Few of the exchange partners were willing to provide any technical or financial support, or to assist the farmers in finding alternative ways to improve quality. Occasionally, wholesalers offered advice to the farmers on what to grow and how to grade and pack the fresh produce offered for sale. Market information on the other hand was generally not available, even to the market intermediaries themselves, which generally contributed to the volatility in price. Therefore, in such a volatile environment, most buyers could not offer finance to farmers.

Batt (2003f) indicates that cooperation has a significant positive association between the willingness of the buyers to make investments and the farmers desire to maintain the relationship. Only in the company chains was there any evidence of cooperation in the chain.

Power had little influence in these relationships. The exercise of coercive market power was not a major feature of the Da Lat cut flower supply chain. Farmers were independently able to choose those buyers who offered the highest price. Furthermore, if the numbers themselves provide any indication, despite achieving the highest returns, few farmers choose to transact directly with retailers who, coincidentally, exercised the most power. Farmers were seldom financially obligated to any buyers. Nor did the buyers control all the information and/or influence farmers to make decisions that were not in their best interests.

Chapter 11. Discussions⁴

11.1 Chapter outline

Using a pluralistic approach, which included mapping the cut flower supply chains, transaction cost analysis, gap analysis and the key dimensions of relationship marketing, a more holistic analysis of the performance of alternative cut flower supply chains in Da Lat was undertaken. This chapter synthesises and discusses the main findings of the four previous chapters in relation to the study objectives for the selected supply chains. The chapter begins by looking at the marketing options available to farmers and each of the market intermediaries. This is followed by an analysis of the performance of the alternative supply chains available in Da Lat by examining the price-margins extracted by actors, gap analysis and an evaluation of the relationships between preferred customers and suppliers. It concludes by discussing the advantages derived from the use of a pluralistic approach.

11.2 Actors and activities involved in alternative cut flower supply chains

Semi-structured interviews, site visits and information from observations were collected that helped to reconfirm and update information on the cut flower supply chains operating in Da Lat.

In this study, eight major supply chains for roses and chrysanthemums were identified in Da Lat. Poulish et al. (2003) identified 10 different supply chains for cut flowers, with three of those chains focusing on the export market. In this study, the supply chains for roses and chrysanthemums focused mainly on the domestic market: only a small number of farmers had contracts with companies who exported chrysanthemum to other countries. Very few smallholder farmers were able to participate in export supply chains.

RUDEC/IPSARD-FAO (2007) identified three main cut flower supply chains in Da Lat: (1) from farmers to other provinces; (2) from farmers to companies; and (3) closed production chains aligned with trading companies. While the closed production chains aligned with trading companies still export cut flowers, companies have begun to sign contracts with smallholder farmers to export their chrysanthemums under a project sponsored by DANIDA.

⁴ The following chapter was developed from Bich, Le N and Batt, Peter J. 2011. The Extent to which Downstream Buyers are able to Fulfil Flower Farmers Needs in Da Lat – Viet Nam. In *Australian & New Zealand Marketing Academy Conference 2011*. Perth, Australia and Le, Bich Nhu and Batt, Peter J. 2012. *The Ability of Flower Farmers in Da Lat to Meet the Needs of Downstream Buyers*. Acta Hort.:2012; and Bich, Le N and Batt, Peter J. 2012. *Farmer-Buyers relationships in the cut flower supply chain in Da Lat, Viet Nam*. Proceedings of the Improving the Performance of Supply Chains in the Transitional Economies, Cebu, The Philippines.

Currently, the supply chain from farmers to other provinces is the dominant chain in the Da Lat cut flower industry.

Most cut flower supply chains involve a large number of smallholder farmers, a smaller number of traders, a much smaller number of wholesalers and companies, and a moderate number of retailers. Most participants in the Da Lat cut flower supply chain were small-scale businesses. Most farmers in this study cultivated less than 0.5 ha, while 61% of traders and 42% of wholesalers sold less than 10,000 stems per day. Some 41% of the retailers purchased and sold less than 1,000 stems per day.

According to Batt (2007), farmers can choose many routes to markets such as wet markets, institutional markets and direct marketing. In the Da Lat cut flower industry, most cut flowers serving the domestic market were sold at the farm gate and in wet markets to traders, wholesalers and retailers. Only a very small proportion was sold to companies or direct to consumers. This finding is similar to other fresh produce supply chains in the developing countries (Batt et al. 2007; Concepcion, Digal and Uy 2006b; Keizer 2006; Montiflor 2012).

Farmers had many options in deciding to whom they would sell their cut flowers. As many market intermediaries were available to farmers, farmers selected those buyers who could best fulfil their needs. For the majority of farmers, this meant the ability to buy cut flowers all year round, irrespective of the quality. In those situations where preferred trading partners rejected the flowers because of poor quality, alternative buyers could usually be found, especially during the peak season.

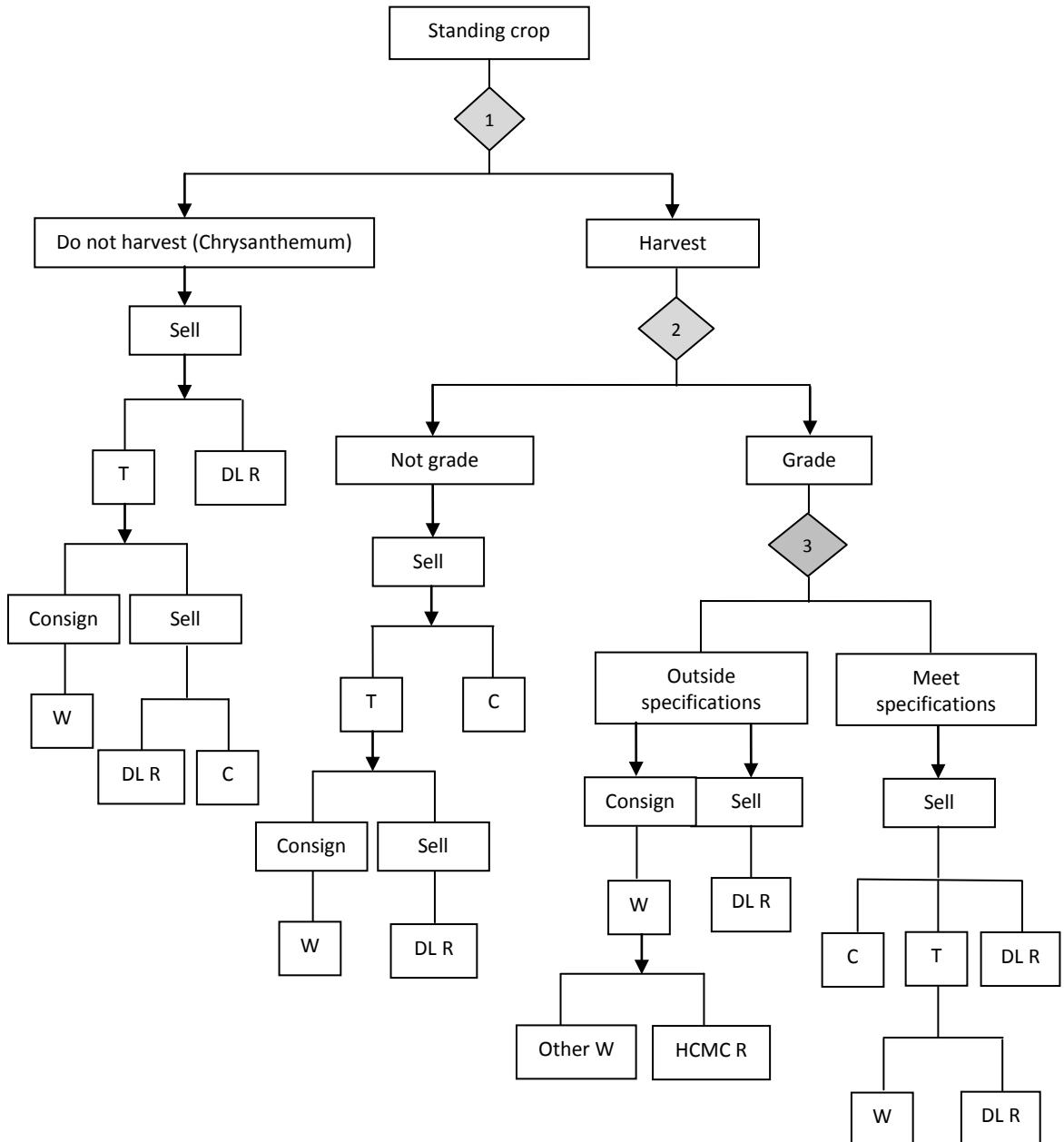
With the exception of the company chains, farmers carried out the majority of their activities independently of the other supply chain actors. As the effectiveness of the supply chain depends upon how well customer needs are satisfied, it was evident that most of the cut flower supply chains in Da Lat were operating a sub-effective level.

Price margin analysis provided a comprehensive picture of the flow and the volume of the flowers being transacted in each of the alternative chains; the activities being performed by each actor; the costs required to carry out those activities; and the price margin each actor was able to extract in their transactions with different customers. Gap analysis and the analysis of long-term relationships provided an insight into the social variables involved in each actor's choice of downstream customer, upstream suppliers and their capacity to fulfil the needs of the various suppliers and customers with whom they interacted.

Da Lat cut flower farmers were generally free to choose who they sold their cut flowers to depending on: the availability of labour; the specific investments they had made in greenhouses, light and irrigation systems; their access to capital; what buyers were available; what price these buyers offered; the quality of cut flowers available; the quantity of cut

flowers available; their ability to meet their customers' requirements (consistent production, cultivation techniques, packing and transport); and the nature of their relationship with their preferred trading partner From this, a decision tree was developed to show how cut flower farmers in Da Lat selected their preferred downstream customers (Figure 11.1).

Figure 11.1 Actors and activities in alternative cut flower supply chains in Da Lat



At Decision Point 1, those farmers who choose not to harvest, sold their cut flowers (mainly chrysanthemums) direct to traders at the farm-gate or to local retailers in Da Lat. In this chain, about 11% of chrysanthemum farmers chose to sell a standing crop to traders. These

farmers generally had only a small quantity of cut flowers available that was too large to sell to retailers, too small to send to wholesalers in HCMC, or failed to meet the quality requirements of the companies. Often, farmers sold to traders where they: (1) did not have the labour, (2) were financially constrained; (3) did not have the capacity to deliver to wholesalers or (4) were unable to access other buyers such as wholesalers, companies or retail buyers. Any one or more of these constraints could leave farmers with no choice other than to sell cut flowers to traders.

In transacting with the traders, farmers generally received half the money at the time the sale had been negotiated and the remaining 50% after traders had finished the harvest. Such transactions were advantageous where farmers had an immediate need for cash.

Those farmers who had only a small area to produce cut flowers or only a small quantity of cut flowers (some beds) could choose to sell a standing crop to local retailers without harvesting. Retailers purchased the standing crop as if they were a trader. These retailers on-sold the cut flowers on the streets or within wet markets.

At Decision Point 2, those farmers who decided to harvest but not to grade cut flowers, sold either to traders (for roses) or companies (for chrysanthemums). These farmers chose not to grade cut flowers because: (1) rose farmers were not confident about letting traders harvest the roses, as the yield and the quality of any subsequent crop was largely determined by the way in which the flowers were harvested; and (2) farmers were unsure of the company's requirements. Furthermore, if they did grade, farmers would then face the problem of disposing of that product which fell outside the company's specifications.

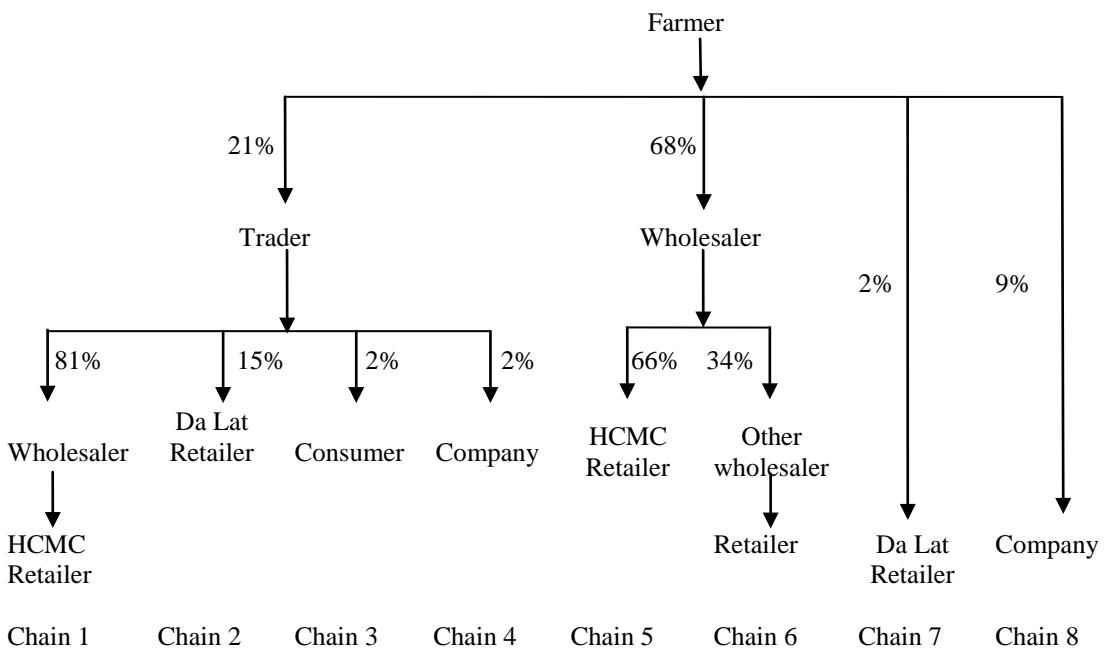
About 41% of rose farmers sold to traders in this way. These rose farmers harvested the flowers and either delivered them to traders, or traders collected the flowers at the farm gate.

At this decision point, those chrysanthemum farmers who had sufficient financial capital and had made significant investments in greenhouses and light and irrigation systems, could be invited to enter into a contract to sell chrysanthemums to a company. Under this option, farmers harvested and transported the cut flowers ungraded to the company as instructed.

At Decision Point 3, those farmers who undertook most marketing activities, including harvesting, grading, bunching, packing and transporting the cut flowers, sold on consignment to many different buyers including, wholesalers and retailers in Da Lat. In most cases, these farmers not only had sufficient labour and a large quantity of cut flowers, but they also had an enduring long-term relationship with buyers in other cities. Most of these farmers chose to consign their flowers to wholesalers in HCMC. After simple grading, any surplus flowers, second grade and rejected cut flowers were sold to local retailers in Da Lat.

Mekong Economics (2007) reported that 60% of farmers sold their products to traders in the Da Lat cut flower supply chain. However, of the many cut flower marketing chains in which farmers participated in Da Lat, the farmer-wholesaler chain was the predominant route to market, with over 68% of the cut flowers sold to wholesalers in HCMC (Chain 5 and Chain 6). Only 21% were sold to traders at the farm gate (Chain 1, Chain 2, Chain 3 and Chain 4), 9% were sold to company chains (Chain 8), and only 2% were sold directly to retailers in Da Lat (Chain 7) (Figure 11.2).

Figure 11.2 Alternative cut flower supply chains in Da Lat



The traders provided a link between farmers, wholesalers and retailers. Most of the cut flowers procured by traders were sold to wholesalers (81%) (Chain 1), while only 15% were sold to retailers in the local Da Lat market (Chain 2). Only 2% of traders reported that they sold flowers to consumers (Chain 3) and only 2% sold flowers to companies (Chain 4).

Traders in the first four chains were expected to bear all the costs of marketing, including the labour cost for harvesting, sorting and packing, packaging materials, transport costs and postharvest losses. To improve their profitability, traders tried to minimise these costs and to reduce the buying price from farmers. In choosing to whom they would sell the flowers they had purchased, traders made their decision on the basis of the buyers' capacity to purchase and the nature of the long-term relationships between them. Traders could sell cut flowers to one or more wholesalers, both wholesalers and retailers, or to many retailers.

In Chain 1, wholesalers generally provided the best outlet (81%) for the flowers the traders had purchased. Most traders looked to transact directly with wholesalers in HCMC where transport was convenient and the market was sufficient large to absorb the quantity of

flowers that they had purchased. While most traders were content to supply HCMC, others searched for potential customers in the Central provinces and Ha Noi. Searching for new markets which promised higher returns was the best way for traders to encourage more farmers to transact with them.

Apart from traders, farmers indicated that they delivered cut flowers direct to HCMC wholesalers (Chain 5 and Chain 6). Some 68% of the cut flowers produced in Da Lat were sold directly to wholesalers in the HCMC wholesale market. Farmers were introduced to their wholesale buyers through friends, relatives, drivers and/or other farmers. Most wholesalers from Chain 1, Chain 5 and Chain 6 then supplied the cut flowers they had purchased to retailers for local consumption in HCMC (66%). Sales to other provinces were estimated to account for 34% of sales, mainly to the Southern provinces and Ha Noi.

Apart from traders and wholesales, farmers sold about 2% of the flowers to Da Lat retailers (Chain 7). Those farmers who sold cut flowers to retailers did so because (1) they were unable to supply flowers to a wholesaler or to a company; (2) they were dissatisfied in their past exchange transaction with traders; (3) they had only a small volume of cut flowers available or surplus cut flowers; and (4) the prices offered by retailers were attractive. No smallholder farmers in Da Lat reported that they transact directly with retailers in HCMC. This was because the quantity of flowers required was too small, transport was too expensive, quality was too variable, they were unable to supply a wide range of flowers, but ultimately it was because the farmers had no relationship with these customers.

Few farmers reported that they sold cut flowers to a company. Only 9% of the farmers interviewed were able to meet the company's requirements and thus be offered a contract to participate in this chain. Most of these were chrysanthemum farmers. However, there was no data available from the companies side (Chain 8) and thus the company chains were not analyzed. The small number of company respondents did not allow any meaningful analysis of the data to be undertaken. The six alternative cut flower supply chains examined were:

Chain 1: Farmer – Trader – Wholesaler – HCMC Retailer

Chain 2: Farmer – Trader – Da Lat Retailer

Chain 5: Farmer – Wholesaler – Other Wholesalers – Retailer

Chain 6: Farmer – Wholesaler – HCMC Retailer

Chain 7: Farmer – Da Lat Retailer

Chain 8: Farmer – Company

11.3 Examining the price margin in the alternative cut flower supply chains

As with Batt (2003a) study of potato supply chains in Viet Nam, few Da Lat farmers and market intermediaries kept any written records of the buying and selling prices of cut flowers, hence some errors in reporting are inevitable. Furthermore, since there is a degree of confidentiality associated with the reporting of market prices, respondents may deliberately choose to overvalue the prices at which they have purchased cut flowers and undervalue the prices at which they have been sold to reduce their perceived profit margin. Company chains were absent due to their desire to keep their business confidential.

Roses, as a perennial flower, are harvested continuously throughout the year. However, more flowers are produced during the summer months when solar insolation is most intense. Regrettably, in Viet Nam, this does not align with the main period of demand which is from October to May. Prices therefore vary between the seasons, but also with each of the occasion days. In Chain 1 and 2, rose farmers indicated that they sold roses to traders for an average price of VND 790 per stem, traders purchased ungraded roses from farmers at an average price of VND 917 and sold to wholesalers for VND 1,260 or Da Lat retailers for VND 1,750. These traders made their profits through grading and sorting, packing and transporting cut flowers from farm areas to their place of business (Table 11.1).

Table 11.1 Buying and selling prices along the Da Lat rose supply chain in 2010 (VND/stem)

	Farmer	Trader		Wholesaler		DL retailer		HCM retailer	
		Sell	Buy	Sell	Buy	Sell	Buy	Sell	Buy
Chain 1	789	917	1,260	1,200	1,600			2,896	5,214
Chain 2	789	917	1,750			1,738	2,218		
Chain 5	897			1,150	1,533			2,896	5,214
Chain 6	897			1,150	1,522				
Chain 7	700					1,650	2,200		
Chain 8	933								

The selling price to wholesalers was lower than that to Da Lat retailers, but wholesalers were able to purchase a large volume of cut flowers. HCMC retailers indicated they purchased roses from wholesalers at an average price of VND 2,896 per stem, then sold at an average price of VND 5,560 per stem (Chain 1).

Looking at Chain 2, retailers in Da Lat were the preferred buyers for some traders selling roses. While traders received the highest price from retailers (VND 1,750), Da Lat retailers indicated that they purchased roses at VND 1,738 and sold those roses for an average price of VND 2,218 per stem. However, this chain offered limited opportunities. As retail florists only purchased a small volume of many different types of cut flowers, the costs of servicing this market were high and the volumes were not sustainable.

In Chains 5 and Chain 6, the average price that farmers received from wholesalers was VND 917, however, wholesalers indicated that they purchased roses from farmers for an average price of VND 1,150. There was a difference of VND 250 per stem between the price at which farmers indicated they sold the roses and wholesalers purchased roses. This could be attributed to sampling error, to farmers undervaluing or wholesalers overvaluing, or to the difference in time between when the interviews were conducted in Da Lat and HCMC.

On average, farmers received higher marketing margins when selling to wholesalers (Chain 5 and Chain 6) than from traders (Chain 1 and Chain 2), even though they bore all the costs of marketing and the postharvest losses. As expected, transport costs were a major component of the activity costs when farmers sold to wholesalers. High transportation costs explained the very low net margin that farmers received when cut flower prices were at their lowest.

In Chain 7, the difference of VND 950 between the average price farmers sold to Da Lat retailers and the average prices Da Lat retailers purchased could be explained by sampling error. While farmers indicated that they sold any remaining roses to Da Lat retailers, retailers indicated that they purchased from farmers when there was a shortage of cut flowers. Those retailers added value to roses by grading, bunching and incorporating the shorter flowers into bouquets and arrangements.

While farmers indicated an average selling price to companies of VND 933, no companies were willing to disclose the price at which they purchase flowers from farmers or to disclose the price at which flowers were subsequently sold to customers (Chain 8).

The marketing margins each actor received differed between the different chains. Farmers indicated that they received higher prices when selling to company chains and wholesale chains. While the average price at which Da Lat retailers sold flowers was three times that at which the farmer sold, the difference in HCMC was seven times the farm gate price (Chain 1 and Chain 5).

With annual flowers such as chrysanthemums, some farmers preferred to sell to traders who purchased a standing crop on the farm. In Chain 1 and Chain 2, those farmers who sold a standing crop of chrysanthemum to traders indicated that their average selling price was VND 950 and VND 600 per stem for standards and sprays, respectively. Traders purchased standards at VND 1,190 and spray chrysanthemum at VND 770 per stem, and sold these flowers at an average price of VND 1,537 per stem for standards and 1,000 per stem for sprays (Table 11.2 and Table 11.3).

Table 11.2 Buying and selling prices along the Da Lat standard chrysanthemum supply chain in 2010 (VND/stem)

	Farmer	Trader		Wholesaler		DL retailer		HCM retailer	
	Sell	Buy	Sell	Buy	Sell	Buy	Sell	Buy	Sell
Chain 1	950	1,191	1,537	1,100	1,650			1,829	2,850
Chain 2	950	1,191				1,523	2,205		
Chain 5	1,021			1,262	1,542			1,829	2,850
Chain 6	1,021			1,262	1,625				
Chain 7						1,500	1,900		
Chain 8	1,400							2,000	2,500

Table 11.3 Buying and selling prices along the Da Lat spray chrysanthemum supply chain in 2010 (VND/stem)

	Farmer	Trader		Wholesaler		DL retailer		HCM retailer	
	Sell	Buy	Sell	Buy	Sell	Buy	Sell	Buy	Sell
Chain 1	590	771	1,089	800	1,160			1,650	2,300
Chain 2	590	771	1,000			1,275	1,760		
Chain 5	748			858	1,086			1,650	2,300
Chain 6	748			858	1,150				
Chain 7	900					800	1,700		
Chain 8	1,050								

Farmers selling to traders had lower costs of marketing because the traders effectively purchased everything, without grading. Thus, marketing costs were minimal: VND 114 for standards and VND 71 for sprays, but farmers potentially faced high rates of rejection by the traders. It was no surprise to find that only 21% of farmers chose to transact with a trader, for the prices that farmers received from traders were lower than from both wholesalers and companies (VND 950 per stem for standards and VND 590 per stem for sprays). As a result, farmers extracted a lower net margin from the traders.

Traders indicated that they received a bit higher prices from wholesalers, compared to Da Lat retailers, but the margin that traders were able to extract for chrysanthemums was much lower: VND 65 for standards and VND 82 for sprays. However, the wholesalers were able to purchase a large volume of cut flowers (Chain 1). Poulish et al. (2003) and Batt et al. (2006b) both indicated that many farmers preferred to sell their produce ungraded to traders because it enabled them to sell everything to one buyer, rather than to seek alternative buyers for that proportion of the harvest that failed to meet the focal buyers specifications.

Continuing with Chain 2, Da Lat retailers indicated that the prices at which they purchased cut flowers from traders were generally higher the purchase price from farmers (VND 1,523 for standards and VND 1,275 for sprays). However, the prices at which they were able to sell those flowers were also higher: 1,523 per stem for standards and VND 1,760 for sprays.

Those farmers who harvested and graded chrysanthemums and subsequently sold to wholesalers in HCMC (Chain 5 and 6) and a few Da Lat retailers (Chain 7), faced higher

labour costs for harvesting, grading and bunching, packing material and transport costs. The prices chrysanthemum farmers received from wholesalers were 1.1 – 1.3 times higher compared to what farmers received from traders, but only 0.7 times compared to those farmers selling to companies.

The large number of retail flower shops in HCMC provided the customer base for the majority of the wholesalers operating in the HCMC market (66%). Wholesalers generally received lower prices when they sold chrysanthemum to retailers (VND 1,542 per stem for standards and VND 1,086 for sprays), compared to the prices they received when they sold to wholesalers in other provinces (VND 1,625 per stem and VND 1,150, respectively) (Chain 1 and Chain 5). However, the transaction costs for wholesalers when they sold to HCMC retailers were much lower than when they sold to other wholesalers. The main difference here was the labour costs to grade and repack and transport costs.

In turn, HCMC retailers indicated that they paid an average price of VND 1,829 per stem for standards and VND 2,300 from sprays. The cost of high quality packing materials and transport contributed to the high cost of purchasing cut flowers in HCMC. Nevertheless, retailers in HCMC were able to extract an average marketing margin at VND 1,905 per stem for roses, VND 759 per stem for standard chrysanthemums and VND 415 per stem for spray chrysanthemums (Chain 1 and Chain 5).

For Chain 7, retailers in Da Lat indicated that farmers generally sold cut flowers at a cheaper price compared to the traders: VND 1,500 per stem for standard chrysanthemum and VND 800 per stem for spray chrysanthemums,. Retailers were faced with the labour cost of sorting and arranging the flowers, packing materials and transporting the cut flowers when they purchased direct from farmers. When purchasing direct from farmers, Da Lat retailers sold chrysanthemums at considerably lower prices than those obtained by transacting with traders.

In selling direct to a company (Chain 8), farmers indicated that they got an average price of VND 1,400 per stem for standards and VND 1,050 per stem for sprays. The supply chain was shorter, transaction costs were lower and the marketing margins were higher. The company was then responsible for the grading, bunching and packing, and finding the buyers. Thus, the highest marketing margins that the farmers received were from the company chains for standards (VND 1,147 per stem) and sprays (VND 852 per stem). However, few smallholder farmers could access a company chain, due to the need for high quality flowers and the prerequisite investments in production facilities and improved cultivation techniques.

When selling to wholesalers, transport costs and postharvest losses consumed a significant proportion of the traders and farmers' marketing margin. In the absence of any auction, it is unclear how prices were determined at the wholesale level. However, wholesalers apparently worked backwards from the anticipated price, deducted their costs and their desired profit margin to determine how much they would pay the traders and farmers. Presumably, retailers priced the flowers in a similar fashion, adding the anticipated costs of transport, any postharvest losses and the overhead costs of operating their business. Ultimately however, retail prices were determined by what the final consumer was willing to pay and in part, that depended on the purpose for which the flowers were purchased. As most wholesalers sold the cut flowers they had purchased without storage, there were few losses and thus a greater proportion of the marketing margin was profit. However, as wholesalers purchased a large quantity of ungraded cut flowers from farmers, they may have experienced trading losses if and where the quality of the flowers was particularly poor. In such instances, flowers may need to be graded, re-bunched and repacked, which would significantly reduce the anticipated marketing margin.

11.4 Exploring the expectation gaps and relationships in the alternative supply chains

11.4.1 Downstream relationships with buyers

In the first four chains, most rose farmers (41%) sold their product to traders due to the trust that had been established over many repeat transactions. Most relationships between rose farmers and traders were based on the satisfaction with the price received and a reputation for fair and honest transactions. With few chrysanthemum farmers (11%) choosing to transact with traders, farmers were seldom dependent on the traders. They could readily shift to an alternative relationship whenever they had a chance to get a better price, or where, as a result of the trader downgrading the price because of a high rejection rate, they could simply refuse to transact with that trader in the future. Nevertheless, those farmers who intended to continue to transact with traders in the future generally had no other option. For some, there was an element of mutual dependence where traders were willing to provide a cash deposit to purchase production inputs. However, farmers were sceptical about accepting long-term investments from the traders, as they could become overly dependent on the traders and the buyers might then endeavour to exploit them. Both Bavorova and Hockmann (2008) and Musodza (2009) indicated that retaining one's independence was a key driver for the non-contract coordination of transactions.

Within Chain 1, it was apparent that the gap between the farmers and the traders was minimal, since most traders operated locally and were geographically much closer to the

farmers. Farmers were generally able to meet the traders' quality and quantity expectations. However, they were often unable to deliver cut flowers when the traders needed them, and most farmers were unable to supply a wide range of cut flowers at a competitive price. Most traders indicated that they had little difficulty in fulfilling their wholesale buyers needs in terms of providing good quality cut flowers, in sufficient quantities and delivering them when their wholesaler customers needed them. However, as some traders specialized in specific cut flowers, they could not always supply a wide range of cut flowers to their wholesaler. In most cases, traders sold the flowers on consignment and received payment after the wholesalers had on-sold them to their customers (Table 11.4).

Unlike farmers who still retained ownership of the flowers, the traders had already purchased the flowers from farmers and were therefore exposed to significant financial risks should the price fall or the quality of the flowers deteriorate markedly during transport. Not unexpectedly, in such a situation, there was a large element of trust and commitment present in the exchange between traders and wholesalers. Traders indicated a strong desire to maintain their existing relationship to provide a reliable outlet for the cut flowers they had purchased and thus traders were more dependent on the wholesalers. Despite the almost daily contact between traders and wholesalers, cooperation between traders and wholesalers was poor and they rarely exchanged information about how to improve product quality and appearance.

Wholesalers in Chain 1 and Chain 5 seldom offered credit, even though they had a long-term relationship with HCMC retailers. Wholesalers generally indicated only a moderate level of trust in their retail trading partners, as payment delays often led to conflict between the two parties. Furthermore, there was little evidence of either party being willing to share information, especially on prices. As both parties could readily identify alternative exchange partners, neither party was able to exercise any control over their exchange partner.

In Chain 1 and Chain 6, wholesalers indicated that they could readily meet the needs of other regional wholesalers in terms of quality, quantity and delivery of cut flowers, at a competitive price. Wholesalers were confident in providing a regular volume and wide range of flowers to their wholesale customers when they required them. However, wholesalers seldom provided any quality information to other wholesalers. There was always an element of uncertainty present in the transaction, as the flowers were primarily sold to other wholesalers on consignment. To some extent, the wholesalers in HCMC were somewhat more dependent on their downstream buyers because it assured them of a reliable outlet for the cut flowers they had purchased.

Table 11.4 Propensity of upstream suppliers to fulfil downstream customer's demands in each chain

	Chain										
	1			2		5		6		7	8
	F>T	T>W	W>HCMR	F>T	T>DLR	F>W	W>HCMR	F>W	W>W	F>DLR	F>C
Harvesting	NA	✓	NA	NA	✓	✓	NA	✓	NA	✓	✓
Grading	NA	✓	✓	NA	✓	✓	✓	✓	✓	✓	NA
Bunching	NA	✓	NA	NA	✓	✓	NA	✓	✓	✓	NA
Packing	NA	✓	NA	NA	✓	✓	NA	✓	✓	✓	NA
Storing	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Transporting	NA/✓	✓	✓	NA/✓	✓	✓	✓	✓	✓	✓	✓
Regular volume	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Desired quality	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Free pests and diseases	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Free physical injury	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Right maturity	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Well graded	NA	✓	✓	NA	✓	X	✓	X	✓	X	NA
Meet immediate need	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	✓
Deliver when required	X	✓	✓	X	✓	X	✓	X	✓	X	✓
Good reputation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Competitive price	X	✓	✓	X	✓	X	✓	X	✓	✓	✓
Wide range	X	X	✓	X	✓	X	✓	X	✓	X	X
Give credit	✓	✓	X	✓	✓	✓	X	✓	✓	X	✓
Long relationship	X	X	✓	X	✓	X	✓	X	✓	X	✓
Quality information	X	X	X	X	✓	X	X	X	X	X	✓
Satisfaction	✓	✓	✓	✓	X	✓	✓	✓	✓	✓	✓
Trust	✓	✓	X	✓	✓	✓	X	✓	X	X	✓
Commitment	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	✓
Communication	X	X	X	X	X	X	X	X	X	X	✓
Cooperation	X	X	X	X	X	X	X	X	X	X	✓
Power	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Notes: NA: not applicable

✓: no problem

X: an impediment

In Chain 2 where traders could sell cut flowers to many Da Lat retailers, these retailers were also the second most preferred buyers, for they would generally purchase the second grade cut flowers. Even though the volume of cut flowers that retailers purchased was small, traders continued to transact with these buyers because they provided traders with an outlet to sell the cut flowers they had procured. Traders indicated that there was a minimal gap in expectation between them and retailers due to the geographic proximity between the parties.

Traders had built a long-term relationship with the retailers. Traders who sold direct to retailers were able to supply a wide range of cut flowers and were generally able to satisfy the retailers' requirements. Traders indicated that they understood the retailers' requirements

for quality, quantity and range. However, traders were often dissatisfied in their relationship with retailers because retailers were often slow in making payment and seldom met the traders' expectations. For the traders, retailers exercised their right to buy or not to buy the cut flowers they offered for sale, leading to insecurity and uncertainty.

Within Chains 5 and 6, farmers had sufficient expertise, financial and labour resources to perform all the activities, including the delivery of cut flowers via a transport company, chose to deliver their flowers to wholesalers in HCMC. By choosing to handle the marketing of their own cut flowers, the farmers had to assume much greater risk, due to both the delayed payment and buyers refusing or being unable to pay their debts. These farmers expected to achieve a higher price as a result of performing all the marketing activities such as harvesting, grading, bunching, packing and transport.

Farmers preferred to sell their produce to wholesalers because wholesalers purchased their flowers all year round. Both parties had trust and confidence in one another. Furthermore, the gap between what the wholesalers wanted and what the farmers were able to deliver was minimal. Most smallholder farmers were able to fulfil the wholesalers' demands in term of quality, but most did not provide well graded cut flowers to wholesalers. Several farmers reported that they intentionally mixed lower quality flowers into a bunch to reduce the rate of wastage, believing that there was little difference in the price between well graded product and only basic grading.

The biggest disadvantage in selling cut flowers direct to wholesalers was the lack of quality control. According to Digal (2005), grades or standards are necessary to minimize search costs. The lack of product grades and standards left the farmers with minimal control over the price of their produce (Digal and Concepcion 2004). For this reason, farmers were unable to provide quality information to the wholesalers. Furthermore, depending on the amount of land and the farmers cropping program, it was not always possible for farmers to deliver cut flowers when required.

In most cases, the relationship between farmers and wholesalers was a repeat transaction, where, over the course of many transactions, a long-term relationship had been established. Independent farmers preferred to transact with wholesalers without being bound to their exchange partners, and they continued to do so without any formal contract. Such informal arrangements between farmers and market intermediaries are common in the Philippines where relationships forged over many years had built trust among suppliers and buyers (Digal and Concepcion 2004).

In this study, the relationship between farmers and wholesalers was positive and generally satisfactory. In a similar manner to traders, farmers sold cut flowers to wholesalers on

consignment as a flexible way to optimize the trade due to the uncertainty of price in the market. Farmers did not get paid until after the wholesalers had on-sold all the cut flowers they had purchased. In this respect, farmers displayed considerable trust in their wholesalers. As a result of many prior transactions, both parties intended to continue to transact with each other largely because their expectations had been fulfilled and there were no better exchange partners.

Examining Chain 7, only 2% of the farmers chose to sell flowers direct to retailers. There were different options and thus different net margins for those farmers who sold cut flowers to retailers in Da Lat. The unstable nature of the transaction between farmers and retailers was reflected in the transaction cost, gap analysis and the relationship dimensions. Although retailers purchased only small quantities, farmers still found the exchange to be satisfactory, for those retailers who purchased chrysanthemum in the high season or for Lunar special days were willing to pay a high price.

Most farmers could not meet the retailers' requirements to provide a wide range of cut flowers, nor could they always deliver flowers when retailers needed them. In turn, retailers could not meet the farmers' volume requirements. The discrete nature of the transaction between farmers and retailers provided one of the main reasons why so few farmers chose to transact with retailers. Retailers only purchased from the farmers when they needed to secure a reliable supply of flowers to meet the increased demand, primarily around the New Year (Tet) period or Lunar special days.

For Chain 8, when choosing to sell cut flowers to a company, smallholder farmers expected that they would have a stable market, a stable price and that they would receive technical and financial assistance from the company. However, the inability of most smallholder farmers to meet the company's requirements often resulted in their exclusion from this chain. Those farmers who sold cut flowers to companies were already practising good cultivation techniques and had made a substantial investment in infrastructure on their farms.

Both the farmer and the company signed a contract which stipulated the responsibilities and benefits each would acquire. This created a long-term relationship between the two parties. Farmers had to follow the company's prescribed methods of cultivation, including the application of chemicals and fertilizers, to harvest the flowers at the desired maturity and to transport cut flowers to the company. In return, the company would take all flowers that met the agreed standard and pay an agreed price.

However, it was difficult for smallholder farmers to access this chain. This chain had a lot of entry barriers. The company required the farmers to have good greenhouses, good lighting and good irrigation systems, which most smallholder farmers could not afford. In China, Fu

et al. (2008) reported that smallholder farmers who already had a good knowledge of the way in which traditional marketing channels worked were less willing to change because traditional supply chains were much less particular about quality, and were more flexible with regards to the quantities delivered and payment arrangements. Due to the uncertainty of production, most farmers reported that they were often unable to meet the company's immediate needs and to deliver flowers when required.

Most farmers who transacted with a company realized how important the quality and quantity requirements were to the company, and to their ability to meet their downstream customers' needs. Farmers accepted that a proportion of the cut flowers that they grew would fail to meet the company's requirements. It was also clear that farmers were able to provide a wide range of cut flowers for companies, but companies generally had contracts with those farmers who had shown themselves' to be capable of cultivating. Farmers who transacted with a company were generally able to deliver cut flowers when the company needed them because there was a fixed production plan in place.

In those supply chains controlled by the companies, there was some evidence of cooperation emerging between the farmers and the company. It was also evident that those farmers who transacted with the companies were more dependent on the company. However, the environment in which the actors operated was one of mutual benefit. Keizer (2006) indicated that where both parties financial interests were served, both parties would endeavour to maintain their relationship. Whereas the company was willing to make investments to assist the farmer, those farmers who were fortunate enough to have a contract, were committed to supply the company.

Summary

This analysis of the different marketing channels available to smallholder farmers revealed that wholesalers and traders were best suited to farmers for selling their cut flowers. However, the reasons influencing their choice were different. Most smallholder farmers transacted with wholesalers because of the wholesalers ability to take flowers all year round; the large quantity purchased, relaxed quality specifications and the inability to transact with a company. Smallholder farmers transacted with traders because of their inability to perform all the marketing activities, the competitive price offered by traders, the traders' willingness to buy all the flowers available and the farmers' inability to transact with other buyers.

Given their financial limitations and their inability to make the desired capital investments, most smallholder farmers were unable to participate in company supply chains.

11.4.2 Upstream relationships with suppliers

Most traders preferred to transact with those farmers who had: (i) a good reputation and offered the best quality flowers relative to other farmers; (ii) where the traders had made a cash advance; and (iii) with farmers who kept their promise and adhered to the agreement made between them. Some large traders had entered into a verbal contract and were willing to pay a deposit to farmers to secure the crop at harvest.

As farmers were the main supply option for traders, traders were committed to continue to transact with them. Traders regularly visited their farmers, but technical and market information was rarely exchanged. According to traders, farmers knew the prevailing price without seeking their advice. Traders indicated that farmers were rarely able to exercise any coercive market power in their relationship. When a farmer and a trader have an equal economic status, a long-lasting relationship can be readily established providing equal benefits to both parties (Hendriks 1994). An analysis of the relationship between traders and farmers indicated that most of them were a repeat transaction.

Examining Chain 1 and Chain 2, traders chose to transact with preferred farmers who were best able to fulfil their needs. When purchasing cut flowers from farmers, apart from choosing those farmers who were the best able to fulfil their needs, traders chose to transact with those farmers who were financially strong and with whom they had established an enduring long-term relationship. Rose traders were willing to pay a deposit to farmers to purchase cut flowers all year round. Others paid every two weeks. Most chrysanthemum traders paid half the estimated value of the crop after concluding the right to purchase, then paid the balance to farmers after the traders had received the money from their downstream buyers.

Traders were generally satisfied with the quality offered by farmers because they purchased at the farm gate and allowed for a high rate of wastage to reduce their risk. However, traders indicated that farmers seldom offered a competitive price and most farmers were unable to provide a sufficient range of cut flowers. This was not so important for most traders, who either specialized in one kind of cut flower, or had contact with a number of different cut flower farmers (Table 11.5).

In making decisions to choose between alternative suppliers, wholesalers chose their suppliers based on: (1) their capacity to maintain a reliable supply of good quality cut flowers; (2) their acceptance of the terms of trade; (3) their ability to extract a good marketing margin; and (4) the nature of the long-term relationship with suppliers.

Table 11.5 Ability of upstream suppliers to fulfil downstream customer's demands in cut flower chains

	Chain								
	1			2		5		6	7
	F<T	T<W	W<HCMR	F<T	T<DLR	F<W	W<HCMR	F<W	F<DLR
Harvesting	√/NA	√	NA	√/NA	√	√	NA	√	√
Grading	NA	√	√	NA	√	√	√	√	√
Bunching	NA	√	√	NA	√	√	√	√	√
Packing	NA	√	NA	NA	√	√	NA	√	√
Storing	NA	NA	NA	NA	NA	NA	NA	NA	NA
Transporting	√/NA	√	NA	√/NA	√	√	NA	√	√
Regular volume	√	√	√	√	√	√	√	√	√
Desired quality	√	√	√	√	√	√	√	√	√
Free pest and disease	√	√	√	√	√	√	√	√	√
Free physical injury	√	√	√	√	√	X	√	X	√
Right maturity	√	√	√	√	√	√	√	√	√
Well graded	NA	X	√	NA	X	X	√	X	X
Appropriate packed	NA	√	X	NA	X	√	X	√	X
Meet immediate need	√	√	√	√	√	X	√	X	X
Deliver when required	√	√	√	√	√	X	√	X	X
Good reputation	√	√	√	√	√	√	√	√	√
Competitive price	X	X	√	X	√	X	√	X	√
Wide range	X	X	√	X	√	X	√	X	X
Give credit	√	√	√	√	√	√	√	√	√
Long relationship	X	√	X	X	√	√	X	√	X
Quality information	√	X	X	√	X	X	X	X	X
Satisfaction	√	√	√	√	√	√	√	√	√
Trust	√	√	X	√	X	√	X	√	√
Commitment	√	√	√	√	√	√	√	√	√
Communication	X	X	X	X	√	X	X	X	X
Cooperation	X	X	X	X	X	X	X	X	X
Power	√	√	√	√	√	√	√	√	√

Notes: NA: not applicable

√: no problem

X: an impediment

To secure their business and yet to be able to extract a good return, wholesalers traded on the basis that: (1) payment would be made to suppliers after the flowers had been sold; (2) flowers were purchased on consignment; and (3) most wholesalers transacted with multiple suppliers. For preferred suppliers, wholesalers engaged in a mutually beneficial long-term relationship.

For the wholesalers in HCMC, although there was little to differentiate between farmers and traders, traders were preferred in terms of their superior ability to meet the quality, quantity and range of cut flowers desired, reliably and consistently. As the principal function of the

traders was to consolidate cut flowers from many individual farmers and to regrade, rebunch and repack, and to then arrange for the transport of the flowers to the wholesalers all year round, this is not unexpected. Traders were not only better able to satisfy the wholesalers' needs, but they also offered a more competitive price for chrysanthemums. Like farmers, traders sold cut flowers on consignment to wholesalers. There was a high element of trust and commitment apparent in the exchange between traders and wholesalers, but in this case, both parties worked together for mutual benefit (Chain 1 and Chain 2).

From wholesalers' perspectives, although the level of communication was frequently through telephone, the quality of the market information exchanged was still poor. Although wholesalers handled the largest volume of cut flowers, both supply and demand were largely unknown until the evening when the market commenced. Despite their predominant position in the market, wholesalers seldom had all the power in the relationship, nor were they able to control all the information. Nor was there any evidence of the use of coercive power, even although most farmers reported that the wholesalers generally controlled the price in the market.

Generally, retailers in HCMC chose to purchase cut flowers from suppliers who had cut flowers that met their perceived customer's requirements. Although the trading volume of each type of cut flower was small, retailers needed a wide range of cut flowers to meet their customers' needs. For retailers in HCMC, although they purchased from many different upstream suppliers, wholesalers were the best choice because they offered the most diverse range of cut flowers. Most HCMC retailers purchased cut flowers from the wholesale market because: (1) they were able to choose the flowers that they wanted from the wide range available; and (2) flowers were available in sufficient quantities to meet their anticipated customers' needs.

Although the marketing margins extracted from wholesalers was generally lower than other suppliers, most HCMC retailers chose to transact with wholesalers because wholesalers were the best able to meet their requirements in terms of quality, quantity and their ability to deliver cut flowers when they needed them. Furthermore, wholesalers were best able to respond to the retailers immediate needs and were willing to offer credit (if necessary). However, HCMC retailers were generally dissatisfied with the packaging of the cut flowers and the quality of the information provided. As little information on price and product was exchanged, very low levels of trust were apparent in the exchange between HCMC retailers and the wholesalers. Nevertheless, the relationship between HCMC retailers and wholesalers was based primarily on a satisfactory prior exchange and the reputation that had been established from many prior transactions. For some retailers, they chose to purchase cut

flowers from whoever had the best quality. For these retailers, their relationship was more transactional (Chain 1).

Within Chain 2, Da Lat retailers preferred to purchase from suppliers who could supply good quality cut flowers reliably and consistently. Traders were the best choice of trading partner, even although the Da Lat retailers returns from traders were less than those achieved from farmers. Da Lat retailers purchased cut flowers from traders because of: (1) the need to have a wide range of good quality cut flowers to meet their downstream customers' needs; and (2) the nature of the long-term relationship established between them.

Apart from the traders' ability to provide a regular volume of cut flowers of an acceptable quality, most Da Lat retailers preferred to purchase cut flowers from traders because they could deliver a wide range of cut flowers and were able to meet their immediate requirements. It was easier for the retailer to place an order, arrange delivery and arrange for payment. However, Da Lat retailers were seldom satisfied with the standard of packaging or the quality of the information provided by the traders. Most retailers were generally satisfied with the quality of the cut flowers purchased from traders and the way they worked together. Although retailers indicated a low level of trust in their relationship with their traders, they continued to transact with traders. In most cases, the relationship between Da Lat retailers and traders was a repeat transaction, based on a satisfactory prior exchange and the reputation established from prior transactions.

Looking at Chain 5 and 6, although most wholesalers dealt with farmers, they often experienced problems with quality and the reliability of supply. Farmers were only able to transact with wholesalers when they had sufficient flowers available. For chrysanthemum, each farmer was only able to sell cut flowers for a very short period of time. Depending on the variety planted, flowering generally occurred 12 – 14 weeks after the introduction of short days. The harvest period could be as little as one week or extend from two to three weeks, depending on the uniformity of the crop. Wholesalers therefore had to transact with a number of different farmers to ensure they had a reliable supply and sufficient variety. Roses, on the other hand, produce all year round, but each farmer only had a relatively small volume available each day, thus there was a need for the traders to consolidate the flowers from numerous smallholder farmers. This explains why wholesalers dealt with traders for roses and farmers for chrysanthemums.

Unsurprisingly, wholesalers indicated that farmers often experienced some difficulties in supplying cut flowers to the wholesale market. When the technical quality and functional quality dimensions were considered, the major impediments included physical injury and inappropriate grading; the inability to receive sufficient cut flowers from farmers when

wholesalers needed them; and the ability to supply a wide range of cut flowers so that the wholesaler could satisfy their downstream customers' needs.

Hendriks (1994) indicated that market intermediaries could maintain their relationship with farmers by buying low quality products. However, those wholesalers who received low quality flowers from farmers could not always sell them, especially when the market was saturated and the demand was low. In this respect, wholesalers preferred to transact with those farmers who had a good reputation for delivering good quality cut flowers and with whom they had established a long-term relationship.

Most relationships between wholesalers and farmers were repeat transactions whenever farmers had cut flowers to sell. Wholesalers generally indicated a high level of satisfaction and trust in their transactions with preferred farmers. However, farmers seldom asked how they could improve the level of product quality. Wholesalers purchased cut flowers from farmers on consignment, and thus wholesalers indicated that there was little need for them to cooperate. However, indirectly, if wholesalers were to be able to secure the flowers farmers had grown, they needed to give the farmers some indication of the price they could expect and the quality they required. Not only would this lead to greater trust, but more effective market information could have positive benefits for both parties in terms of making better decisions (Shepherd 1997).

Exploring Chain 7, other than providing a more competitive price and flowers of an acceptable quality in terms of freedom from pests and diseases, physical injury and of the desired maturity, farmers could not meet the Da Lat retailers' requirements in terms of grading and packing or to deliver a wide range of cut flowers when the retailers required them. For this reason, the retailers generally preferred to buy from traders, although they still maintained some relationships with farmers. Retailers in Da Lat indicated high levels of trust and satisfaction in their relationship with farmers. However, although both parties were geographically close, the level of communication and cooperation was poor. Blumthal and Gow (2006b) note that retailers faced high information costs and indirectly, numerous problems related to the uncertainty of demand, quality and perishability.

Looking at Chain 8, for the Da Lat retailers, it was too expensive to purchase cut flowers from companies. This suggested that companies had their own customers who were more willing to pay a higher price for the superior quality product that the companies offered.

Summary

Most Da Lat cut flower supply chains were characterized by the inability of farmers to deliver a consistent quality product to buyers. Poor quality was basically caused by poor quality varieties, poor cultivation techniques, pest and disease problems, poor postharvest

handling, high input costs and limited access to finance. Furthermore, in the absence of appropriate storage facilities, and the long chain, the quality of cut flowers deteriorated very quickly after harvest.

Of surprise was the very low level of importance attached to the shelf life of cut flowers. It would appear that for market intermediaries believe that the shorter the vase life, the more often consumers will need to repurchase. No doubt this was related to the ways in which the flowers were used. Chrysanthemums were generally purchased for Buddhist worship at the beginning or end of the month, and mid-month, depending on the different phases of the moon. For this purpose, the shelf life was considered to be acceptable. Roses, on the other hand, were purchased primarily for special occasions where the giving of flowers provided some symbolic value. As market intermediaries believed it was the act of giving that generated the value to both the giver and the receiver, rather than the shelf life, little attention was given to the post-purchase experience. However, where flowers were purchased for self-consumption or personal gifts, the poor shelf life could potentially favour more durable products.

Generally, there was a marked difference in the quality of the cut flowers offered to alternative buyers. The higher quality cut flowers were generally sold to traders and wholesalers in the large metropolitan cities, while cut flowers of poor quality were sold to the local Da Lat market. When market prices were high, some farmers chose to sell the good quality cut flowers to traders as they were prepared to purchase selected cut flowers at a high price.

The inability of the farmers to meet the needs of their downstream market intermediaries could potentially exclude them from some markets. Consequently, farmers often chose to transact with more than one type of market intermediary and indeed, to transact with many different customers. With the exception of the company chain, there were few impediments for smallholder farmers, provided they were willing to accept the prevailing market price.

Nawi (2009) showed that farmers must align themselves with those customers whose needs they can best fulfil. By recognizing the gap between what their customers want and what they can offer, farmers can exclude those market intermediaries whose needs they cannot meet, thereby reducing the number of alternatives. Generally, the more activities that farmers perform, the better able they are to fulfil their downstream customers' needs. Most farmers were able to harvest, bunch, pack and transport their cut flowers to different buyers, but they seldom graded the flowers to the wholesalers and retailers satisfaction. This was not because they did have the ability to grade, but more because they did not understand or appreciate what their buyers required. For traders and companies, there was no need to grade the

flowers, but for wholesalers, who appeared to pay the same price for flowers irrespective of quality, farmers bunched and packed most of the flowers they had cultivated. When market intermediaries did not provide the appropriate price signals, farmers continued to deliver a mixed grade. As a result, there was no financial incentive to improve the quality of the cut flowers consigned to market.

In their position, market intermediaries needed to have a sufficient quantity of a wide range of good quality cut flowers and to be able to offer these to buyers at a competitive price. Potential suppliers had to meet the buyers' requirements for technical and functional quality over time, having proved themselves to be a reliable supplier, and having entered into a long-term relationship. From the market intermediaries' perspective, the major problems they experienced from all their suppliers were the inability to provide a wide range of cut flowers. For this reason, wholesalers and retailers purchased cut flowers from a multiple number of suppliers.

It was expected that the cut flowers delivered to the wholesale market would be well graded and packed. While most suppliers who provided cut flowers to the wholesale markets understood these requirements, there was considerable variation in the capacity of different suppliers to meet the buyers' expectations.

Nevertheless, most wholesalers indicated a high level of satisfaction and trust in their relationship with preferred trading partners and most felt they had been adequately rewarded from their relationship. Although market intermediaries intended to maintain their relationship with preferred suppliers, there was a low level of cooperation and communication between buyers and their suppliers. Technical information and market information was rarely exchanged. No buyers reported the use of any coercive power by suppliers.

11.5 Review

In this study, using transaction cost, gap analysis and relationship marketing approach in parallel provides a rich picture of the eight main cut flower supply chains in Da Lat. A pluralistic approach provides a more effective means of examining the performance of cut flower supply chains than any sole approach is able to provide and to reveal which segments along the chains are less efficient.

Marketing margin and gap analysis indicated impediments that constrained the activities of actors along the chains. The performance of all supply chains would be ruined if the quality of cut flowers and the postharvest handling is poor. For most smallholder farmers, limited production skills and the lack of appropriate infrastructure impacted adversely on the quality of the flowers produced. Smallholder farmers with their limited areas and resources were

seldom able to maintain a regular supply, to deliver a wide range of cut flowers and to deliver flowers when their trading partners needed them. This unsophisticated nature of production thus needed to either have multiple markets or sell the products ungraded or sell poor quality flowers.

It was also found that cut flowers often reached the wholesale market in inferior condition due to poor quality, poor grading and packaging and transport in a non-refrigerated vehicle. With the exception perhaps of the companies, no one along any of the supply chains investigated employed any postharvest treatments to extend the shelf life of the flowers or to maintain the flowers in cool storage. Farmers believed that well graded flowers were not important except when selling to traders. In selling to wholesalers, farmers purposely included second grade flowers in the bunch so as to reduce the number of inferior quality flowers they would either need to dump or to find an alternative buyer. When prices were higher, premature or over-mature cut flowers were often presented. Handling methods at the farm level were simple and included initial trimming and packaging into sleeves and cartons. To reduce the transport costs, farmers tended to over-pack cut flowers. This practice of over-packing was the major factor leading to cut flowers being damaged during transport. Price signals were not being adequately conveyed to farmers in terms of differences in quality, new colours, varieties and new flower types. Furthermore, in the absence of any formal quality standards, price incentives for quality were often concealed by the dynamics of the market. As a result of the relatively unsophisticated nature of the market and the absence of any appropriate postharvest handling system, the price margin for superior quality flowers was minimal.

Faced with much uncertainty and a large variation in quality and quantity and variable market demands, the majority of farmers and market intermediaries transacted based on consignment, with suppliers being paid only after the buyers had ultimately on-sold all the flowers they had purchased. Suppliers were willing to accept deferred payment because the exchange was based on trust and the reputation of exchange partners to protect against opportunistic behaviour. In this respect, both economic and social variables were important in the farmers' choice of trading partner.

Price margins analysis showed a wide seasonal variation in cut flower selling prices at all levels of the supply chains. The variation can be explained by supply and demand. The variance in supply was the result of relatively unsophisticated production infrastructure, but it was also demand driven. The market itself was very unsophisticated, with the demand peaking for the occasion days and special lunar days. Furthermore, the demand was low in the wet season. The inability to control production, especially for roses, caused either a seasonal surplus or a scarcity of products in the market. When the demand was high, farmers

received very high prices for very ordinary quality flowers, further softening any market signals for quality. Farmers had to make an effort to align production with the demand. For chrysanthemum it is possible to time crops to flower every two weeks – but smallholder farmers do not have sufficient land to do that – and there the need for a regular supply of plants (cuttings) if planting is to occur every two weeks. Furthermore, it would require smallholder farmers to make significant investments in protected cropping structures, electrical systems and irrigation systems, and few farmers had access to sufficient capital to make these investments.

Generally, the price margin increased as cut flowers moved down the supply chains. Batt and Parining (2002) and Pomeroy and Trinidad (1995) suggested that marketing margins fluctuate according to the perishability of the product; the number of actors involved in the exchange; the marketing services provided; the risk and uncertainty borne by each actor; and the seasonality of supply. In this study, it was seen that an increased margin was necessary to cover the greater risks in a highly volatile market and the greater costs related to grading, packaging and transport. Higher margins were also extracted by retailers to compensate them for their anticipated losses due to the poor quality and the variation in demand.

Gap analysis revealed some of the technical and functional quality gaps such as the inability to provide a sufficient quantity of a wide range of good quality flowers free of pests and diseases at the desired maturity. There was evidence of a mismatch between supply and demand, especially for roses.

The analysis of price-margins alone was unable to explain why price was not the most important determinant, both in choosing a potential supplier, or in choosing a potential buyer. Farmers and traders chose to transact with those downstream buyers who could purchase all year round and pay an acceptable price, but not necessarily the highest price, in a timely manner. Farmers preferred a steady and reliable income stream rather than that which provided high prices and a limited outlet for the quantity of flowers they had available. Relationship analysis highlighted the importance of trust. Suppliers may not always be satisfied – because they do not get the prices they expect – but they know they will get paid. Trust was an essential element in the exchange to ensure upstream suppliers would be paid. Most buyers preferred to transact with potential suppliers who were able to provide a consistent supply of good quality flowers in sufficient quantities to meet the needs of their downstream customers. In this transaction, trust was a means of providing an assurance that the supplier would deliver on time as promised.

Marketing relationship analysis indicated how well the partners work together. Through marketing relationships, the required quantity of the desired quality cut flowers could be

secured, product information exchanged and prices negotiated. While relationship analysis may not reveal where improvements can be made, like gap analysis, it does indicate the extent to which one or more actors in the chain may be able to influence the activities of other actors and thus the marketing margins that they are potentially able to extract. Long-term relationships may reduce the uncertainty associated with securing a reliable supply of good quality cut flowers, or from the supplier's perspective of getting paid, relationships cannot reduce the uncertainty of price nor can they guarantee a higher price. In this regard, most farmers were looking for better exchange partners and, in the absence of any significant transaction specific investments, could readily switch whenever a better opportunity presented itself.

Using price margin analysis in parallel with relationship marketing analysis allowed the researcher to examine whether any actor was able to exercise any coercive power over their trading partners. If any actors were being taken advantage of by opportunistic trading partners, trust would be absent (Lyon 2000). It was surprising to find that very few farmers or market intermediaries were exposed to the use of any coercive market power, as farmers were seldom financially obligated to any buyers. Nor did the buyers have any control of the information or were they able to influence farmers to make decisions that were not in their best interest. The results suggest that if any market intermediary did attempt to coerce upstream suppliers, their actions would be communicated to other actors very quickly by the aggrieved party, and with their reputation damaged, it would be more difficult for that party to secure a reliable supply of good quality cut flowers.

The richness of the picture portrayed by the use of a pluralistic approach complements the individual methodologies employed in exploring and explaining the different social and economic dimensions embedded within the operations of the supply chain.

Chapter 12. Conclusions and Implications

12.1 Chapter outline

This final chapter brings the three alternative analytical approaches together and draws the thesis to its conclusion. The chapter begins with a discussion of the major factors influencing the performance of Da Lat cut flower supply chains. The study has sought to assess the benefits of a pluralistic approach in analysing problems affecting supply chains. The theoretical and practical contributions that this study makes to the literature and to the industry are then discussed. Finally, the limitations encountered in undertaking this research are presented and recommendations proposed for further research.

12.2 Conclusions

According to Batt (2003a), uncertainty is the key element affecting channel members, internal relationships and transaction costs. Uncertainty prompts channel members to develop a strategy to achieve stability, predictability and dependability in their relationships with others. This section discusses the major impediments that prevent Da Lat cut flower supply chains from meeting the needs of customers.

12.2.1 Major impediments in the Da Lat flower industry

Despite the rapid rise in cut flower production in Da Lat, there are a number of factors that limit cut flower production and trading.

Value sharing

Small and fragmented production areas

With the large number of smallholder farmers and dispersed land holdings of around 3.5 - 3.7 *sào*, there was considerable uncertainty in both the quantity and quality of cut flowers available. Small and fragmented areas result in considerable variability in the product form, quality and supply.

Problems such as limited land, pest and disease problems, poor quality varieties, the inappropriate use of chemicals and fertilizers, and marketing problems such as the lack of skills, financial problems and limited knowledge of markets were important factors reducing the performance of the Da Lat cut flower industry. As most smallholder farmers are unable to afford the costs of recovering their greenhouse, maintenance is not regularly carried out, which can have a negative impact on the quality of the cut flowers produced. The relatively unsophisticated nature of production potentially limits entry into new markets with higher quality requirement.

Significant postharvest losses along the chain

It is estimated that cumulative postharvest losses along the supply chains are up to 33% for roses and 42% for chrysanthemums. The high postharvest losses are indicative of inefficiencies in the cultivation system arising from inappropriate varieties, the lack of infrastructure, pest and disease problems, the impact of adverse climate, degenerated land and poor postharvest techniques arising from over-packing and inappropriate handling. At the farm level, 6% of roses and 15% of chrysanthemum were discarded; whereas it was 17% at the trader level, 7% at the wholesale level and 5% at the retail level. However, few farmers are aware that poor handling accentuates postharvest losses.

The way flowers are harvested, packed and handled is poor and flowers are easily damaged during transport due to over-packing. Postharvest losses are preventable along the chains. While farmers and traders experience postharvest losses through low price due to poor quality, wholesalers and retailers experience losses in quality and quantity in the wholesale market. Because the flowers are damaged during harvesting and transport, the grading and removal of inferior quality product significantly increases costs for each of the downstream market intermediaries. Other market intermediaries consider unsold flowers to be the main loss. Market intermediaries respond to the market and modify their buying and selling practices to reduce the extent of their losses by accepting deferred payment. For instance, where quality was poor, if the wholesalers' customers were dissatisfied and the wholesalers found it necessary to reduce the price, a lower price would simply be paid to the farmers.

Perishability of cut flowers

As cut flowers have a limited shelf life, farmers had to accept the price at the time of harvest. Furthermore, in the absence of any cool storage facilities that might enable the supply of flowers to be regulated, each actor in the supply chain had no choice other than to sell all the cut flowers that they had harvested or purchased on the day of receipt. The inability to store cut flowers for any significant period of time was partly responsible for the fluctuation in prices between the high and low season. Using delayed payment was a means of adjusting to price volatility and seasonal differences in price.

High marketing margin

The high postharvest losses and perishability of cut flowers add appreciably to the marketing margin for downstream trading partners. To the purchase price, the market intermediaries add the various costs of grading, storage and transportation, plus their desired profit margin. In the absence of any formal grading system, all cut flowers are visually inspected on arrival in the market. Not only does this incur additional labour costs, but the extra time delays the speed at which the flowers can be subsequently resold to consumers. This additional cost is passed onto suppliers after their selling the cut flowers delivered.

Immature markets

In this study, five key reasons to purchase were identified: decorations (21%), gifts (16%), ceremonial offerings (12%), festival purchases (11%) and personal use such as weddings and birthdays (8%). According to classification of de Boon (1992), Batt and Poole (2004) and Rikken and Poos (2010), the cut flower market in Viet Nam is an immature market. For special occasions, vase life is not the most important issue. Flowers must be open to present to the receiver the most beautiful stage of maturity.

Volatile prices

The erratic fluctuation in cut flower supply and demand leads to uncertainty in price between trading partners. It is clear that the high demand season for roses extends from September to March, corresponding with many festival days such as Teacher's Day (20/11), wedding days (November to May), the New Year and the Lunar New Year, Valentine's Day (14/2) and Women's Day (8/3). As a result, rose prices generally decline from March to September associated with the rainy season, which is less favourable for the production of cut flowers, but the low demand at this time leads to low prices.

Chrysanthemum prices also fluctuate considerably from the high season to the low season. In each month on lunar special days, the price increases. This is due to the high demand for flowers for Buddhist worship. The highest peak is around the Lunar New Year (end of January beginning of February), when the price dramatically increases in the market. On festival occasions, prices are higher, leading to the premature harvest or delayed harvest of mature flowers. This is one of the main reasons for the high incidence of poor quality cut flowers in the market. Besides, with many market intermediaries in the supply chain, the distance between producers in Da Lat and consumers in HCMC, and significant postharvest losses, there is a significant escalation in the prices between the farm gate and retailers in HCMC.

The prices paid to farmers are determined by the quality of the flowers at the final customer. The prices paid by traders to farmers were often determined after estimating the rate of rejection. At the wholesale market, where quality was poor, if the wholesalers' customers are dissatisfied and the wholesaler has found it necessary to reduce the price, a lower price will be paid to the farmers. This is indicative of near perfect price transmission and of the self-reinforcing nature of the long-term relationships that pervade the industry.

Price signals are not being adequately conveyed to farmers in terms of differences in quality, new colours, varieties and new flower types. In the absence of any formal quality standards, price incentives for quality were often concealed by the dynamics of the market. As a result, the price margins for superior quality products were minimal.

Capability

Severe quality and quantity problems

Most smallholder farmers are unable to maintain a consistent supply of good quality flowers due to the lack of appropriate technology and skills, limited access to capital, limited access to inputs such as new varieties, chemicals and fertilizers, poor quality inputs and poor capacity to respond to climate variations. Without production planning, farmers were all planting at a similar time and as a result, production would peak in season, but was insufficient at other times of the year. Even though farmers can plan production, this was not always possible, especially for roses. For chrysanthemum it is possible to time crops to flower every two weeks – but smallholder farmers do not have sufficient land to do that – nor do they have the financial resources to maintain a regular and reliable supply of plants (cuttings) if planting is to occur every two weeks. This situation not only limited yields, but also led to poor quality flowers and inconsistent supply. Thus, to improve the efficiency and the performance of the supply chain, these farm constraints must be resolved.

Low added value

Flower production has increased in volume and type, but the added value of Da Lat flowers is still low. Adding value requires actors in the supply chain to get closer to their customers and to better understand what their customers need (Herlambang et al. 2008). Low added value means farmers misunderstand what their customers need. Farmers often purposefully mixed poor quality flowers into the bunch and most did not have the assortment of colours, flower forms and/or types required by downstream buyers.

Cut flowers do not improve after harvest. Poor handling practices and lack of cool storage along the chains adversely affected the quality and the value of cut flowers. Lack of product standardization along the chain puts more risk on downstream buyers who were unable to secure a reliable supply of good quality flowers.

Internal relations

Focus on short-term performance

It is important to note that smallholder farmers are only selling surplus and/or poor quality flowers to retailers or the second preferred buyers when the market is high, because if they do not supply their existing long-term customers, they will not be able to sell when the market is low. It was evident that farmers were not only looking for better exchange partners, but could readily switch whenever a better opportunity presented itself. Some relationships between farmers and their market intermediaries were largely transactional. In these types of relationship, farmers took advantage of the sudden increase in price as a result of unfavourable weather conditions or the increased demand associated with an occasion.

Poor and inadequate information

There is evidence of poor communication in most chains, except the company chain. In this study, no one actor in any of the alternative supply chains studied had perfect information. Two-way communication between suppliers and buyers was limited, and as a result, performance in the market was compromised. According to Minh et al. (2007), market signals are reflected through prices and transmitted to farmers in a very short period of time. However, even when farmers have information, farmers' are often unable to use it to their immediate advantage. Farmers must harvest cut flowers when they were mature: they cannot leave them on the plant until prices improve. Moreover, price signals are not being adequately conveyed to farmers in terms of differences in quality, new colours, varieties and new flower types. While information on prices is well known by most trading actors, there are deficiencies in forecasting demand and in production planning.

Few of the current exchange partners were willing to provide technical or financial support to assist the farmers in finding ways to improve quality. This was more the result of their inability to do so rather than their unwillingness. Most smallholder farmers enhanced their knowledge of crop production mainly from their own experience or learning from others. However, without improved awareness and training, farmers are not well equipped to deal with challenges like pests and diseases, and few have made the commensurate investment in infrastructure that are necessary to respond to sudden shifts in demand or to unseasonal weather conditions. Most farmers focus their attention on improving production rather than the postharvest stages, for in this area they have limited capacity. Furthermore, other than those farmers who grow under a contract, no personnel were available to assist or to educate farmers in the downstream marketing of their products.

Market intermediaries also require information about the flower quality and market demand that is not shared broadly along the supply chain. On any one day, no one knows what quantity of flowers will be delivered, nor can buyers be assured of receiving flowers of the desired quality.

The priorities of government policy to stimulate the key actors in the chain are weak. In this study, smallholder farmers indicated that they have not received enough support from government. In those circumstances where they are fortunate enough to receive training, the quality of the training was poor.

Weak links between trading partners

Production and marketing links between actors are weak and there is little cooperation in Da Lat cut flower supply chains. Weak links lead to the inability to coordinate activities. In Da Lat each smallholder farmer manages their farm in their own unique way and as a result, the

quality of the cut flowers produced is uneven and inconsistent, leading to lost opportunities to negotiate with customers to sell products at a higher price. Weak links along the chain limit the adoption of improved quality and farming practices.

Despite the presence of long-term relationships, there are few enduring linkages between farmers and their preferred downstream buyers. According to Herlambang et al. (2006), the development of partnerships requires hard work, commitment and a fair degree of trust in the long-term intention of exchange partners. No one can guarantee the success of collaborative ventures, particularly if they are not robust enough to stand up to the rigors of the market place. Improved returns can only come from improved value to the final consumer, which is difficult to achieve in the fresh produce without the commensurate investments in protected cropping structures, cool stores and refrigerated transport.

Power was not a major feature

While it is often believed that those actors who obtain the greatest margin are able to do so because they possess the greatest power (Keizer 2006), there is little evidence to support this proposition. An analysis of long-term relationships between buyers and suppliers revealed little evidence of any coercive exploitation by any actor. In a market where there are many small traders, wholesalers and retailers, few switching barriers and few barriers to entry and exit (with the possible exception of the wholesalers), competitive market forces will prevent market intermediaries at any one level in the supply chain from being able to extract an extraordinary price margin. No one actor was able to exercise any coercive market power because there were many alternative buyers and suppliers. All parties were readily able to choose an alternative exchange partner.

Farmers were independently able to choose those buyers who offered the highest price. This finding confirms the results of a previous study of potato supply chains in Viet Nam (Batt 2003e), where power was one of the least important features of exchange transactions. Most Da Lat cut flower farmers were not constrained by any pre-existing credit arrangements that might limit their ability to choose an alternative trading partner. Farmers chose to stay with their preferred trading partner because they wanted to, not because they had to.

While the number of farmers and traders was much larger than the number of wholesalers, both, to some extent, depended on the wholesalers. Wholesalers also depended on their suppliers to secure a reliable supply of good quality cut flowers. According to Woods (2004), the more alternatives a firm has, the less dependent it will be and the smaller the chance that it will be unduly affected by the power (real or perceived) of another firm.

While cooperation was seldom observed, except in the company chains, downstream buyers depended upon their upstream suppliers for a regular and reliable supply of good quality

flowers. As the volumes were small, wholesalers found it necessary to transact with many different suppliers such as farmers and traders.

12.2.2 The self-reinforcing system embedded within the Da Lat flower industry

The real contribution of this study is in understanding the way in which the marketing system responds to risk and uncertainty. While it was evident that potential risk and uncertainty can lead to exploitation, the system appears to be self-reinforcing. There are two possible explanations for this: (1) the market strategies; or (2) the importance of social constructs such as long-term relationships, trust and reputation, which collectively comprise social capital.

Buying and selling on consignment

Most supply chain literature has focused on the limited capacity of smallholder farmers acting independently to be competitive in the market (Birthal et al. 2005; Hewett 2003; Wheatley et al. 2004; Woods 2004). In the absence of contracts, most smallholder farmers in the transitional economies face constraints in the form of long payment delays, non-payment for delivered products, or their inability to deliver (Swinnen and Maertens 2007). Many farmers, development workers and NGOs blame market intermediaries for the problems and inefficiencies that are apparent in the market (Murray-Prior 2007b).

To accommodate the uncertainty and risk in the Da Lat cut flower supply chain, prices are very quickly modified or adjusted depending on supply and demand. Trading practices and strategies reflect balances in the fair sharing of risk and rewards in the value chain between actors. This study has shown how each of the upstream suppliers has adapted to the situation by being willing to sell cut flowers on consignment. Since payment is made to suppliers after the sale of flowers, the need for working capital is reduced and the sale of flowers is facilitated.

Sales by consignment are based on the trust and reputation of the exchange partners which protects against opportunistic behaviour. To further reduce the risk of default and/or exploitation, suppliers prefer to transact with those buyers who have reputation for being honest. In response, buyers who purchase cut flowers on consignment need to pay a fair price and to pay on time to maintain their reputation and thus their relationship with upstream suppliers. If the buyers default, it is unlikely that they will be able to procure a sufficient supply of good quality cut flowers in the future. Buyers prefer to transact with those suppliers who have a good reputation for delivering flowers of the desired quality, reliably and consistently.

Additional strategies for minimising risk include dealing with multiple suppliers and in some instances, a willingness to pay a deposit to farmers.

Under this system, where price information is generally accessible, no one actor is able to take advantage of anyone else. Those who break the rules will be denied access to flowers as their upstream suppliers divert their products to more trustworthy buyers. With greater access to mobile phones, any market intermediary who is not paying the prevailing market price will be very quickly identified and will have great difficulty in being able to secure a reliable supply of cut flowers. As a result, the use of coercive market power is restrained and very rarely observed.

Strong elements of trust and social capital

Supply chain management in agribusiness is fundamentally about managing the relationships between actors. Relationship marketing recognises the importance of trust in business-to-business relationships (Woods 2004). In the developed countries, trust is built not so much on personal contacts as it is on the impersonal patterns of social routines and legal institutions (van Ees and Bachmann 2006).

A strong element of trust between the exchange partners enables this system to continue to operate in the absence of formal contracts between the actors. Most actors' trust is derived from their personal knowledge of the trading partners and their past experience. In most instances, the relationships between farmers, traders and wholesale buyers are maintained by personal relationships, based on the satisfaction with past exchange transactions and in some instances, through family ties, friendships or social relationships.

A poor reputation stems primarily from the inability of farmers to deliver a wide range of flowers of the desired quality, reliably and consistently. Such is the result of the very rudimentary way in which the flowers are cultivated rather than any opportunistic trading, for there is a high level of trust in all transactions. Most buyers expect their relationship with farmers to continue.

The level of trust is related to the level of social capital within the community and appears to be related to the degree of regional and community homogeneity (Batt 2007). Social capital is particularly important in the transitional economies, as they often lack high levels of trust in their formal institutions (Raiser et al. 2002). The findings of this study confirm the importance of social capital and trust in exchange transactions. In this study, trust and social capital can be explained by the traditional relationships at the community level and their extension to business relationships. Social and cultural connectedness between people who have lived together for a long time provides the foundation of the system. Social capital is built up over time as a result of being fair and transparent and screening trustworthy partners.

Long-term relationships

There was some evidence of long-term relationships between buyers and sellers. Long-term relationships are the norm in Da Lat cut flower supply chains, for it provided the confidence for suppliers to sell on consignment. Both the farmers and the buyers preferred to transact with exchange partners with whom they had dealt in the past. The relationship between trading partners was a repeat transaction based on satisfaction and the reputation established from prior transactions. While most actors can readily find alternative trading partners, as many of these relationships have yet to be evaluated, actors preferred to transact with those trading partners who had proved to be reliable. When trading partners have a good reputation for being honest and provide promised benefits consistently and reliably, the buyer/suppliers decision to purchase/sell cut flowers will be influenced by the long-standing relationships that have been established. Through long-term relationships, both buyers and suppliers were able to participate in the market.

12.3 Implications

12.3.1 Theoretical implications

Implications for theory

This section highlights three processes such as comparison, enrichment and integration based on the nature of the linkages between the approaches used. Comparison assesses the similarities and differences between analysis methods to determine if the combination of methods leads to an improved problem resolution. Enrichment refers to the improvement of one method by encompassing elements of another without producing any new overall content. Integration involves fusing elements of existing approaches to develop something new (Bennett 1985).

This study contributes to the theory of supply chain performance by integrating the major theories of transaction cost, marketing agricultural products and supply chain management and the constructs affecting long-term marketing relationships through a pluralistic approach. Price margins were analysed to understand how value was distributed in the supply chain and which if any segments of the chain were inefficient. Gaps between the chain actors' needs and their trading partners' ability to meet these needs were analysed to understand the exchange process in terms of technical, functional and service quality variables (quality and quantity of cut flowers, harvest activities and transport), economic variables (price and terms of payment) and relational variables (trust and reputation). Finally, marketing relationships (satisfaction, trust, commitment, communication, cooperation and power) were analysed to understand how they facilitated the exchange process between trading partners.

A pluralistic approach eliminates the weakness of each individual approach which provides only a partial view of the supply chain performance. Previous studies in Viet Nam have focused mainly on mapping supply chains (Poulish et al. 2003); production aspects (Danse et al. 2008; Danse et al. 2007b) and economic impacts (van Wijk et al. 2005); and advocacy demand and services in the cut flower sector (Mekong Economics 2007). Empirical studies on transaction cost, gap analysis and marketing relationships from both a buyer-supplier perspective are rare. This perspective helps to gain a greater understanding of supply chain performance and assists policy makers in bringing more benefits to each actor in the flower supply chains.

In this study, price margin analysis was very useful in assessing the economic performance of markets. Price margins are a logical and systematic way of assessing each activity including input costs and market prices for each type of cut flower. By analysing the price margins for all actors within the cut flower supply chains, it becomes possible to see which actors are able to gain the highest margins and where it might be possible to reduce costs.

As wholesalers were extracting a higher margin than traders and farmers, theoretically they should have the most power. However, the results reveal that wholesalers were pressured by retailers and had to deal with the uncertainty of supply associated with transacting with many smallholder farmers acting independently. Looking at the returns for each actor in the cut flower supply chain, although HCMC retailers had the highest marketing margin, there was little evidence to show that excessive profits were being earned. Large marketing margins may not express high profits but rather the increased value of the transaction. Conversely, small marketing margins may relate to inefficient activities; poor coordination and consumers' dissatisfaction. To get large margins, each actor will need to look at where they can add value and how they can reduce costs to get the highest profits.

As a way of reducing transaction costs, it has been suggested that supply chains should be shortened. However, Kohls and Uhl (2002) demonstrate that while farmers may be able to eliminate some market intermediaries, they cannot eliminate the marketing function. This often means increased costs for them in pursuing alternative marketing arrangements. Based on the results of this study, it is unlikely that the removal of the traders will bring about any significant improvement because: (i) traders aggregate the volume from many smallholder farmers; (ii) they add assortment; (iii) there are various economies of scale associated with the purchase of packing materials and transport; (iv) traders add value by grading and rebunching; and (v) where traders purchase a standing crop, they provide capital in advance to meet farmers immediate needs for cash. In other instances, traders provide a means of bringing the product to market where smallholder farmers do not have the capacity to employ labour or the volume of flowers is too small to sell to wholesalers.

The results indicate that price-margin analysis alone was unable to explain the volatility in price and why price was not the most important determinant in choosing a potential supplier/buyer. Price margins do not reveal where the problems are and where things need to be improved. This is the role of gap analysis and relationship marketing analysis. Without this, this study would not have identified the importance of and the need for social capital, trust and reputation.

Gap analysis uses a set of selling and purchasing criteria in choosing buyers and suppliers to see how and why an actor chooses their trading partners. The results vary by each actor, confirming the theory that links buyer-supplier behaviour with the need to pay attention to quality, reliable delivery and price.

The results indicate that there was a significant difference between farmers and their downstream buyers' perceived selling/purchasing criteria. While farmers looked primarily for a stable market that offered high prices and guaranteed payment, downstream buyers were more concerned about securing a regular and reliable supply of good quality cut flowers.

Gap analysis offers guidelines in understanding the decisions both buyers and suppliers make in choosing exchange partners and in identifying how and where the technical, functional and service quality dimensions of the exchange might be best improved. Actors can use this information to create a strategy that will lead to improve supply chain performance.

However, actors must recognise that the nature of their relationship with trading partners will have an impact on their capabilities. Building long-term relationships with preferred trading partners tends to increase suppliers capability to better meet their downstream customers' requirements.

Effective supply chain management depends not only on closing the gap and changing activities, but also on the nature of relationships among participants along the chains. To minimize the risk in their transactions, actors preferred to trade with buyers who had a good business reputation and with whom they had developed a long-term relationship. In this respect, both economic and social variables became important in the farmers' choice of trading partner. A trusted relationship was central in harmonizing vertically interdependent activities and actors for value creation. The consignment process is based on the exchange partners' trust and reputation to protect against opportunistic behaviour. Farmers were willing to accept deferred payment from those buyers they felt they could trust. As a result, there is a need to examine relationship marketing along the chains.

Risk and uncertainty related to both the quality and quantity of cut flowers along the cut flower chains in Da Lat. Informal selling and purchasing arrangements between farmers and alternative market intermediaries were common in the supply chain, mainly because most farmers and market intermediaries were small scale. Since smallholder farmers only had a limited area of production, there was considerable uncertainty in the availability of a regular and sufficient supply of cut flowers. Moreover, with significant price volatility in the market, it was evident that most buyers expected their relationship with farmers to continue. Each actor showed that in dealing with their preferred trading partner, uncertainty and risk were reduced. While most actors looked primarily for economically rational goals, they were embedded in long-term relationships with their most preferred trading partners to whom they trusted and who were known to have a good reputation.

There have been relatively few empirical studies that have examined the marketing relationship from both the suppliers and buyers perspectives in the transitional economies. The findings of this study make an important contribution towards better understanding how supply chains operate and how it might be possible to improve their performance. This study confirms that there are significant differences in the perceptions that each actor brings to their working relationship with exchange partners.

This study extends the application of the marketing relationship and supply chain theory to a transition economy. The results indicate the importance of long-term relationships and the restraint of power. Smallholder farmers and the Da Lat cut flower supply chains provide an empirical illustration of the benefits derived from establishing long-term relationships between farmers and buyers: buyers get a reliable supply of flowers and farmers have a secure market.

As the results indicate, by using price margins analysis alone, it would be difficult to understand the relational dimensions of power and trust. Trust is essential in Da Lat cut flower supply chains because of the fact that farmers get paid after the flowers have been sold. Using gap analysis, some of the technical and functional quality dimensions are revealed, but in the absence of price margins, it is difficult to determine which one is more profitable. Marketing relationship analysis shows how well the exchange partners work together, but it does not provide the depth of analysis present in gap analysis, which shows where improvements can be made. The analysis of relationships highlights the importance of trust. Suppliers may not always be satisfied because they do not get the prices they expect, but they know they will get paid.

These results offer important information that can be used for policy makers to enhance the capacity of smallholder farmers in dynamic supply chains. The study contributes to the

knowledge of the six key relational constructs of satisfaction, trust, commitment, communication, cooperation and power in a transitional economy. Using these six constructs provides a comprehensive description of the social elements that were responsible for facilitating the exchange between buyers and suppliers. Trust and reputation were found to be the critical constructs contributing to the performance of cut flower supply chains in Da Lat.

Implications for research methodology

Optimising the performance of an agribusiness supply chain is complex. The relationship between plants and the environment, and the social and economic connections between actors in the network make performance difficult to measure. For this reason, Murray-Prior et al. (2004) find it necessary to combine many multidisciplinary approaches, rather than to rely on a single approach.

The present study made several important methodological contributions. First of all, it used two research phases to examine and measure the performance of cut flower supply chains. Each phase of the model was designed to address the research objectives to measure and compare perceptions between supplier and buyer groups. The use of two consecutive steps minimised the drawbacks of each research approach. This can help to inform the researcher about what constructs need to be explored in the questionnaires. The analysis and the interpretation of the statistical results were further assisted by the qualitative stage. The questionnaires, in turn, assist in generalizing the results. Well-structured questionnaires are then developed to interview actors along the chains and improve the quality of the empirical estimations.

The qualitative phase adopted in this study explores the product flow, the actors involved and their activities, ideas, interests and problems along the cut flower chains. The qualitative approach explored the conceptual constructs of marketing relationships in a Vietnamese context and the nature of the existing relationships between actors. As most supply chains are based on human interaction and product linkages, a qualitative approach is suitable to apply.

A qualitative approach sought to map the system and to capture the major problems at the beginning of the study. This analysis was combined with a descriptive analysis to provide a baseline situation from which potential solutions to the impediments could be derived. This was supplemented by secondary information collected from published and unpublished sources based on discussions with key stakeholders in the study area. However, this approach alone cannot calculate the marketing margins for all the actors, nor can it quantify

downstream problems such as poor quality, the inconsistent supply, payment terms or the relational criteria.

The qualitative study was followed by a quantitative analysis. A quantitative approach in this study provides a rich picture of the performance of the prevailing cut flower supply chains. The quantitative approach captured and described what happened in the cut flower supply chains. The quantitative analysis collected the data to estimate the costs and price information and to check whether there was any significant difference between what buyers and suppliers' wanted and what they received from their preferred (and other) exchange partners. The results provided evidence that trading partner selection was primarily based on the social constructs embedded within long-term marketing relationships, rather than price alone. The quantitative stage enabled the results to be generalized because a valid and reliable survey instrument can be readily replicated.

Quantitative information was used to determine and assess the factors associated with the participation of all actors, especially smallholder farmers in the chains. This study captured the benefits from each phase of the model, exploring the activities of each actor to optimize the performance of the entire chain, to add more value in the supply chain in terms of quality and quantity, and the nature of the transactions between trading partners along the chains. From the results, the study identified the existing problems and suggested potential solutions for the various impediments. It is suggested that this research model be considered by other researchers who seek to improve the performance of supply chains in the transitional economies.

12.3.2 Practical implications

The results of the study will help researchers, participants and business managers in the cut flower industry in Viet Nam develop appropriate solutions to improve the performance of the Da Lat cut flower supply chains. The study identified the problems existing in the Da Lat cut flower supply chains and suggested where interventions could have the desired impacts. It has practical implications for both buyers and suppliers within the supply chains and government.

It could also be a reference for those interested in the supply chain, gap analysis and marketing relationship in supply chains and research in the fields of supply chain management. From the results, practical implications for upstream suppliers to optimise supply performance include:

- reduce costs and improve cut flower quality;
- continue to focus on quality, quality and reliable delivery;

- improve their understanding of the buyers' needs (quality, quantities and delivery of cut flowers) and supply and demand;
- follow the advice from buyers;
- improve the frequency of face-to-face communication; and
- regularly update technical and production matters.

Practical implications for downstream buyers to optimise the supply chain performance include the need to:

- clearly specify cut flower quality standards and be more transparent about how quality, quantity and varieties are assessed;
- continue to maintain trust and reputation with suppliers;
- provide market information and communicate with suppliers more often;

Each actor needs to address the present problems in the cut flower supply chains and improve their understanding of the needs of their trading partners. This understanding is fundamental to enable supply chains to respond to the competition.

12.3.3 Recommendations

All supply chain interventions, ultimately, are intended to change attitudes and behaviour. Intervention are often implicitly assumed in the impact logic (Ton et al. 2011). Based on the results of this study, some solutions are suggested to optimize the performance of the Da Lat cut flower supply chain.

Improving capability of all actors in the supply chains

Poor cultivation techniques and pests and diseases were the main factors affecting the availability and quality of cut flowers. As Fafchamps and Gabre-Madhin (2006) conclude, low level technology at the farm level does not increase the returns for actors in the supply chain. Due to the difficult initial conditions in the upstream supply chain, improvements in production are of great importance to improve quality to meet the requirements of more sophisticated customers. Smallholder farmers must improve their capabilities through adopting improved production technology.

Batt (2006b) suggests that if farmers are to produce good quality products, they must have access to good quality inputs such as seed of the right variety, quality fertilizers and chemicals. Farmers need information on varieties, fertilizers, pest and disease prevention, and harvesting and marketing information. Extension workers, private companies and input suppliers are an important source of information on varieties and fertilizers. Newspapers and television are a potential source of crop prevention and market information.

In this study, many of the production problems were caused by poor varieties and the limited range of cut flowers. To improve the quality and to meet the customers' requirements for a wide range of cut flowers, private companies and government should assist smallholder farmers in accessing new, better quality and more disease resistant varieties. With a wider range of cut flowers available, the better farmers will be able to meet their downstream customers' requirements. Currently, farmers produce what varieties they already have or can purchase from nurseries. Viet Nam is a signatory to UPOV, the International Convention that Protects Plant Breeder Rights in 2006 (NABSO Kunming 2008). Illegal propagation needs to be enforced.

Information of chemicals and fertilizers could be provided by input suppliers. However, the quality and relevance of their information depends on their brand reputation and market share. The challenge for government is the reliability of the information and of the products.

High postharvest losses and poor marketing practices affect the quality of cut flowers. In most cases, this will require farmers to adjust their production practices to meet a specific customer's requirements. While significant rewards in productivity and economic efficiency can be achieved by addressing production impediments at the farm level, without addressing the failure of the marketing system to adequately reward the farmers for producing superior quality product, little improvement will be forthcoming. Farmers transacted with their preferred downstream buyers because they were able to sell ungraded and low quality cut flowers on consignment. As a result, farmers did not perceive there to be a sufficient reward for quality. To maintain quality and add more value to the flowers, smallholder farmers have to develop their skills in postharvest technology. They need also to be trained in conducting marketing activities such as grading and packing at the farm level.

Danse et al. (2007b) and NABSO Kunming (2008) indicate that the lack of adequate cool storage capacity and refrigerated vehicles impose additional quality problems on cut flower supply chains. Currently, reducing postharvest losses through the use of refrigerated trucks and cold storage will be of little value, for the downstream buyers (wholesalers and retailers) do not use any refrigeration. In the future, the demand for upgraded facilities, assembling, packaging and cool storage is quite compelling for market intermediaries. It is a way to maintain the quality of the flowers.

Market intermediaries also need to have access to new scientific techniques to perform their role in the best way. Here there is a need for training courses that provide the knowledge and guidance needed by market intermediaries, such as preserving, packing, grading, transporting cut flowers and gathering market information.

Each actor in the cut flower supply chains should be trained to understand the others' roles in the development of Da Lat flower chains and how they can contribute to the satisfaction of the end customer through long-term relationship and communication. By recognising the functions that market intermediaries perform in the supply chain, upstream suppliers can match their capabilities with their downstream customers' needs, *vice versa*.

Supporting technical and market information

There was an unfulfilled market demand that was revealed by this study, in that suppliers were unable to meet their customer needs in supplying good quality cut flowers consistently and regularly; buyers were unable to consume all the products in the low demand season and the lack of sufficient flowers in the high demand season. It seems that smallholder farmers do not have enough information to decide what to produce, when to produce, and how much to produce. Market intermediaries also have poor information about what flower quality and quantity they will receive and when the flowers will be delivered.

There are a need to develop a program to forecast the demand of production and market that enable actors to link their supply chains, production, sales, distribution, and marketing strategies. In this regard, policy makers need to address this marketing constraint: how to get better information to the various parties in the supply chains. More information on the total area planted, market trends, product variations, demand and supply, year-to-year changes and their implications would be welcome. Continued monitoring, updating and improved access to market information is crucial for all actors in the supply chain. The extension system and knowledge transfer should take into account the changes that arise in the supply chain to improve market performance, and should promote closer linkages between farmers, chain actors, researchers and extension workers.

Average price information is also not reported by public agencies because it is not relevant or reliable and the information itself is largely unavailable. Furthermore, the day-to-day reporting of prices is of little value to smallholder farmers as they cannot adjust their production. Farmers know what prices they should be getting by talking among themselves.

There is a need to develop training modules, information packages and training courses in production and postharvest management and marketing for smallholder flower farmers. In practice, the quality and relevance of education needs to respond to the challenges and problems facing the industry. Information on production and postharvest practices should be updated to enable farmers to produce high quality products. While a lot of organisations have organized training workshops for farmers, many farmers mentioned that they lack information from officers. The training courses should invite the appropriate actors to get the benefits from the information provided.

Supporting financial capital

Most actors in the Da Lat cut flower supply chains are small scale. Trienekens (2011) and Lundy et al. (2004) suggest that small scale farmers often lack the specialized skills and experience difficulties in accessing appropriate technology, inputs and credit. In this study, most smallholder farmers were excluded from the company supply chain because they did not have the capital to make the specific investments required in their production infrastructure, nor did they possess the desired cultivation techniques and knowledge. Only those farmers who had good production facilities could generate higher profits from companies.

Similarly, small traders and wholesalers purchase the flowers on consignment in order to reduce the need for working capital. As a result, these smallholder actors had less marketing options. To accelerate cut flower production in Da Lat and to build on its comparative advantage, government should provide a means for small scale actors to access credit or to provide an alternative source of finance to boost their economic activity in cut flower chains.

Smallholder farmers should be supported in accessing capital to purchase the improved varieties and invest in protected cropping. To encourage the development of the flower industry, government and the banks should have regulations to help small scale actors access financial capital by simplifying the procedure for bank loans, providing lower interest rates, and greater flexibility in repayments to overcome potential problems associated with climate change and unanticipated variations in price.

Due to the small production areas, it is difficult for small actors to convince the banks to offer them credit. Training for smallholder farmers how to make a business plan may help in convincing banks to provide capital. Smallholder farmers should be trained to build a financial plan that makes them more resilient.

Building production and marketing groups

On numerous occasions it had been suggested that the efficiency of the market can be greatly improved by removing market intermediaries if they fail to add any value in the supply chain (Kumar and Kapoor 2010) or to shorten the chains to reduce transaction costs (Wheatley et al. 2004). However, Sharma et al. (2007) indicates that farmers do not necessarily benefit from a shorter marketing chain. As Nawi (2009) indicated, economic considerations are paramount, but the exchange transaction must also fulfil the customer's needs.

In selling direct to a company, the cut flower supply chain is shorter, transaction costs are lower and the marketing margins are higher. However, few smallholder farmers are able to sell to company chains due to the need for high quality flowers and the need to have made significant investments in cultivation facilities and techniques.

Transacting directly with farmers, retailers can purchase cut flowers at a competitive price, but farmers were not the preferred choice for retailers because of the poor quality of the cut flowers available, poor packaging, the narrow range of cut flowers, and the inability to delivery cut flowers all year round. Wholesalers purchased cut flowers from farmers at a lower price, but transacting with farmers presented the highest overall cost because of poor product quality and unreliable delivery. Companies were able to deliver excellent quality flowers but the prices were higher than other suppliers.

Currently, smallholder farmers are able to participate in the market in the absence of cooperative groups. However, access to markets and market information can be enabled by horizontal collaboration and through joint investments in supporting systems (Trienekens 2011). Linking smallholder farmers together may solve some of the problems associated with fragmentation in the production area; the high marketing costs; the instability in quality and quantity; and market management. Collaborative group of smallholder farmers working together will not only improve their capacity to meet downstream buyers' needs, but may also facilitate access to technical information and finance. Potentially, such collaborative marketing groups could replace some of the activities performed by traders and thus enable individual farmers to achieve a higher price because they can perform more value-added activities like aggregating the flowers, enhancing the assortment, and by grading, repacking and shipping the flowers to downstream customers.

Building and expanding consumption

Currently, few farmers are able to access institutional markets. To facilitate the development of the Da Lat cut flower industry, greater effort should be expended supporting the development of public private partnerships. From the private sector, investment is likely to result in a greater diversity of cut flowers to meet the needs of emerging markets, both domestically and abroad. Government should continue to act as a facilitator rather than to be directly involved. To expand the market, government should attract international resources such as experts, capital and well-established marketing and distribution channels through joint ventures.

The results indicate without postharvest treatment and cool transport, the quality of cut flowers rapidly declines. Building an auction centre in Da Lat will not only improve these conditions and improve flower quality, but also facilitate linkages between farmers, wholesalers, companies and retailers, which will enhance the type and quantity of cut flowers available for sale. The auction centre will be the place where farmers sell their products; the buyers purchase the flowers; and where some value-adding of the flowers (regrading and repacking, creating assortment) may take place.

Building an auction centre in Da Lat will also promote flower sales through improving information exchange between farmers and buyers, identifying key flower varieties and enhancing product standards. However, while this has been a priority of local government since 2005, to date it has not been implemented.

The local government has organized flower festivals every two years to attract smallholder farmers and investors; to establish a link between farmers, farmer groups and private companies; to promote production and trade; and to help members produce efficient, effective business and sustainable income. Advertising and promoting Da Lat cut flowers aims to attract more customers to purchase cut flowers.

Increased promotion for agribusiness and technology transfer by government and the private sector, more cooperation from production to marketing, increased training, seminars, conferences and exhibitions provide a number of solutions to improve the capacity of actors in the supply chain.

To improve the efficiency of institutional assistance and capacity, government will need to significantly increase the amount of research and development expenditure to focus on: (i) crop management; including plant propagation, irrigation and nutrition, pest and disease control programs, pruning and harvesting; (ii) postharvest management; and (iii) supply chain management and market linkages.

12.4 Limitation and further research

The findings of this study should be evaluated in the light of the following limitations and suggestions for further research.

Internal validity is not a problem for this study due to manner in which the study was conducted. In the first qualitative phase, in-depth personal interviews were conducted with a range of different actors in the Da Lat cut flower industry to build and to pilot test a structured questionnaire. In the second more quantitative phase of data collection, the findings from the first phase were incorporated in the design of an improved questionnaire.

External validity is the issue here because of the context within this study has been conducted. The study faced a number of constraints including a limited budget, time, a lack of personnel and the non-availability of sufficient respondents that reduced the sample size. Nevertheless, this study expects or anticipates that in most transitional economies, as the majority of transactions are facilitated by trust, reputation and social capital, most of the findings will resonate with other researchers.

Because the number of responses was small, this study could not perform a non-response bias test. Larger samples and more coverage in different locations are required to further

investigate these issues. However, the findings of the study lead to similar conclusions from other studies in Viet Nam (Batt 2004c), Indonesia (Herlambang et al. 2006) and the Philippines (Concepcion et al. 2004).

In this study, seven main chains were identified, but comparisons between all chains could not be made because of deficiencies in the data – people cannot be compelled to answer, and even then, respondents may answer as they see fit rather than truthfully.

Some companies did not return the questionnaires after agreeing to participate, while others indicated that it was company policy not to share information. It is clear that this has severely affected the way this study was undertaken and the results that have been presented.

Marketing margin analysis provided the input related costs and returns. However, there was too much variation in the prices and costs obtained from the survey depending on the season and the grade. There was also a temporal dimension – differences in the price between the middle/end of the month. Furthermore, much of this information was provided from memory because few actors in the supply chains kept any records.

This study did not include many of the transaction costs such as telephone and fax, rent and tax. It was difficult to estimate these costs as traders and hawkers do not pay taxes and rental, and wholesalers and retailers were seldom willing to reveal these costs.

As the study used survey data that was collected at a fixed point of time, price spreads, which were expected to vary from month to month, were not captured systematically. Since few farmers and market intermediaries maintain any written records of costs and buying and selling prices, some errors in reporting are unavoidable. Furthermore, since there is a degree of confidentiality associated with the reporting of market prices, respondents may deliberately choose to overstate the prices at which they have purchased cut flowers and to understate the prices at which they had been resold to reduce their perceived profit margin.

This study only focuses on the relationships between actors within supply chains. Input suppliers, transport and logistics, final consumers and institutional customers were not included. For a more holistic approach to the supply chain, input suppliers and consumers need to be incorporated in future studies as they play an important role in determining product quality. Future research should be oriented towards providing a more accurate picture of consumer behaviour to define the factors that influence the quality, the purchase and consumption of cut flowers. A more in-depth study of both consumers and the institutional market may reveal what the emerging middle class actually wants.

However, supply chain management encompasses a spectrum of activities, both internally and externally. To have an effective supply chain, good internal collaboration is required to

facilitate external collaboration. Future research should examine how intra-relationships impact on the performance of supply chains.

The study has focused on smallholder farmers as they constitute the majority of the cut flower farmers. It would be of interest to compare the transaction costs faced by smallholder farmers on the one hand and the medium and large scale cut flower farmers on the other. This will permit a full appreciation of the differences and similarities between farmers in the country.

It is apparent that different colours and different flower forms have different quality characteristics and achieve different prices. This study focused only on roses, standard and spray chrysanthemum, but made no attempt to differentiate any further.

It is suggested that future researchers should employ a pluralistic approach. Such research will provide greater insights into the extent to which prevailing supply chains are influenced by transaction cost, gap analysis and relationship marketing. While a multiplicity of approaches can add richness to our understanding of supply chains, it also makes it more difficult to directly compare the findings of different studies. Caution on making universal prescriptions about how to improve supply chain performance is advisable (Martin et al. 2008).

Due to the limitation of time and resources, the research did not try to model the relationship between the constructs like satisfaction and trust, communication and trust, power dependence and trust. Potentially, this provides an opportunity for a subsequent research study.

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Appendix

PRELIMINARY RESEARCH QUESTIONS

Unit of analysis:

- mapping alternative supply chains
- relationships between actors in Da Lat
- determine the constructs of relationships and scales

Selection criteria:

- must regularly outsource/supply cut flowers to/from other cut flower actors
- cut flower actors must be significant enough to warrant relational exchange behaviours
- respondent must have at least one year personal experience of the relationship

Interview objective:

The preliminary study has been designed to seek answers in relation to four questions in order to verify, improve and operationalize the main survey:

- what are the main characteristics of alternative cut flower supply chains such as: the actors, the resources, the value-added activities they perform; the price setting arrangement; the linkages where exchanges are made; and the market coverage?
- what are the marketing margins that each actor extracts in alternative cut flower supply chains?
- what are the gaps between the alternative supply chains?
- what are the characteristics of the main constructs in supply chain relationships from each actor perspective?

Introduction

Hello, my name Le Nhu Bich. Thank you for agreeing to this interview today. During the interview we will be discuss a number of issues concerning relationships between actors in cut flower supply chains.

The exploratory agenda throughout the session is designed to achieve a better understanding of current alternative cut flower chains. The results will ensure the quality of the survey to be conducted later next year.

I would like to point out that the nature of some of the question may require considerable thought, so please feel free to take as much time as necessary to consider your answers. Should you require more information about the question itself, I will provide further explanation.

Providing that you have no objections, I would like to tape the interview. This procedure will allow me to proceed through the questions and discussion as quickly as possible. It will also allow me to consider your responses to each of the questions. Please ask me to turn the tape off should this become a concern at any time.

You can be assured that your contribution will be treated with the strictest confidence and will remain anonymous. In accordance with recommended university procedure a signed confidentiality agreement is available at your request.

Do you have any questions before we start?

Appendix 1. Preliminary research question for farmers

Cut flower farmers	
1. Background information	1. Type of ownership: 2. Number of employees: 3. Number of years growing cut flowers: 4. Areas of farm (greenhouse, outdoor land) 5. Percentage of cut flower land use: % of mono-flowers or % of combination of flower and vegetables 6. Varieties planted (what varieties, where bought (own development, licence royalty, company), why chosen, % variety (chrysanthemum: standard and spray, rose: multi-flower, straight) and % colour) 7. Assessment of different varieties (yield; number plants per m ² of bed, resistance to pest and diseases, input requirements; price,...) 8. Respondent's position in the business:
2. Production costs and transaction cost (all in VN)	1. Recent changes in local production system over the past 5 years (production volumes, cultivate areas, varieties, fertiliser use, yields). Reason/ driver behind the changes 2. Average volume produced (average yield in stems per m ² ; what use to measure volume of cut flowers) <p style="margin-left: 20px;">Chrysanthemum farmers: number of planting time/year, number of chrysanthemum/100 m² of bed, number of plants grown; number of flower harvest, waste, what do you do with rejected cut flowers)</p> <p style="margin-left: 20px;">Rose farmers: number of rose/m², distance between plants, how often roses are cut, when, how many flowers/plant, how long farmers keep their roses before planting another crop, waste, what do you do with rejected cut flowers)</p> 3. Current cut flower (chrysanthemum, rose) selling prices per stems/per bunch/per carton stems by grade (at farm-gate; local market, company) 4. Fixed cost: land, plastic greenhouses (m ²); irrigation (materials); light (materials only); cold room (if any) 5. Variables cost: planting materials; nets; wire; fertilisers, chemicals; water; power/energy; labour cost (beds, planting, punching; net/wire, disbudding; irrigation; spraying; harvest, crop removal), management fee, communication(van Wijk 2006), maintenance and repairs and time 6. Marketing cost: Sleeves; bands; cartons; flower preservation; labour (salaries, times to harvest practices); commission/discounts, depreciation (annual) 7. Total cost: 8. Differences in prices (variety, appearance, other factors...) 9. Degree of price volatility within seasons 10. Degree of prices volatility between years 11. Price trend over the past 3 years and key factors behind price trends 12. Perception of future price trend over the next 3 years and key driving factors
3. Marketing	1. Marketing seasons (month with highest sales) 2. Timing of sales and reasons 3. Type of cut flower buyers and their relative importance 4. Advantages and disadvantages of different type of buyers 5. Places of sale (farm-gate, local markets, collection centres, companies) and their relative importance 6. Advantages and disadvantages of different sale locations 7. Incidence of group selling 8. Negotiation process (who decide the price and why) 9. Selling arrangement (cash, barter basic, prompt or delay payment, contract, ...) 10. Buyer requirements (product quality, uniformity of stem length/bud size, uniformity of bud maturity, volume, place of delivery, homogeneous of produce, vase life, colour and quality of leaf...)

	<p>11. Embedded services provision by buyers (market information, credit, input, technical assistance, contracts, ...)</p> <p>12. Major changes in marketing over the past 5 years (buyers, place of sales, selling arrangement, ...)</p>
4. Activities	<p>1. Harvest practices (equipment, method, treatment, number of stems harvested/hour, time to harvest)</p> <p>2. Grading practices at household level (grading/not grading, what grade, reason for grading, labour, number of stems graded/hour)</p> <p>3. Packing practices (packing/not packing, materials, labour)</p> <p>4. Storage (store/not store, means, storage period, reasons for storing, chemical treatments/enhancements)</p> <p>5. Transport (transport/not transport, distance from farm to buyer, time to transport, means)</p> <p>6. Postharvest losses (share of production and reasons)</p>
5. Problems	<p>1. Key problems and constraints in cut flower production</p> <p>Access input services (sources, varieties, quality, high input cost)</p> <p>Technical advice on production and postharvest (source, reliability, skilled labour, poor irrigation system, poor farming skills, poor soil fertility, pest and disease, lack of technical advices)</p> <p>Transport (availability, high transport cost, high fuel cost, insufficient infrastructure)</p> <p>Finance (source, cost, problems)</p> <p>Reasons (lack of planning plan, lack of finance, pest and disease, lack of farmers' commitment, low volume and seasonal production, lack of labour /skilled labour)</p> <p>2. Key problems and constraints in cut flower marketing (insufficient and inconsistent supply, poor market information, poor marketing infrastructure, high competition, lack of marketing skills, poor quality of produce, inadequate demand)</p> <p>Reasons (inefficient policies, poor communication and understanding among farmer and traders, high prices of local produce, poor quality)</p> <p>3. Proposed solutions to address constraints</p>
6. To whom farmer sell their cut flowers	<p>1. To whom do you sell your cut flowers (name, telephone number, address)</p> <p>2. Number of buyers</p> <p>3. Reasons for selling to this person</p> <p>4. Number of years trading with this person</p> <p>5. Criteria choosing buyers (convenience, prices, payment, reputation, services, geographically close, good relationships, communication)</p> <p>6. Quality criteria selling cut flowers (prices, variety, maturity, appearance, stem length, free of pest and disease, physical injury, chemical residues, well graded, packed, uniformity of stem length/bud size, uniformity of bud maturity, volume, place of delivery, homogeneous of produce, vase life, colour and quality of leaf...)</p> <p>7. Payment mechanism (when?, average/low/high)</p> <p>8. Contact (how often, usual communication forms, what information exchanged)</p> <p>9. What activities need coordinating between you and your buyers?</p>
7. Relationships between farmers and their downstream buyers	<p>1. Describe your relationships with your downstream buyers (negative, positive, improve, collaborate)</p> <p>2. Explain the relationship with preferred downstream buyers? – e.g. satisfaction, trust, commitment, coordination, communication and power.</p> <p>3. Satisfaction (transaction; prices; activities; risky; handle complaints, best offer, meet expectations)</p> <p>4. Trust (trust, reputation; confidence; honest; keep promises; provide information, consider farmer's best interest)</p> <p>5. Commitment (continue to interact in future; no alternative buyers; effort to help together)</p> <p>6. Communication (well informed price; ways communication, frequently contact; discuss, advices, face-to-face)</p> <p>7. Coordination (level of coordination; financial assistance; share the risk;</p>

	<p>well informed technical matters, easy contact; compatible goals)</p> <p>8. Power (who have all power; control information; take advantage of a bargain; no choice to alter)</p> <p>9. Factor impacts on satisfaction, trust, communication, coordination, power</p> <p>10. Benefits of relationships between farmers and buyers (improved sales, better quality, improved relationship, mutuality)</p> <p>11. On a scale of 1 to 6 or 1 to 5, how do you rate your level of performance satisfaction in relation to the following questions? Where 1 is strongly disagree, 2 is disagree; 3 is tend to disagree/slightly disagree; 4 neither agree nor disagree; 5 tend to agree/lightly agree and 6 is strongly agree. Or 1 is strongly disagree, 2 is disagree, 3 is neither agree nor disagree, 4 is agree and 5 is strongly agree.</p> <p>I am satisfied with my transaction with my preferred cut flower buyer</p> <p>I am satisfied with the prices received from my preferred cut flower buyer</p> <p>I feel that I am appropriately rewarded for a reliable supply of consistent quality cut flowers that meet the buyers' specifications</p> <p>I receive timely support from buyers to assist with seasonal farm management</p> <p>The buyer provides me with constructive feedback on: the farm assessments and any recommendations to assist with improvement</p> <p>Dealing with my preferred trader is less risky than others</p> <p>My preferred buyer always keep his promises</p> <p>I expect my relationship with my preferred buyer to continue</p> <p>We often discuss better way to pack, grade, store, transport cut flowers</p> <p>My preferred buyer control all the information in our relationships</p> <p>Buyers are satisfied with farmers</p>
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Source: Measures are modified from (Hobley 2007; van Wijk 2006)

Appendix 2. Preliminary research question for market intermediaries

Cut flower market intermediaries	
1. Background information	1. Location 2. Year of operation 3. Type of market intermediaries (types and size, types of commodity traded, how close to end market) 4. Other activity apart from cut flower trading 5. Seasonality in his/her cut flower trading 6. Number of employees 7. Important characteristics of a successful market intermediaries and challenges
2. Volumes and sources of cut flower	1. Volume of cut flowers (rose/chrysanthemum) purchased per week and month (season and off-season) 2. Volume of cut flowers (rose/chrysanthemum) purchased per annum 3. Areas from where cut flowers (rose/chrysanthemum) are purchased 4. Relative importance (volumes, varieties) of different supplying areas 5. Differences between supplying areas with regards to quality 6. Advantages and disadvantages of different supplying areas 7. Percentage of type of cut flowers (rose/chrysanthemum) purchased 8. Preferences on varieties of cut flowers (rose/chrysanthemum) 9. Differences between varieties of cut flowers (rose/chrysanthemum) regards to quality prices, variety, maturity, appearance, stem length, free of pest and disease, physical injury, chemical residues, well graded, packed, uniformity of stem length/bud size, uniformity of bud maturity, volume, place of delivery, homogeneous of produce, vase life, colour and quality of leaf...) 10. Major trend and changes in the trades volumes and sourcing areas over the past 5 years
3. Suppliers	1. Suppliers of cut flowers (farmers, collectors, wholesalers) 2. Number of suppliers 3. Relative importance of different suppliers (volumes and regularly of supply) 4. Difference between suppliers with regards to variety, quality 5. Advantages and disadvantages of different suppliers
4. Buyers	1. Buyers of cut flowers (wholesalers, retailers, company, consumers) and their location 2. Number of buyers 3. Volume of cut flowers (rose/chrysanthemum) sold per week and month (season and off- season) 4. Volume of cut flowers (rose/chrysanthemum) sold per annum 5. Relative importance of different buyers (volumes and regularly of demand) 6. Product requirement of difference between buyers (volumes, variety, quality, regularity of supply) 7. Advantages and disadvantages of different buyers
5. Marketing cost and prices	1. Current purchasing prices per stems/per bunch/per carton (rose/chrysanthemum) 2. Current selling prices per stems/per bunch/per carton (rose/chrysanthemum) 3. Factors influencing current cut flower (rose and chrysanthemum) purchasing and selling prices (variety, maturity, appearance, stem length, free of pest and disease, physical injury, chemical residues, well graded, packed, long shelf-life) 4. Fixed cost: cold room; trucks; office/shop; rental (VND/m ² ; using time) 5. Main marketing cost (handling; packaging (if any), storage, transportation, interest on credit, communication, taxes, labour and

	<p>product losses, discounts); marketing cost per stem/per bunch/per carton)</p> <p>6. Main marketing (availability and quality of produce, contract default, price fluctuations)</p> <p>7. Degree of price volatility for cut flower (rose and chrysanthemum) within seasons, and reasons</p> <p>8. Degree of prices volatility between seasons, and reasons</p> <p>9. Price trend over the past 3 years and key factors behind price trends</p> <p>10. Perception of future price trend over the next 3 years and key driving factors</p> <p>11. Number of other operators in the market and their market share</p> <p>12. Foreseeable trends in demand and supply? Where do traders obtain such information?</p>
6. Marketing	<p>1. Places of purchase (rose and chrysanthemum) (farm-gate, own store, company, ...)</p> <p>2. Places of sale. Is it a good market (growing, staying the same, shrinking)?</p> <p>3. Use of buying agents</p> <p>4. Payment mechanism, both when purchasing and selling (when? cash, barter basic, prompt or delay payment, contract, ...)</p> <p>5. Other term and conditions for purchases and sales</p> <p>6. Negotiation process with suppliers and buyers (who determine prices and other conditions)</p> <p>7. Relationship with suppliers and buyers (regularity of transactions, contracts, credits)</p>
7. Activities	<p>1. Harvest practices (if any) (equipment, treat, capacity, problems)?</p> <p>2. Grading practices for rose/chrysanthemum (what grade and reasons)</p> <p>3. Packing practices (type of facility, materials, capacity)</p> <p>4. Storage (means, normal storage period, reasons for storing)</p> <p>5. Transport (means, time to transport, distance to main market)</p> <p>6. Losses ratio (rose and chrysanthemum) in harvest and storage and reasons</p>
8. Support services	<p>1. Transport (means of transport used and capacity; ownership of transport vehicles, availability and cost of rented transport)</p> <p>2. Market information (source, reliability, problems)</p> <p>3. Credit (source and their relative importance; frequency; cost; problems)</p> <p>4. Harvesting</p> <p>5. Other support services</p>
9. Key constraints and opportunities	<p>1. Key constraints to the development of the cut flowers trading business</p> <p>2. Possible solutions to these problems</p> <p>3. Key opportunities to develop the cut flower trading business</p> <p>4. Factors that's could enable access to these opportunities</p>
10. From/to whom market intermediaries purchase/sell their cut flowers	<p>From whom market intermediaries purchased cut flowers</p> <p>1. From whom do you purchase your cut flowers (name, telephone number, address)?</p> <p>2. Number of suppliers</p> <p>3. Reasons for purchase from them</p> <p>4. Years trading with these people</p> <p>5. Criteria choosing suppliers (quality, convenience, prices, payment, reputation, services, geographical close, good relationships, communication)</p> <p>6. Quality criteria: purchase cut flowers prices, variety, maturity, appearance, stem length, free of pest and disease, physical injury, chemical residues, well graded, packed, uniformity of stem length/bud size, uniformity of bud maturity, volume, place of delivery, homogeneous of produce, vase life, colour and quality of leaf...)</p> <p>7. Payment procedure (how long, average/low/high)</p> <p>8. Contact (how often, usual communication forms)</p> <p>9. What activities need coordinating between you and your suppliers?</p> <p>To whom market intermediaries sold their cut flowers</p> <p>1. To whom do you sell your cut flowers (name, telephone number,</p>

	<p>address)</p> <p>2. Number of buyers</p> <p>3. Reasons for selling to these people</p> <p>4. Years trading with these people</p> <p>5. Criteria choosing buyers (convenience, prices, payment, reputation, services, geographically close, good relationships, communication)</p> <p>6. Quality criteria selling cut flowers prices, variety, maturity, appearance, stem length, free of pest and disease, physical injury, chemical residues, well graded, packed, uniformity of stem length/bud size, uniformity of bud maturity, volume, place of delivery, homogeneous of produce, vase life, colour and quality of leaf...)</p> <p>7. Payment procedure (how long, average/low/high)</p> <p>8. Contact (how often, usual communication forms, what information)</p> <p>9. What activities need coordinating between you and your buyers?</p>
11. Relationships between market intermediaries and upstream suppliers/downstream buyers	<p>1. Describe your relationships with your upstream suppliers/downstream buyers (negative, positive, improve, collaborate)</p> <p>2. Explain the relationship with preferred upstream suppliers/downstream buyers? – e.g. satisfaction, trust, commitment, coordination, communication and power</p> <p>3. Satisfaction (transaction; prices; activities; risky; handle complaints, best offer, meet expectations)</p> <p>4. Trust (trust, reputation; confidence; honest; keep promises; provide information, consider farmer's best interest)</p> <p>5. Commitment (continue to interact in future; no alternative buyers; effort to help together)</p> <p>6. Communication (well informed price; ways communication, frequently contact; discuss, advices, face-to-face)</p> <p>7. Coordination (level of coordination; financial assistance; share the risk; well informed technical matters, easy contact; compatible goals)</p> <p>8. Power (who have all power; control information; take advantage of a bargain; no choice to alter)</p> <p>9. Factor impacts on satisfaction, trust, communication, coordination, power</p> <p>10. Benefits of relationships between market intermediaries with upstream suppliers/downstream buyers (improved sales, better quality, improved relationship, mutuality)</p> <p>11. On a scale of 1 to 6 or 1 to 5 how do you rate your level of performance satisfaction in relation to the following questions? Where 1 is strongly disagree, 2 is disagree; 3 is tend to disagree/slightly disagree; 4 neither agree nor disagree; 5 tend to agree/ slight agree and 6 is strongly agree. Or 1 is strongly disagree, 2 is disagree, 3 is neither agree nor disagree, 4 is agree and 5 is strongly agree.</p> <p>Market intermediaries satisfaction with upstream supplier performance</p> <p>In general, this supplier strives to produce cut flowers of appropriate maturity, varieties, and quantities that your need.</p> <p>This supplier carried out the appropriate postharvest process for cut flowers</p> <p>This supplier seeks to understand the quality differentiation of the cut flowers.</p> <p>This supplier manages cropping levels to meet my need.</p> <p>This supplier will take reasonable steps to produce timely and accurate crop estimates.</p> <p>This supplier ensures that the delay between the commencement of harvest and delivery to the buyer is minimised.</p> <p>This supplier complies with mandatory reporting requirements, such as reporting of agrochemical use in the form of a spray diary and submitting crop estimates when required.</p> <p>We are confident that this farmer will inform buyers of any information or change that could affect the expected cut flower quality or yield.</p>

	Market intermediaries satisfaction with downstream buyer performance
	I am satisfied with my transaction with my preferred cut flower buyer
	I am satisfied with the prices received from my preferred cut flower buyer
	I feel that I am appropriately rewarded for a reliable supply of consistent quality cut flowers that meet the buyers' specifications
	I receive timely support from buyers to assist with seasonal marketing management
	The buyer provides me with constructive feedback on: the farm assessments and any recommendations to assist with improvement
	Dealing with my preferred trader is less risky than others
	My preferred buyer always keep his promises
	I expect my relationship with my preferred buyer to continue
	We often discuss better way to pack, grade, store, transport cut flowers
	My preferred buyer control all the information in our relationships
	Buyers are satisfied with farmers

Source: Measures are modified from (Hobley 2007; van Wijk 2006)

Appendix 3. Preliminary research question for retailers

Cut flower retailers	
1. Background information	1. Location 2. Year of operation 3. Type of retailers (types and size, types of commodity traded, how close to end market) 4. Other activity apart from cut flower trading 5. Seasonality in his/her cut flower trading 6. Number of employees 7. Important characteristics of a successful trader and challenges
2. Volumes and sources of cut flower	1. Volume of cut flowers (rose/chrysanthemum) purchased per week and month (season and off-season) 2. Volume of cut flowers (rose/chrysanthemum) purchased per annum, waste 3. Areas from where cut flowers (rose/chrysanthemum) are purchased 4. Relative importance (volumes, varieties) of different supplying areas 5. Differences between supplying areas with regards to quality 6. Advantages and disadvantages of different supplying areas 7. Type of cut flowers (rose/chrysanthemum) purchased 8. Preferences on varieties of cut flowers (rose/chrysanthemum) 9. Differences between varieties of cut flowers (rose/chrysanthemum) regards to quality prices, variety, maturity, appearance, stem length, free of pest and disease, physical injury, chemical residues, well graded, packed, uniformity of stem length/bud size, uniformity of bud maturity, volume, place of delivery, homogeneous of produce, vase life, colour and quality of leaf...) 10. Major trend and changes in the trades volumes and sourcing areas over the past 5 years
3. Suppliers	1. Suppliers of cut flowers (farmers, collectors, wholesalers) 2. Number of suppliers 3. Relative importance of different suppliers (volumes and regularly of supply) 4. Difference between suppliers with regards to variety, quality 5. Advantages and disadvantages of different suppliers
4. Marketing cost and prices	1. Current purchasing prices per stems/per bunch/ per carton (rose/chrysanthemum) 2. Current selling prices per stems/per bunch/ per carton (rose/chrysanthemum) 3. Factors influencing current cut flower (rose and chrysanthemum) purchasing and selling prices (variety, maturity, appearance, stem length, free of pest and disease, physical injury, chemical residues, well graded, packed, long shelf-life) 4. Fixed cost (cold room; office/shop; rental (VND/m ² ; using time) 5. Main marketing cost (handling; packaging (if any), storage, transportation, interest on credit, communication, taxes, labour and product losses, discounts); marketing cost per stem/per bunch/per carton) 6. Main marketing (product losses, availability and quality of produce, contract default, price fluctuations) 7. Degree of price volatility for cut flower (rose and chrysanthemum) within seasons, and reasons 8. Degree of prices volatility between seasons, and reasons 9. Price trend over the past 3 years and key factors behind price trends 10. Perception of future price trend over the next 3 years and key driving factors 11. Number of other operators in the market and their market share (Riisgaard et al. 2008) 12. Foreseeable trends in demand and supply? Where do traders obtain such information?
5. Marketing	1. Places of purchase (rose and chrysanthemum) (farm-gate, own store,

	<p>company, ...)</p> <ol style="list-style-type: none"> 2. Places of sale. Is it a good market (growing, staying the same, shrinking)? 3. Use of buying agents 4. Payment mechanism, both when purchasing and selling (when? cash, barter basic, prompt or delay payment, contract, ...) 5. Other term and conditions for purchases 6. Negotiation process with suppliers (who determine prices and other conditions) 7. Relationship with suppliers (regularity of transactions, contracts, credits)
6. Activities	<ol style="list-style-type: none"> 1. Harvest practices (if any) (equipment, treat, capacity, problems)? 2. Grading practices for rose/chrysanthemum (what grade and reasons) 3. Packing practices (type of facility, materials, capacity) 4. Storage (means, normal storage period, reasons for storing) 5. Transport (means, time to transport, distance to main market) 6. Losses ratio (rose and chrysanthemum) in harvest and storage and reasons
7. Support services	<ol style="list-style-type: none"> 1. Transport (means of transport used and capacity; ownership of transport vehicles, availability and cost of rented transport) 2. Market information (source, reliability, problems) 3. Credit (source and their relative importance; frequency; cost; problems) 4. Harvesting 5. Other support services
8. Key constraints and opportunities	<ol style="list-style-type: none"> 1. Key constraints to the development of the cut flowers trading business 2. Possible solutions to these problems 3. Key opportunities to develop the cut flower trading business 4. Factors that's could enable access to these opportunities
9. From whom retailers purchase their cut flowers	<p>From whom retailers purchased cut flowers</p> <ol style="list-style-type: none"> 1. From whom do you purchase your cut flowers (name, telephone number, address)? 2. Number of suppliers 3. Reasons for purchase from them 4. Years trading with these people 5. Criteria choosing suppliers (quality, convenience, prices, payment, reputation, services, geographically close, good relationships, communication) 6. Quality criteria purchase cut flowers prices, variety, maturity, appearance, stem length, free of pest and disease, physical injury, chemical residues, well graded, packed, uniformity of stem length/bud size, uniformity of bud maturity, volume, place of delivery, homogeneous of produce, vase life, colour and quality of leaf...) 7. Payment procedure (how long, average/low/high) 8. Contact (how often, usual communication forms) 9. What activities need coordinating between you and your suppliers?
10. Relationships between retailers and upstream suppliers buyers	<ol style="list-style-type: none"> 1. Describe your relationships with your upstream suppliers (negative, positive, improve, collaborate) 2. Explain the relationship with preferred upstream supplier? – e.g. satisfaction, trust, commitment, coordination, communication and power. 3. Satisfaction (transaction; prices; activities; risky; handle complaints, best offer, meet expectations) 4. Trust (trust, reputation; confidence; honest; keep promises; provide information, consider farmer's best interest) 5. Commitment (continue to interact in future; no alternative buyers; effort to help together) 6. Communication (well informed price; ways communication, frequently contact; discuss, advices, face-to-face) 7. Coordination (level of coordination; financial assistance; share the risk; well informed technical matters, easy contact; compatible goals) 8. Power (who have all power; control information; take advantage of a bargain; no choice to alter) 9. Factor impacts on satisfaction, trust, communication, coordination, power 10. Benefits of relationships between retailers and suppliers (improved sales,

	better quality, improved relationship, mutuality)
	11. On a scale of 1 to 6, or 1 to 5 how do you rate your level of performance satisfaction in relation to the following questions? Where 1 is strongly disagree, 2 is disagree; 3 is tend to disagree/slightly disagree; 4 neither agree nor disagree; 5 tend to agree/ slight agree and 6 is strongly agree. Or 1 is strongly disagree, 2 is disagree, 3 is neither agree nor disagree, 4 is agree and 5 is strongly agree
	In general, this supplier strives to produce cut flowers of appropriate maturity, varieties, and quantities that your need
	This supplier carried out the appropriate postharvest process for cut flowers
	This supplier seeks to understand the quality differentiation of the cut flowers
	This supplier manages cropping levels to meet my need
	This supplier will take reasonable steps to produce timely and accurate crop estimates
	This supplier ensures that the delay between the commencement of harvest and delivery to the winery is minimised
	This supplier complies with mandatory reporting requirements, such as reporting of agrochemical use in the form of a spray diary and submitting crop estimates when required
	We are confident that this farmer will inform buyers of any information or change that could affect the expected cut flower quality or yield

Source: Measures are modified from (Hobley 2007; van Wijk 2006)

Appendix 4. Questionnaires for chrysanthemum farmers

Day:/...../2010

Name of participant:.....ID:

Section 1. About your farm

1. Location of your farm:
2. a. Area of plastic greenhouses:sao
- b. Area of outdoor land:sao
- c. Total area of farm:sao

In which:

- d. Area cropped in chrysanthemum:sao
 - e. Areas cropped in other cut flowers:sao
 - f. Areas cropped in vegetables:sao
 - g. Total area of farm:sao
3. Are you growing (please tick appropriate box below)
- mono cut flower combination of many cut flowers combination of flower and vegetable
4. Number of years you have been growing cut flower?years
5. a. From that land, how many turn do you grow chrysanthemums per crop?.....
- b. EACH TURN, what was the total quantity of cut chrysanthemums you produced?
- Standard chrysanthemumsstems
- Spray chrysanthemumsstems
6. a. NEXT YEAR, do you expect your production to (Please tick appropriate box below)
- increase decrease stay the same
- b. Why do you expect your production to change?

.....
.....
.....

Section 2. To whom you sell your cut flowers

7. a. To how many buyers do you sell the chrysanthemums you have grown?.....
- b. FOR THE LAST 12 MONTHS, what percentage of the chrysanthemums that you produced were sold to?
- Wholesalers:%
 Traders:%
 Company:%
 Retailers:%
 Consumers:%
- Total (should equal to):** **100** **%**

c. Were these percentages the same for the last 2 years?

Yes

No

If NO, what has changed?

.....
.....
.....

d. What type of buyer is your most preferred buyer? (Please circle the buyers in the **Question 7b**)

e. Can you please name your most preferred buyer?

f. For how many years have you been trading with your most preferred buyer?.....years

g. If you don't sell any cut flower to the rest, why is that? (Please answer about the person you did not trade with)

Wholesalers:.....

.....
.....

Traders:.....

.....
.....

Company:.....

.....
.....

Retailers:.....

.....
.....

8. a. Did you have a contract with your most preferred buyer?

Yes

No (**Go to Question 9**)

b. How many years has this contract left to run?years

c. What were the term and conditions between you and your most preferred buyer under this contract?

.....
.....
.....

d. What advantages/benefits did you believe you have obtained by operating under this contract?

.....
.....
.....

e. What problems/difficulties have you experienced operating under this contract?

.....
.....
.....

f. What actions/events have strengthened the relationship?

.....
.....
.....

g. What actions/events have weakened the relationship?

.....
.....
.....

9. a. Did you harvest the chrysanthemums when selling to your most preferred buyer?

Yes No (**Go to Question 10**)

b. Was there any difference in the harvest process between standard and spray chrysanthemums?

Yes (**Go to Question 9i**) No

c. If NO, number of stems harvested per day when selling to your most preferred buyer?

.....

d. How long did the harvest process take place per day?.....

e. Number of people involved?

f. How many days it took per harvested turn?

g. On average, what percent of the chrysanthemums did you reject at the time of harvest as being unmarketable?

Standard chrysanthemum:%
Spray chrysanthemum:%

h. What were the main reasons for this rejection?

.....
.....

	Standard chrysanthemum	Spray chrysanthemum
i. Number of stems harvested per day		
j. How long the harvest process took place per day?		
k. Number of people involved?		
l. How many day it took per harvested turn?		

10. a. Did you use any postharvest treatment prior to grading or sale to your most preferred buyer?

Yes No (**Go to Question 11**)

b. If YES, what chemicals did you use?

.....
.....

c. How much chemical did you use per bucket?

d. How many chrysanthemum stems per bucket?

Standard chrysanthemum: stems

Spray chrysanthemum: stems

e. How much does the average cost of chemical for a bucket?

11. a. Did you grade the chrysanthemums prior to sale to your most preferred buyer?

Yes No (**Go to Question 12**)

b. What percentage (%) of the cut flowers harvested fell into each of the following grades?

	First	Second	Rejected	Total
Standard chrysanthemum				100%
Spray chrysanthemum				100%

c. What were the main reasons for this rejection?

-.....

-.....

-.....

12. a. Did you bunch the chrysanthemums prior to sale to your most preferred buyer?

Yes No (**Go to Question 12d)**

b. If YES, how many stems per bunch?

Standard chrysanthemum: stems

Spray chrysanthemum: stems

c. What was the approximate cost for materials?

d. Did you pack the chrysanthemums prior to sale to your most preferred buyer?

Yes No (**Go to Question 13)**

e. Was there any difference in the packing process between standard and spray chrysanthemums?

Yes (**Go to Question 12i)** No

f. If NO, how many chrysanthemum bunches per carton?

g. Number of hours graded, bunched and packed per day?

h. Number of people involved?

If YES	Standard chrysanthemum	Spray chrysanthemum
i. How many bunches per carton?		
j. Number of hours graded, bunched and packed per day?		
k. Number of people involved?		

l. Did you buy the cartons to pack the chrysanthemums when selling to your most preferred buyer?

Yes No

m. If YES, what was the approximate cost for a carton?

n. How many cartons did you buy?

o. For how long?

13. a. Did you store the chrysanthemums in a cold store prior to sale to your most preferred buyer?

Yes No (**Go to Question 14)**

b. What percentage of the cut chrysanthemums did you cold store?

Standard chrysanthemum %

Spray chrysanthemum %

c. For how many days did you store the chrysanthemums?

d. What was the approximately cost to cold store the flowers for this period time?.....

e. What percentage of losses occurred during cold store?

Standard chrysanthemum%
Spray chrysanthemum%

f. What were the main reasons for this loss?

-.....
-.....

14. a. Were you responsible for the cost of delivering the chrysanthemums to your most preferred buyer?

Yes No (**Go to Question 14g**)

b. If YES, how much the average cost per turn was to deliver the harvested flower to your most preferred buyer?.....

c. Number of turns delivered per day?

d. How many stems per turn?

e. What percentage of losses occurred during transport?%
f. What were the main reasons for this loss?

-.....
-.....
-.....

g. Were you responsible for the loading and unloading cost?

Yes No (**Go to Question 15**)

h. If YES, how much does the total loading/unloading cost per day?.....

15. Why did you choose to sell the chrysanthemums to your most preferred buyer?

-.....
-.....
-.....

16. In choosing between ALTERNATIVE BUYERS, how important were EACH of the following factors. Please circle the appropriate response

(Note: 1 is “very important”, 2 is “important”, 3 is “partly important”, 4 is “partly not important”, 5 is “not important” and 6 is “not at all important”)

1	be able to buy my cut flowers all year round	6	5	4	3	2	1
2	provide me with an acceptable price	6	5	4	3	2	1
3	pay on time	6	5	4	3	2	1
4	have confidence together	6	5	4	3	2	1
5	has a good business reputation	6	5	4	3	2	1
6	provides technical information/advice	6	5	4	3	2	1
7	provides market information	6	5	4	3	2	1
8	do all activities: harvest, grade, pack and store cut flowers	6	5	4	3	2	1
9	can transport cut flower from my farm	6	5	4	3	2	1
10	is willing to meet my immediate needs	6	5	4	3	2	1
11	is geographically close to me	6	5	4	3	2	1
12	we have a long-standing relationship	6	5	4	3	2	1
13	is in frequent communication with me	6	5	4	3	2	1

17. To what extent is your most preferred buyer able to fulfil your needs? On a scale of 1 to 6, please indicate how well you think your most preferred buyer can meet EACH of these criteria.

(Note: 1 is “very well”, 2 is “well”, 3 is “partly well”, 4 is “partly not well”, 5 is “not well” and 6 is “not at all well”)

1	be able to buy my cut flowers all year round	6	5	4	3	2	1
2	provide me with an acceptable price	6	5	4	3	2	1
3	pay on time	6	5	4	3	2	1
4	have confidence together	6	5	4	3	2	1
5	has a good business reputation	6	5	4	3	2	1
6	provides technical information/advice	6	5	4	3	2	1
7	provides market information	6	5	4	3	2	1
8	do all activities: harvest, grade, pack and store cut flowers	6	5	4	3	2	1
9	can transport cut flower from my farm	6	5	4	3	2	1
10	is willing to meet my immediate needs	6	5	4	3	2	1
11	is geographically close to me	6	5	4	3	2	1
12	we have a long-standing relationship	6	5	4	3	2	1
13	is in frequent communication with me	6	5	4	3	2	1

18. What were the most important things that prevent your most preferred buyer from meeting your needs?

-.....
-.....
-.....

19. What criteria do you think are most important to your most preferred buyer in their decision to purchase the flowers from you?

-.....
-.....
-.....

20. On a scale of 1 to 6, please indicate how important you believe EACH of the following criteria were to your most preferred buyer in choosing between ALTERNATIVE FARMERS

(Note: 1 is “very important”, 2 is “important”, 3 is “partly important”, 4 is “partly not important”, 5 is “not important” and 6 is “not at all important”)

1	provide regular and stable volume	6	5	4	3	2	1
2	have cut flowers in the desired quality	6	5	4	3	2	1
3	have cut flowers that free of pests and disease	6	5	4	3	2	1
4	have cut flowers that are free of physical injury	6	5	4	3	2	1
5	have cut flowers with the right maturity	6	5	4	3	2	1
6	have cut flowers that are well graded	6	5	4	3	2	1
7	have cut flowers that are appropriately packed	6	5	4	3	2	1
8	have cut flowers that are good-looking	6	5	4	3	2	1
9	have cut flowers that store well	6	5	4	3	2	1
10	be willing to meet their intermediate needs	6	5	4	3	2	1
11	ability to deliver cut flowers when required	6	5	4	3	2	1
12	have a good reputation	6	5	4	3	2	1
13	provide cut flowers that are competitively priced	6	5	4	3	2	1
14	offer a wide range of fresh cut flowers	6	5	4	3	2	1
15	be able to give credit (deferred payment)	6	5	4	3	2	1
16	we have a long-standing relationship	6	5	4	3	2	1
17	have confidence together	6	5	4	3	2	1
18	have a contract	6	5	4	3	2	1
19	provide quality information of cut flowers	6	5	4	3	2	1

21. To what extent do you believe that you were able to fulfil your most preferred buyer's needs for EACH of following criteria? On a scale of 1 to 6, please indicate how well you think you met EACH of these criteria.

(Note: 1 is "very well", 2 is "well", 3 is "partly well", 4 is "partly not well", 5 is "not well" and 6 is "not at all well")

1	provide regular and stable volume	6	5	4	3	2	1
2	have cut flowers in the desired quality	6	5	4	3	2	1
3	have cut flowers that free of pests and disease	6	5	4	3	2	1
4	have cut flowers that are free of physical injury	6	5	4	3	2	1
5	have cut flowers with the right maturity	6	5	4	3	2	1
6	have cut flowers that are well graded	6	5	4	3	2	1
7	have cut flowers that are appropriately packed	6	5	4	3	2	1
8	have cut flowers that are good-looking	6	5	4	3	2	1
9	have cut flowers that store well	6	5	4	3	2	1
10	be willing to meet their intermediate needs	6	5	4	3	2	1
11	ability to deliver cut flowers when required	6	5	4	3	2	1
12	have a good reputation	6	5	4	3	2	1
13	provide cut flowers that are competitively priced	6	5	4	3	2	1
14	offer a wide range of fresh cut flowers	6	5	4	3	2	1
15	prepare to accept delayed payment	6	5	4	3	2	1
16	we have a long-standing relationship	6	5	4	3	2	1
17	have confidence together	6	5	4	3	2	1
18	have a contract	6	5	4	3	2	1
19	provide quality information of cut flowers	6	5	4	3	2	1

22. a. What were the most important things that prevent or stop you from meeting your most preferred buyer's needs?

-.....
 -.....
 -.....
 -.....

b. What things can you do to improve your ability to fulfil your most preferred buyer's needs?

-.....
 -.....
 -.....
 -.....

23. OVER THE LAST 12 MONTHS, what were the lowest, highest and average prices you receive PER STEM by grade from your most preferred buyer?

Standard chrysanthemum	First	Second	Rejected	Ungraded
Highest				
Lowest				
Average				
Spray chrysanthemum	First	Second	Rejected	Ungraded
Highest				
Lowest				
Average				

24. How would you describe the nature of your relationship with your most preferred buyer?

.....
.....
.....

25. Please respond to EACH of the following statements concerning the nature of the relationship between you and your most preferred buyer. Please circle your answer.

(Note: 1 is “strongly agree”, 2 is “agree”, 3 is “somewhat agree”, 4 is “somewhat disagree”, 5 is “disagree” and 6 is “strongly disagree”)

1	I am satisfied with my transaction with my most preferred buyer	6	5	4	3	2	1
2	I am satisfied with the prices received from my most preferred buyer	6	5	4	3	2	1
3	I am satisfied with the payment in full at an agreed time	6	5	4	3	2	1
4	Dealing with my most preferred buyer is less risky than others	6	5	4	3	2	1
5	My most preferred buyer purchase my cut flowers at a mutually agreed price	6	5	4	3	2	1
6	My most preferred buyer often meet my expectations	6	5	4	3	2	1
7	My most preferred buyer quickly respond to my concerns	6	5	4	3	2	1
8	My most preferred buyer and I have a close personal relationship	6	5	4	3	2	1
9	My most preferred buyer has the best offer relative to the other traders	6	5	4	3	2	1
10	My most preferred buyer purchase my products all year round	6	5	4	3	2	1

26. Please respond to EACH of the following statements concerning the nature of the relationship between you and your most preferred buyer. Please circle your answer.

1	I trust my most preferred buyer	6	5	4	3	2	1
2	My most preferred buyer has a good reputation	6	5	4	3	2	1
3	My most preferred buyer is always honest	6	5	4	3	2	1
4	My most preferred buyer always considers my best interests	6	5	4	3	2	1
5	My most preferred buyer always keep their promises	6	5	4	3	2	1
6	I believe in the information provided by my most preferred buyer	6	5	4	3	2	1
7	My most preferred buyer follows to the agreement between us	6	5	4	3	2	1
8	I know my most preferred buyer very well	6	5	4	3	2	1
9	I understand my most preferred buyer's problems	6	5	4	3	2	1

27. Please respond to EACH of the following statements concerning the nature of the relationship between you and your most preferred buyer. Please circle your answer.

1	I expect my relationship with my preferred buyer to continue in the future	6	5	4	3	2	1
2	It is more cost effective for me to rely on my most preferred buyer rather than search for alternative buyers	6	5	4	3	2	1
3	My most preferred buyer makes efforts to help me	6	5	4	3	2	1
4	I do not intend to change my most preferred buyer	6	5	4	3	2	1
5	My preferred buyer do not breach the agreement/contract between us	6	5	4	3	2	1

28. Please respond to EACH of the following statements concerning the nature of the relationship between you and your most preferred buyer. Please circle your answer.

1	My most preferred buyer keeps me well informed on price in the cut flower market	6	5	4	3	2	1
2	My most preferred buyer frequently asks me how they might improve the level of product quality	6	5	4	3	2	1
3	We often discuss better way to pack, grade, store and transport cut flowers	6	5	4	3	2	1
4	There is frequent contact with my most preferred buyer	6	5	4	3	2	1
5	It is relatively easy to contact my most preferred buyer	6	5	4	3	2	1

29. Please respond to EACH of the following statements concerning the nature of the relationship between you and your most preferred buyer. Please circle your answer.

1	My most preferred buyer provides financial assistance	6	5	4	3	2	1
2	My most preferred buyer keeps me well informed on technical matters	6	5	4	3	2	1
3	I prefer to transact with local buyers	6	5	4	3	2	1
4	My most preferred buyer is willing to share the risk (crop failure, unsold)	6	5	4	3	2	1
5	My most preferred buyer and me work together for mutual benefits	6	5	4	3	2	1
6	There is a good cooperation between my buyer and myself	6	5	4	3	2	1
7	Cooperation based on the contract between my buyer and me	6	5	4	3	2	1

30. Please respond to EACH of the following statements concerning the nature of the relationship between you and your most preferred buyer. Please circle your answer.

1	My most preferred buyer has all the power in our relationship	6	5	4	3	2	1
2	My most preferred buyer controls all the information in our relationship	6	5	4	3	2	1
3	My most preferred buyer will not take advantage of a strong bargaining position (not price pressure)	6	5	4	3	2	1
4	My most preferred buyer exerts a strong influence over us	6	5	4	3	2	1
5	I must do what my preferred buyer says	6	5	4	3	2	1
6	My most preferred buyer have a right to buy or not to buy the cut flowers	6	5	4	3	2	1

Section 3. Other buyers

31. Excepted your most preferred buyer above, did you sell the chrysanthemums to the other types of buyer?

Yes

No (**Go to Question 32**)

If NO, THANK YOU FOR YOUR COOPERATION

32. a. What type of buyer is your second most preferred buyer?

b. Can you please name this buyer?

c. For how many years have you been trading with this buyer?.....years

33. a. Did you have a contract with this buyer?

Yes

No (**Go to Question 34**)

b. How many years has this contract left to run?years

c. Was there any formal document signed between you and the contractor?

Yes

No

d. What were the term and conditions between you and this buyer under this contract?

.....

.....

.....

e. Whether the existing system was profitable for both of you?

Yes

No

f. If YES, what advantages/benefits did you believe you have obtained by operating under this contract?

.....

.....

.....

g. What problems/difficulties have you experienced operating under this contract?

.....
.....
.....

h. What actions/events have strengthened the relationship?

.....
-.....
-.....

k. What actions/events have weakened the relationship?

.....
.....
.....

34. a. Did you harvest the chrysanthemums when selling to this buyer?

Yes

No (Go to Question 35)

- b. Was there any difference in the harvest process between standard and spray chrysanthemums?

Yes (Go to Question 34i)

□ No

- c. If NO, number of stems harvested per day when selling to this buyer?

- d. How long did the harvest process take place per day?

- e. Number of people involved?
.....

- f. How many days it took per harvested turn?

- g. On average, what percent of the chrysanthemums did you reject at the time of harvest as being unmarketable?

Standard chrysanthemum:

9%

Spray chrysanthemum:

9%

- h. What were the main reasons for this rejection?

.....
.....
.....

	Standard chrysanthemum	Spray chrysanthemum
i. Number of stems harvested per day		
j. How long the harvest process took place per day?		
k. Number of people involved?		
l. How many day it took per harvested turn?		

35. a. Did you use any postharvest treatment prior to grading or sale to this buyer?

Yes

No (Go to Question 36)

- b. If YES, what chemicals did you use?

—

- c. How much chemical did you use per bucket?

d. How many stems per bucket?

Standard chrysanthemum: stems

Spray chrysanthemum: stems

e. How much does the average cost of chemical for a bucket?

36. a. Did you grade the chrysanthemums harvested prior to sale to this buyer?

Yes

No (**Go to Question 37**)

b. What percentage (%) of the cut flowers harvested fell into each of the following grades?

	First	Second	Rejected	Total
Standard chrysanthemum				100%
Spray chrysanthemum				100%

c. What were the main reasons for this rejection?

-.....
-.....
-.....

d. What did you do with these flowers rejected?

-.....
-.....

37. a. Did you bunch the chrysanthemums prior to sale to this buyer?

Yes

No (**Go to Question 37d**)

b. If YES, how many stems per bunch?

Standard chrysanthemum: stems

Spray chrysanthemum: stems

c. What was the approximate cost for materials?

d. Did you pack the chrysanthemums prior to sale to your most preferred buyer?

Yes

No (**Go to Question 38**)

e. Was there any different in the packing process between standard and spray chrysanthemums?

Yes (**Go to Question 37i**)

No

f. If NO, how many chrysanthemum bunches per carton?

g. Number of hours graded, bunched and packed per day?

h. Number of people involved?

If YES	Standard chrysanthemum	Spray chrysanthemum
i. How many bunches per carton?		
j. Number of hours graded, bunched and packed per day?		
k. Number of people involved?		

l. Did you buy the cartons to pack the chrysanthemums when selling to this buyer?

Yes

No

m. If YES, what was the approximate cost for a carton?

n. How many cartons did you buy?

o. For how long?

38. a. Did you store the chrysanthemums in a cold store prior to sale to this buyer?

Yes

No (**Go to Question 39**)

b. What percentage of the cut chrysanthemums did you cold store?

Standard chrysanthemum%
Spray chrysanthemum%

c. For how many days did you store the chrysanthemums?

d. What was the approximately cost to cold store the flowers for this period time?.....

e. What percentage of losses occurred during cold store?

Standard chrysanthemum%
Spray chrysanthemum%

f. What were the main reasons for this loss?

39. a. Were you responsible for the cost of delivering the chrysanthemums to this buyer?

Yes

No (**Go to Question 39g**)

b. If YES, how much the average cost per turn was to deliver the harvested flower to this buyer?

c. Number of turns delivered per day?

d. How many stems per turn?

e. What percentage of losses occurred during transport?%
f. What were the main reasons for this loss?

g. Were you responsible for the loading and unloading cost?

Yes

No (**Go to Question 40**)

h. If YES, how much does the total loading/unloading cost per day?.....

40. Why did you choose to sell the chrysanthemums to this buyer?

41. To what extent is this buyer able to fulfil your needs? On a scale of 1 to 6, please indicate how well you think this buyer can meet EACH of these criteria.

(Note: 1 is “very well”, 2 is “well”, 3 is “partly well”, 4 is “partly not well”, 5 is “not well” and 6 is “not at all well”)

1	be able to buy my cut flowers all year round	6	5	4	3	2	1
2	provide me with an acceptable price	6	5	4	3	2	1
3	pay on time	6	5	4	3	2	1
4	have confidence together	6	5	4	3	2	1
5	has a good business reputation	6	5	4	3	2	1
6	provides technical information/advice	6	5	4	3	2	1
7	provides market information	6	5	4	3	2	1
8	do all activities: harvest, grade, pack and store cut flowers	6	5	4	3	2	1
9	can transport cut flower from my farm	6	5	4	3	2	1
10	is willing to meet my immediate needs	6	5	4	3	2	1
11	is geographically close to me	6	5	4	3	2	1
12	we have a long-standing relationship	6	5	4	3	2	1
13	is in frequent communication with me	6	5	4	3	2	1

42. What were the most important things that prevent this buyer from meeting your needs?

.....
.....
.....

43. Think about this buyer, to what extent do you believe that you were able to fulfil this buyer's needs for EACH of following criteria? On a scale of 1 to 6, please indicate how well you think you met EACH of these criteria.

(Note: 1 is "very well", 2 is "well", 3 is "partly well", 4 is "partly not well", 5 is "not well" and 6 is "not at all well")

1	provide regular and stable volume	6	5	4	3	2	1
2	have cut flowers in the desired quality	6	5	4	3	2	1
3	have cut flowers that free of pests and disease	6	5	4	3	2	1
4	have cut flowers that are free of physical injury	6	5	4	3	2	1
5	have cut flowers with the right maturity	6	5	4	3	2	1
6	have cut flowers that are well graded	6	5	4	3	2	1
7	have cut flowers that are appropriately packed	6	5	4	3	2	1
8	have cut flowers that are good-looking	6	5	4	3	2	1
9	have cut flowers that store well	6	5	4	3	2	1
10	be willing to meet their intermediate needs	6	5	4	3	2	1
11	ability to deliver cut flowers when required	6	5	4	3	2	1
12	have a good reputation	6	5	4	3	2	1
13	provide cut flowers that are competitively priced	6	5	4	3	2	1
14	offer a wide range of fresh cut flowers	6	5	4	3	2	1
15	prepare to accept delayed payment	6	5	4	3	2	1
16	we have a long-standing relationship	6	5	4	3	2	1
17	have confidence together	6	5	4	3	2	1
18	have a contract	6	5	4	3	2	1
19	provide quality information of cut flowers	6	5	4	3	2	1

44. a. What were the most important things that prevent or stop you from meeting this buyer's needs?

.....
.....
.....
.....

b. What things can you do to improve your ability to fulfil this buyer's needs?

.....
.....
.....
.....

45. OVER THE LAST 12 MONTHS, what were the lowest, highest and average prices you receive PER STEM by grade from this buyer?

Standard chrysanthemum	First	Second	Rejected	Ungraded
Highest				
Lowest				
Average				
Spray chrysanthemum	First	Second	Rejected	Ungraded
Highest				
Lowest				
Average				

46. How would you describe the nature of your relationship with this buyer?

.....
.....
.....

47. Please respond to EACH of the following statements concerning the nature of the relationship between you and this buyer. Please circle your answer.

(Note: 1 is “strongly agree”, 2 is “agree”, 3 is “somewhat agree”, 4 is “somewhat disagree”, 5 is “disagree” and 6 is “strongly disagree”)

1	I am satisfied with my transaction with this buyer	6	5	4	3	2	1
2	I am satisfied with the prices received from this buyer	6	5	4	3	2	1
3	I am satisfied with the pay in full at an agreed time	6	5	4	3	2	1
4	Dealing with this buyer is less risky than others	6	5	4	3	2	1
5	This buyer purchase my cut flowers at a mutually agreed price	6	5	4	3	2	1
6	This buyer often meet my expectations	6	5	4	3	2	1
7	This buyer quickly respond to my concerns	6	5	4	3	2	1
8	This buyer and I have a close personal relationship	6	5	4	3	2	1
9	This buyer has the best offer relative to the other traders	6	5	4	3	2	1
10	This buyer purchase my products all year round	6	5	4	3	2	1

48. Please respond to EACH of the following statements concerning the nature of the relationship between you and this buyer. Please circle your answer.

1	I trust this buyer	6	5	4	3	2	1
2	This buyer has a good reputation	6	5	4	3	2	1
3	This buyer is always honest	6	5	4	3	2	1
4	This buyer always considers my best interests	6	5	4	3	2	1
5	This buyer always keep their promises	6	5	4	3	2	1
6	I believe in the information provided by this buyer	6	5	4	3	2	1
7	This buyer follows to the agreement between us	6	5	4	3	2	1
8	I know this buyer very well	6	5	4	3	2	1
9	I understand this buyer’s problems	6	5	4	3	2	1

49. Please respond to EACH of the following statements concerning the nature of the relationship between you and this buyer. Please circle your answer.

1	I expect my relationship with this buyer to continue in the future	6	5	4	3	2	1
2	It is more cost effective for me to rely on this buyer rather than search for alternative buyers	6	5	4	3	2	1
3	This buyer makes efforts to help me	6	5	4	3	2	1
4	I do not intend to change this buyer	6	5	4	3	2	1
5	This buyer do not breach the agreement/contract between us	6	5	4	3	2	1

50. Please respond to EACH of the following statements concerning the nature of the relationship between you and this buyer. Please circle your answer.

1	This buyer keeps me well informed on price in the cut flower market	6	5	4	3	2	1
2	This buyer frequently asks me how they might improve the level of product quality	6	5	4	3	2	1
3	We often discuss better way to pack, grade, store and transport cut flowers	6	5	4	3	2	1
4	There is frequent contact with this buyer	6	5	4	3	2	1
5	It is relatively easy to contact this buyer	6	5	4	3	2	1

51. Please respond to EACH of the following statements concerning the nature of the relationship between you and this buyer. Please circle your answer.

1	This buyer provides financial assistance	6	5	4	3	2	1
2	This buyer keeps me well informed on technical matters	6	5	4	3	2	1
3	I prefer to transact with local buyers	6	5	4	3	2	1
4	This buyer is willing to share the risk (crop failure, unsold)	6	5	4	3	2	1
5	This buyer and me work together for mutual benefits	6	5	4	3	2	1
6	There is a good cooperation between this buyer and myself	6	5	4	3	2	1
7	Cooperation based on the contract between this buyer and me	6	5	4	3	2	1

52. Please respond to EACH of the following statements concerning the nature of the relationship between you and this buyer. Please circle your answer.

1	This buyer has all the power in our relationship	6	5	4	3	2	1
2	This buyer controls all the information in our relationship	6	5	4	3	2	1
3	This buyer will not take advantage of a strong bargaining position (not price pressure)	6	5	4	3	2	1
4	This buyer exerts a strong influence over us	6	5	4	3	2	1
5	I must do what this buyer says	6	5	4	3	2	1
6	This buyer have a right to buy or not to buy the cut flowers	6	5	4	3	2	1

THANK YOU FOR PARTICIPATING IN THIS REVIEW. YOUR TIME AND THE INFORMATION THAT YOU HAVE PROVIDED ARE GREATLY APPRECIATED

Appendix 5. Questionnaires for rose farmers

Day:/...../2010

Name of participant:ID:

Section 1. About your farm

1. Location of your farm:
2. a. Area of plastic greenhouses:sao
- b. Area of outdoor land:sao
- c. Total area of farm:sao

In which:

- d. Area cropped in rose:sao
 - e. Areas cropped in other cut flowers:sao
 - f. Areas cropped in vegetables:sao
 - g. Total area of farm:sao
3. Are you growing (please tick appropriate box below)
- mono cut flower combination of many cut flowers combination of flower and vegetable
4. Number of years you have been growing cut flowers?years
5. LAST YEAR, what was the total quantity of the roses you produced PER DAY from that land?.....stems
6. a. NEXT YEAR, do you expect your production to (Please tick appropriate box below)
- increase decrease stay the same

b. Why do you expect your production to change?

-
-
-
-

Section 2. To whom you sell your cut flowers

7. a. To how many buyers do you sell the roses you have grown?
- b. FOR THE LAST 12 MONTHS, what percentage of the roses that you produced were sold to?

Wholesalers:%
Traders:%
Company:%
Retailers:%
Consumers:%

Total (should equal to): 100 %

c. Were these percentages the same for the last 2 years?

Yes No

If NO, what has changed?

.....
.....
.....

d. What type of buyer is your most preferred buyer? (Please circle the buyers in the **Question 7b**)

e. Can you please name your most preferred buyer?.....

f. For how many years have you been trading with your most preferred buyer?.....years

g. If you don't sell any cut flower to the rest, why is that? (Please answer about the person you did not trade with)

Wholesalers:.....

.....
.....

Traders:.....

.....
.....

Company:.....

.....
.....

Retailers:.....

.....
.....

8. a. Did you have a contract with your most preferred buyer?

Yes

No (**Go to Question 9**)

b. How many years has this contract left to run?years

c. What were the term and conditions between you and your most preferred buyer under this contract?

.....
.....
.....
.....

d. What advantages/benefits did you believe you have obtained by operating under this contract?

.....
.....
.....
.....

e. What problems/difficulties have you experienced operating under this contract?

.....
.....
.....
.....

f. What actions/events have strengthened the relationship?

.....
.....
.....

g. What actions/events have weakened the relationship?

-
-
-

9. a. Did you harvest the roses when selling to your most preferred buyer?

Yes No (**Go to Question 10**)

b. Number of stems harvested per day when selling to your most preferred buyer?.....

c. How long did the harvest process take place per day?

d. Number of people involved?

e. How often did you harvest the roses?

f. On average, what percent of the roses did you reject at the time of harvest as being unmarketable?%

g. What were the main reasons for this rejection?

-
-

10. a. Did you use any postharvest treatment prior to grading or sale to your most preferred buyer?

Yes No (**Go to Question 11**)

b. If YES, what chemicals did you use?

-
-

c. How much chemical did you use per bucket?

d. How many rose stems per bucket?

e. How much does the average cost of chemical for a bucket?

11. a. Did you grade the roses prior to sale to your most preferred buyer?

Yes No (**Go to Question 12**)

b. What percentage (%) of the cut flowers harvested fell into each of the following grades?

First:%
Second:%
Rejected:%

Total (should equal to): **100** %

c. What were the main reasons for this rejection?

-
-

d. What did you do with these flowers rejected?

-
-

12. a. Did you bunch the roses prior to sale to this buyer?

Yes No (**Go to Question 12d**)

b. If YES, how many rose stems per bunch?

c. What was the approximate cost for materials?

d. Did you pack the roses prior to sale to this buyer?

Yes

No (**Go to Question 13**)

e. How many rose bunches per carton

f. Number of hours graded, bunched and packed the roses?

g. Number of people involved?

h. Did you buy the cartons to pack the roses when selling to this buyer?

Yes

No

k. If YES, what was the approximate cost for a carton?

i. How many cartons did you buy?

j. For how long?

13. a. Did you store the roses in a cold store prior to sale to your most preferred buyer?

Yes

No (**Go to Question 14**)

b. What percentage of the roses did you cold store?%
.....

c. For how many days did you store the roses?

d. What was the approximately cost to cold store the flowers for this period time?
.....

e. What percentage of losses occurred during cold store?%
.....

f. What were the main reasons for this loss?
.....

14. a. Were you responsible for the cost of delivering the roses to your most preferred buyer?

Yes

No (**Go to Question 14g**)

b. If YES, how much did the average cost per turn was to deliver the roses to your most preferred buyer?
.....

c. Number of turns delivered per day?

d. How many stems per turn?

e. What percentage of losses occurred during transport?%
.....

f. What were the main reasons for this loss?
.....

g. Were you responsible for the loading and unloading cost?

Yes

No (**Go to Question 15**)

h. If YES, how much does the total loading/unloading cost per day?

15. Why did you choose to sell the roses to your most preferred buyer?

.....
.....
.....
.....

16. In choosing between ALTERNATIVE BUYERS, how important were EACH of the following factors. Please circle the appropriate response.

(Note: 1 is “very important”, 2 is “important”, 3 is “partly important”, 4 is “partly not important”, 5 is “not important” and 6 is “not at all important”)

1	be able to buy my cut flowers all year round	6	5	4	3	2	1
2	provide me with an acceptable price	6	5	4	3	2	1
3	pay on time	6	5	4	3	2	1
4	have confidence together	6	5	4	3	2	1
5	has a good business reputation	6	5	4	3	2	1
6	provides technical information/advice	6	5	4	3	2	1
7	provides market information	6	5	4	3	2	1
8	do all activities: harvest, trade, pack and store cut flowers	6	5	4	3	2	1
9	can transport cut flowers from my farm	6	5	4	3	2	1
10	is willing to meet my immediate needs	6	5	4	3	2	1
11	is geographically close to me	6	5	4	3	2	1
12	we have a long-standing relationship	6	5	4	3	2	1
13	is in frequent communication with me	6	5	4	3	2	1

17. To what extent is your most preferred buyer able to fulfil your needs? On a scale of 1 to 6, please indicate how well you think your most preferred buyer can meet EACH of these criteria.

(Note: 1 is “very well”, 2 is “well”, 3 is “partly well”, 4 is “partly not well”, 5 is “not well” and 6 is “not at all well”)

1	be able to buy my cut flowers all year round	6	5	4	3	2	1
2	provide me with an acceptable price	6	5	4	3	2	1
3	pay on time	6	5	4	3	2	1
4	have confidence together	6	5	4	3	2	1
5	has a good business reputation	6	5	4	3	2	1
6	provides technical information/advice	6	5	4	3	2	1
7	provides market information	6	5	4	3	2	1
8	do all activities: harvest, trade, pack and store cut flowers	6	5	4	3	2	1
9	can transport cut flowers from my farm	6	5	4	3	2	1
10	is willing to meet my immediate needs	6	5	4	3	2	1
11	is geographically close to me	6	5	4	3	2	1
12	we have a long-standing relationship	6	5	4	3	2	1
13	is in frequent communication with me	6	5	4	3	2	1

18. What were the most important things that prevent your most preferred buyer from meeting your needs?

-
-
-
-

19. What criteria do you think are most important to your most preferred buyer in their decision to purchase the flowers from you?

-
-
-
-

20. On a scale of 1 to 6, please indicate how important you believe EACH of the following criteria were to your most preferred buyer in choosing between ALTERNATIVE FARMERS.

(Note: 1 is “very important”, 2 is “important”, 3 is “partly important”, 4 is “partly not important”, 5 is “not important” and 6 is “not at all important”)

1	provide regular and stable volume	6	5	4	3	2	1
2	have cut flowers in the desired quality	6	5	4	3	2	1
3	have cut flowers that free of pests and disease	6	5	4	3	2	1
4	have cut flowers that are free of physical injury	6	5	4	3	2	1
5	have cut flowers with the right maturity	6	5	4	3	2	1
6	have cut flowers that are well graded	6	5	4	3	2	1
7	have cut flowers that are appropriately packed	6	5	4	3	2	1
8	have cut flowers that are good-looking	6	5	4	3	2	1
9	have cut flowers that store well	6	5	4	3	2	1
10	be willing to meet their intermediate needs	6	5	4	3	2	1
11	ability to deliver cut flowers when required	6	5	4	3	2	1
12	have a good reputation	6	5	4	3	2	1
13	provide cut flowers that are competitively priced	6	5	4	3	2	1
14	offer a wide range of fresh cut flowers	6	5	4	3	2	1
15	be able to give credit (deferred payment)	6	5	4	3	2	1
16	we have a long-standing relationship	6	5	4	3	2	1
17	have confidence together	6	5	4	3	2	1
18	have a contract	6	5	4	3	2	1
19	provide quality information of cut flowers	6	5	4	3	2	1

21. To what extent do you believe that you were able to fulfil your most preferred buyer’s needs for EACH of following criteria? On a scale of 1 to 6, please indicate how well you think you met EACH of these criteria.

(Note: 1 is “very well”, 2 is “well”, 3 is “partly well”, 4 is “partly not well”, 5 is “not well” and 6 is “not at all well”)

1	provide regular and stable volume	6	5	4	3	2	1
2	have cut flowers in the desired quality	6	5	4	3	2	1
3	have cut flowers that free of pests and disease	6	5	4	3	2	1
4	have cut flowers that are free of physical injury	6	5	4	3	2	1
5	have cut flowers with the right maturity	6	5	4	3	2	1
6	have cut flowers that are well graded	6	5	4	3	2	1
7	have cut flowers that are appropriately packed	6	5	4	3	2	1
8	have cut flowers that are good-looking	6	5	4	3	2	1
9	have cut flowers that store well	6	5	4	3	2	1
10	be willing to meet their intermediate needs	6	5	4	3	2	1
11	ability to deliver cut flowers when required	6	5	4	3	2	1
12	have a good reputation	6	5	4	3	2	1
13	provide cut flowers that are competitively priced	6	5	4	3	2	1
14	offer a wide range of fresh cut flowers	6	5	4	3	2	1
15	prepare to accept delayed payment	6	5	4	3	2	1
16	we have a long-standing relationship	6	5	4	3	2	1
17	have confidence together	6	5	4	3	2	1
18	have a contract	6	5	4	3	2	1
19	provide quality information of cut flowers	6	5	4	3	2	1

22. a. What were the most important things that prevent or stop you from meeting your most preferred buyer’s needs?

-
-
-

b. What things can you do to improve your ability to fulfil your most preferred buyer's needs?

-
 -
 -

23. OVER THE LAST 12 MONTHS, what were the lowest, highest and average prices you receive PER STEM by grade from your most preferred buyer?

	Grade 1	Grade 2	Rejected (if any)	Ungraded
Highest				
Lowest				
Average				

24. How would you describe the nature of your relationship with your most preferred buyer?

-
 -

25. Please respond to EACH of the following statements concerning the nature of the relationship between you and your most preferred buyer. Please circle your answer.

(Note: 1 is "strongly agree", 2 is "agree", 3 is "somewhat agree", 4 is "somewhat disagree", 5 is "disagree" and 6 is "strongly disagree")

1	I am satisfied with my transaction with my most preferred buyer	6	5	4	3	2	1
2	I am satisfied with the prices received from my most preferred buyer	6	5	4	3	2	1
3	I am satisfied with the pay in full at an agreed time	6	5	4	3	2	1
4	Dealing with my most preferred buyer is less risky than others	6	5	4	3	2	1
5	My most preferred buyer purchase my cut flowers at a mutually agreed price	6	5	4	3	2	1
6	My most preferred buyer often meet my expectations	6	5	4	3	2	1
7	My most preferred buyer quickly respond to my concerns	6	5	4	3	2	1
8	My most preferred buyer and I have a close personal relationship	6	5	4	3	2	1
9	My most preferred buyer has the best offer relative to the other traders	6	5	4	3	2	1
10	My most preferred buyer purchase my products all year round	6	5	4	3	2	1

26. Please respond to EACH of the following statements concerning the nature of the relationship between you and your most preferred buyer. Please circle your answer.

1	I trust my most preferred buyer	6	5	4	3	2	1
2	My most preferred buyer has a good reputation	6	5	4	3	2	1
3	My most preferred buyer is always honest	6	5	4	3	2	1
4	My most preferred buyer always considers my best interests	6	5	4	3	2	1
5	My most preferred buyer always keep their promises	6	5	4	3	2	1
6	I believe in the information provided by my most preferred buyer	6	5	4	3	2	1
7	My most preferred buyer follows to the agreement between us	6	5	4	3	2	1
8	I know my most preferred buyer very well	6	5	4	3	2	1
9	I understand my most preferred buyer's problems	6	5	4	3	2	1

27. Please respond to EACH of the following statements concerning the nature of the relationship between you and your most preferred buyer. Please circle your answer.

1	I expect my relationship with my preferred buyer to continue in the future	6	5	4	3	2	1
2	It is more cost effective for me to rely on my most preferred buyer rather than search for alternative buyers	6	5	4	3	2	1
3	My most preferred buyer makes efforts to help me	6	5	4	3	2	1
4	I do not intend to change my most preferred buyer	6	5	4	3	2	1
5	My preferred buyer do not breach the agreement/contract between us	6	5	4	3	2	1

28. Please respond to EACH of the following statements concerning the nature of the relationship between you and your most preferred buyer. Please circle your answer.

1	My most preferred buyer keeps me well informed on price in the cut flower market	6	5	4	3	2	1
2	My most preferred buyer frequently asks me how they might improve the level of product quality	6	5	4	3	2	1
3	We often discuss better way to pack, grade, store and transport cut flowers	6	5	4	3	2	1
4	There is frequent contact with my most preferred buyer	6	5	4	3	2	1
5	It is relatively easy to contact my most preferred buyer	6	5	4	3	2	1

29. Please respond to EACH of the following statements concerning the nature of the relationship between you and your most preferred buyer. Please circle your answer.

1	My most preferred buyer provides financial assistance	6	5	4	3	2	1
2	My most preferred buyer keeps me well informed on technical matters	6	5	4	3	2	1
3	I prefer to transact with local buyers	6	5	4	3	2	1
4	My most preferred buyer is willing to share the risk (crop failure, unsold)	6	5	4	3	2	1
5	My most preferred buyer and me work together for mutual benefits	6	5	4	3	2	1
6	There is a good cooperation between my buyer and myself	6	5	4	3	2	1
7	Cooperation based on the contract between my buyer and me	6	5	4	3	2	1

30. Please respond to EACH of the following statements concerning the nature of the relationship between you and your most preferred buyer. Please circle your answer.

1	My most preferred buyer has all the power in our relationship	6	5	4	3	2	1
2	My most preferred buyer controls all the information in our relationship	6	5	4	3	2	1
3	My most preferred buyer will not take advantage of a strong bargaining position (not price pressure)	6	5	4	3	2	1
4	My most preferred buyer exerts a strong influence over us	6	5	4	3	2	1
5	I must to do what my preferred buyer says	6	5	4	3	2	1
6	My most preferred buyer have a right to buy or not to buy the cut flowers	6	5	4	3	2	1

Section 3. Other buyers

31. Excepted your most preferred buyer above, did you sell the chrysanthemums to the other types of buyer?

Yes

No (Go to Question 32)

If NO, THANH YOU FOR YOUR COOPERATION

32. a. What type of buyer is your second most preferred buyer?
- b. Can you please name this buyer?
- c. For how many years have you been trading with this buyer?years
33. a. Did you have a contract with this buyer?

Yes

No (Go to Question 34)

- b. How many years has this contract left to run?years
- c. Was there any formal document signed between you and the contractor?

Yes

No

- d. What were the term and conditions between you and this buyer under this contract?
-
-

e. Whether the existing system was profitable for both of you?

Yes

No

f. If YES, what advantages/benefits did you believe you have obtained by operating under this contract?

-
-
-

g. What problems/difficulties have you experienced operating under this contract?

-
-
-

h. What actions/events have strengthened the relationship?

-
-
-

k. What actions/events have weakened the relationship?

-
-
-

34. a. Did you harvest the roses when selling to this buyer?

Yes

No (**Go to Question 35**)

b. Number of stems harvested per day when selling to this buyer?.....

c. How long did the harvest process take place per day?

d. Number of people involved?

e. How often did you harvest the roses?

f. On average, what percent of the roses did you reject at the time of harvest as being unmarketable?
.....%
.....%

g. What were the main reasons for this rejection?.....
-
-

35. a. Did you use any postharvest treatment prior to grading or sale?

Yes

No (**Go to Question 36**)

b. If YES, what chemicals did you use?.....
-

c. How much chemical did you use per bucket?

d. How many rose stems per bucket?

e. How much does the average cost of chemical for a bucket?
.....

36. a. Did you grade the roses prior to sale to this buyer?

Yes

No (**Go to Question 37**)

39. a. Were you responsible for the cost of delivering the roses to this buyer?

Yes

No (**Go to Question 39g**)

b. If YES, how much did the average cost per turn was to deliver the roses to this buyer?
.....

c. Number of turns delivered per day?

d. How many stems per turn?

e. What percentage of losses occurred during transport? %

f. What were the main reasons for this loss?
-
-
-

g. Were you responsible for the loading and unloading cost?

Yes

No (**Go to Question 40**)

h. If YES, how much does the total loading/unloading cost per day?.....

40. Why did you choose to sell the roses to this buyer?

-
-
-
-

41. To what extent is this buyer able to fulfil your needs? On a scale of 1 to 6, please indicate how well you think this buyer can meet EACH of these criteria.

(Note: 1 is “very well”, 2 is “well”, 3 is “partly well”, 4 is “partly not well”, 5 is “not well” and 6 is “not at all well”)

1	be able to buy my cut flowers all year round	6	5	4	3	2	1
2	provide me with an acceptable price	6	5	4	3	2	1
3	pay on time	6	5	4	3	2	1
4	have confidence together	6	5	4	3	2	1
5	has a good business reputation	6	5	4	3	2	1
6	provides technical information/advice	6	5	4	3	2	1
7	provides market information	6	5	4	3	2	1
8	do all activities: harvest, trade, pack and store cut flowers	6	5	4	3	2	1
9	can transport cut flower from my farm	6	5	4	3	2	1
10	is willing to meet my immediate needs	6	5	4	3	2	1
11	is geographically close to me	6	5	4	3	2	1
12	we have a long-standing relationship	6	5	4	3	2	1
13	is in frequent communication with me	6	5	4	3	2	1

42. What were the most important things that prevent this buyer from meeting your needs?

-
-
-
-

43. Think about this buyer, to what extent do you believe that you were able to fulfil this buyer's needs for EACH of following criteria? On a scale of 1 to 6, please indicate how well you think you met EACH of these criteria.

(Note: 1 is "very well", 2 is "well", 3 is "partly well", 4 is "partly not well", 5 is "not well" and 6 is "not at all well")

1	provide regular and stable volume	6	5	4	3	2	1
2	have cut flowers in the desired quality	6	5	4	3	2	1
3	have cut flowers that free of pests and disease	6	5	4	3	2	1
4	have cut flowers that are free of physical injury	6	5	4	3	2	1
5	have cut flowers with the right maturity	6	5	4	3	2	1
6	have cut flowers that are well graded	6	5	4	3	2	1
7	have cut flowers that are appropriately packed	6	5	4	3	2	1
8	have cut flowers that are good-looking	6	5	4	3	2	1
9	have cut flowers that store well	6	5	4	3	2	1
10	be willing to meet their intermediate needs	6	5	4	3	2	1
11	ability to deliver cut flowers when required	6	5	4	3	2	1
12	have a good reputation	6	5	4	3	2	1
13	provide cut flowers that are competitively priced	6	5	4	3	2	1
14	offer a wide range of fresh cut flowers	6	5	4	3	2	1
15	prepare to accept delayed payment	6	5	4	3	2	1
16	we have a long-standing relationship	6	5	4	3	2	1
17	have confidence together	6	5	4	3	2	1
18	have a contract	6	5	4	3	2	1
19	provide quality information of cut flowers	6	5	4	3	2	1

44. a. What were the most important things that prevent or stop you from meeting this buyer's needs?

-
-
-

b. What things can you do to improve your ability to fulfil this buyer's needs?

-
-
-
-

45. OVER THE LAST 12 MONTHS, what were the lowest, highest and average prices you receive PER STEM by grade from this buyer?

	Grade 1	Grade 2	Rejected (if any)	Ungraded
Highest				
Lowest				
Average				

46. How would you describe the nature of your relationship with this buyer?

-
-
-

47. Please respond to EACH of the following statements concerning the nature of the relationship between you and this buyer. Please circle your answer.

(Note: 1 is "strongly agree", 2 is "agree", 3 is "somewhat agree", 4 is "somewhat disagree", 5 is "disagree" and 6 is "strongly disagree")

1	I am satisfied with my transaction with this buyer	6	5	4	3	2	1
2	I am satisfied with the prices received from this buyer	6	5	4	3	2	1
3	I am satisfied with the pay in full at an agreed time	6	5	4	3	2	1
4	Dealing with this buyer is less risky than others	6	5	4	3	2	1
5	This buyer purchase my cut flowers at a mutually agreed price	6	5	4	3	2	1
6	This buyer often meet my expectations	6	5	4	3	2	1
7	This buyer quickly respond to my concerns	6	5	4	3	2	1
8	This buyer and I have a close personal relationship	6	5	4	3	2	1
9	This buyer has the best offer relative to the other traders	6	5	4	3	2	1
10	This buyer purchase my products all year round	6	5	4	3	2	1

48. Please respond to EACH of the following statements concerning the nature of the relationship between you and this buyer. Please circle your answer.

1	I trust this buyer	6	5	4	3	2	1
2	This buyer has a good reputation	6	5	4	3	2	1
3	This buyer is always honest	6	5	4	3	2	1
4	This buyer always considers my best interests	6	5	4	3	2	1
5	This buyer always keep their promises	6	5	4	3	2	1
6	I believe in the information provided by this buyer	6	5	4	3	2	1
7	This buyer follows to the agreement between us	6	5	4	3	2	1
8	I know this buyer very well	6	5	4	3	2	1
9	I understand this buyer's problems	6	5	4	3	2	1

49. Please respond to EACH of the following statements concerning the nature of the relationship between you and this buyer. Please circle your answer.

1	I expect my relationship with this buyer to continue in the future	6	5	4	3	2	1
2	It is more cost effective for me to rely on this buyer rather than search for alternative buyers	6	5	4	3	2	1
3	This buyer makes efforts to help me	6	5	4	3	2	1
4	I do not intend to change this buyer	6	5	4	3	2	1
5	This buyer do not breach the agreement/contract between us	6	5	4	3	2	1

50. Please respond to EACH of the following statements concerning the nature of the relationship between you and this buyer. Please circle your answer.

1	This buyer keeps me well informed on price in the cut flower market	6	5	4	3	2	1
2	This buyer frequently asks me how they might improve the level of product quality	6	5	4	3	2	1
3	We often discuss better way to pack, grade, store and transport cut flowers	6	5	4	3	2	1
4	There is frequent contact with this buyer	6	5	4	3	2	1
5	It is relatively easy to contact this buyer	6	5	4	3	2	1

51. Please respond to EACH of the following statements concerning the nature of the relationship between you and this buyer. Please circle your answer.

1	This buyer provides financial assistance	6	5	4	3	2	1
2	This buyer keeps me well informed on technical matters	6	5	4	3	2	1
3	I prefer to transact with local buyers	6	5	4	3	2	1
4	This buyer is willing to share the risk (crop failure, unsold)	6	5	4	3	2	1
5	This buyer and me work together for mutual benefits	6	5	4	3	2	1
6	There is a good cooperation between this buyer and myself	6	5	4	3	2	1
7	Cooperation based on the contract between this buyer and me	6	5	4	3	2	1

52. Please respond to EACH of the following statements concerning the nature of the relationship between you and this buyer. Please circle your answer.

1	This buyer has all the power in our relationship	6	5	4	3	2	1
2	This buyer controls all the information in our relationship	6	5	4	3	2	1
3	This buyer will not take advantage of a strong bargaining position (not price pressure)	6	5	4	3	2	1
4	This buyer exerts a strong influence over us	6	5	4	3	2	1
5	I must do what this buyer says	6	5	4	3	2	1
6	This buyer have a right to buy or not to buy the cut flowers	6	5	4	3	2	1

THANK YOU FOR PARTICIPATING IN THIS REVIEW. YOUR TIME AND THE INFORMATION THAT YOU HAVE PROVIDED ARE GREATLY APPRECIATED

Appendix 6. Questionnaires for market intermediaries

Day:/...../2010

Name of participant: ID:

Section 1. About your business

1. a. Location of your business:.....

b. Type of business (Please tick appropriate box below)

Trader Wholesaler Company Others

c. Are you engaged in any other activities apart from cut flower trading?

.....
.....

2. For how many years have you been buying/selling cut flowers?years

3. What average quantity of cut flowers did you purchase PER DAY all year round?

Rose:.....thien

Standard chrysanthemum:.....boxes. Average number stems per carton:.....

Spray chrysanthemum:.....boxes. Average number stems per carton:

Other cut flowers:.....boxes. Average number stems per carton:

4. a. NEXT YEAR, do you expect your sales to (Please tick appropriate box below)

increase decrease stay the same

b. If your answer is increase or decrease, why do you expect your sales to change?

.....
.....
.....

5. a. Are your sales constant all year round?

Yes No

b. If NO, at what time of the years do sales peak?

.....
.....
.....

Section 2. From whom you purchase cut flower

6. a. From how many suppliers did you purchase cut flowers?.....

b. OVER THE LAST 12 MONTHS, what percentage of the total amount chrysanthemums and roses did you buy from EACH of the following suppliers?

Supplier	Percentage (%)			
	Rose	Standard chrysanthemum	Spray chrysanthemum	Others
Farmers				
Traders				
Wholesalers				
Company				
Others				
Total	100%	100%	100%	100%

c. Were these percentages the same for the last 2 years?

Yes

No

If NO, what has changed?

.....
.....

d. What type of supplier is your most preferred supplier? (Please circle the suppliers in the **Question 6b**)

e. Can you please name your most preferred supplier?.....

f. For how many years have you been trading with your most preferred supplier?.....years

g. If you don't purchase any cut flower from the rest, why is that? (Please answer about the person you did not purchase from)

Farmers:.....

.....

Wholesalers:.....

.....

Traders:.....

.....

Company:.....

.....

7. a. Did you have a contract with your most preferred supplier?

Yes

No (**Go to Question 7**)

b. For how many years has this contract left to run?years

c. What were the term and conditions between you and your most preferred supplier under the contract?

.....
.....

.....

d. What advantages/benefits do you believe you have obtained by operating under a contract?

.....
.....

.....

e. What problems/difficulties have you experienced under the contract?

.....
.....

.....

f. What actions/events have strengthened the relationships?

.....
.....

.....

g. What actions/events have weakened the relationships?

.....
.....

8. a. Did you harvest the flowers you purchase from your most preferred supplier?

Yes

No (**Go to Question 9**)

	Rose	Standard chrysanthemum	Spray chrysanthemum
b. Number of stems harvested per day			
c. How long the harvest process took place per day?			
d. Number of people involved?			
e. How often did you harvest for each variety?			

f. What percent of flower do you reject at the time of harvest as being unmarketable?

Rose:%

Standard chrysanthemum:%

Spray chrysanthemum:%

g. What were the main reasons for this rejection?

-.....
-.....
-.....

9. a. Were you responsible for the costs of receiving the flowers from your most preferred supplier?

Yes

No (**Go to Question 9g**)

b. If YES, how much the average cost per turn was to transport the cut flowers from your most supplier?

c. Number of turns delivered per day?

d. How many stems per turn?

e. What percentage of losses occurred during transport?%

f. What were the main reasons for this loss?.....
.....

g. Were you responsible for the loading and unloading cost?

Yes

No (**Go to Question 9i**)

h. If YES, how much did the total loading /unloading cost per day?

i. Did you provide cartons for your most preferred supplier?

Yes

No (**Go to Question 10**)

j. If YES, what was the approximate cost for a carton?

k. How many cartons did you buy?:

l. For how long?

10. Why did you decide to purchase the flowers from your most preferred supplier?

-.....
-.....
-.....

11. In choosing between ALTERNATIVE SUPPLIERS, how important were EACH of the following factors. Please circle the appropriate response

(Note: 1 is “very important”, 2 is “important”, 3 is “partly important”, 4 is “partly not important”, 5 is “not important” and 6 is “not at all important”)

1	provide regular and stable volume	6	5	4	3	2	1
2	have cut flowers in the desired quality	6	5	4	3	2	1
3	have cut flowers that free of pests and disease	6	5	4	3	2	1
4	have cut flowers that are free of physical injury	6	5	4	3	2	1
5	provide cut flowers with the right maturity	6	5	4	3	2	1
6	have cut flowers that are well graded	6	5	4	3	2	1
7	have cut flowers that are appropriately packed	6	5	4	3	2	1
8	have cut flowers that are good-looking	6	5	4	3	2	1
9	have cut flowers that store well	6	5	4	3	2	1
10	willingness to meet my intermediate needs	6	5	4	3	2	1
11	ability deliver cut flowers when required	6	5	4	3	2	1
12	have a good reputation	6	5	4	3	2	1
13	provide cut flowers that are competitively priced	6	5	4	3	2	1
14	offer a wide range of fresh cut flowers	6	5	4	3	2	1
15	be prepared to accept delayed payment	6	5	4	3	2	1
16	we have a long-standing relationship	6	5	4	3	2	1
17	have confidence together	6	5	4	3	2	1
18	have a contract	6	5	4	3	2	1
19	provide quality information of cut flowers	6	5	4	3	2	1

12. To what extent is your most preferred supplier able to fulfil your needs? On a scale of 1 to 6, please indicate how well you think this preferred supplier can meet EACH of these criteria.

(Note: 1 is “very well”, 2 is “well”, 3 is “partly well”, 4 is “partly not well”, 5 is “not well” and 6 is “not at all well”)

1	provide regular and stable volume	6	5	4	3	2	1
2	have cut flowers in the desired quality	6	5	4	3	2	1
3	have cut flowers that free of pests and disease	6	5	4	3	2	1
4	have cut flowers that are free of physical injury	6	5	4	3	2	1
5	provide cut flowers with the right maturity	6	5	4	3	2	1
6	have cut flowers that are well graded	6	5	4	3	2	1
7	have cut flowers that are appropriately packed	6	5	4	3	2	1
8	have cut flowers that are good-looking	6	5	4	3	2	1
9	have cut flowers that store well	6	5	4	3	2	1
10	willingness to meet my intermediate needs	6	5	4	3	2	1
11	ability deliver cut flowers when required	6	5	4	3	2	1
12	have a good reputation	6	5	4	3	2	1
13	provide cut flowers that are competitively priced	6	5	4	3	2	1
14	offer a wide range of fresh cut flowers	6	5	4	3	2	1
15	be prepared to accept delayed payment	6	5	4	3	2	1
16	we have a long-standing relationship	6	5	4	3	2	1
17	have confidence together	6	5	4	3	2	1
18	have a contract	6	5	4	3	2	1
19	provide quality information of cut flowers	6	5	4	3	2	1

13. a. What were the most important things that prevent your most preferred supplier from meeting your needs?

-.....
 -.....
 -.....

b. What did you think your most preferred supplier can do to improve the quality of cut flowers they supply?

.....
.....
.....

14. Turning now to think about your most preferred supplier, what criteria do you think were most important to this supplier in choosing to sell cut flowers to you?

.....
.....
.....

15. On a scale of 1 to 6, please indicate how important you think EACH of the following criteria were to your most preferred supplier in choosing between ALTERNATIVE BUYERS

(Note: 1 is “very important”, 2 is “important”, 3 is “partly important”, 4 is “partly not important”, 5 is “not important” and 6 is “not at all important”)

1	be able to buy supplier's cut flowers all year round	6	5	4	3	2	1
2	provide supplier with an acceptable price	6	5	4	3	2	1
3	pay on time	6	5	4	3	2	1
4	have confidence together	6	5	4	3	2	1
5	has a good reputation for doing business	6	5	4	3	2	1
6	offer to provide technical information	6	5	4	3	2	1
7	be willing to provide market information	6	5	4	3	2	1
8	do all activities: harvest, grade, pack and store cut flowers	6	5	4	3	2	1
9	can transport cut flower from supplier premises	6	5	4	3	2	1
10	be willing to meet suppliers' immediate needs	6	5	4	3	2	1
11	be geographically close to supplier	6	5	4	3	2	1
12	have a long-standing relationship with supplier	6	5	4	3	2	1
13	be in frequent communication with supplier	6	5	4	3	2	1

16. To what extent do you believe that you were able to fulfil your most preferred supplier's needs on EACH of the following criteria? On a scale of 1 to 6, please indicate how well you think you can meet EACH of these criteria.

(Note: 1 is “very well”, 2 is “well”, 3 is “partly well”, 4 is “partly not well”, 5 is “not well” and 6 is “not at all well”)

1	be able to buy supplier's cut flowers all year round	6	5	4	3	2	1
2	provide supplier with an acceptable price	6	5	4	3	2	1
3	pay on time	6	5	4	3	2	1
4	have confidence together	6	5	4	3	2	1
5	has a good reputation for doing business	6	5	4	3	2	1
6	offer to provide technical information	6	5	4	3	2	1
7	be willing to provide market information	6	5	4	3	2	1
8	do all activities: harvest, grade, pack and store cut flowers	6	5	4	3	2	1
9	can transport cut flower from supplier premises	6	5	4	3	2	1
10	be willing to meet suppliers' immediate needs	6	5	4	3	2	1
11	be geographically close to supplier	6	5	4	3	2	1
12	have a long-standing relationship with supplier	6	5	4	3	2	1
13	be in frequent communication with supplier	6	5	4	3	2	1

17. a. What were the most important things that prevent you from meeting your most preferred supplier's needs?
-
.....

- b. What things did you believe you can do to improve your ability to fulfil your most preferred supplier's needs?
-
.....

18. OVER THE LAST 12 MONTHS, what were the lowest, highest and average prices you paid per stem for cut flower, by variety and grade, to purchase the flowers from your most preferred supplier?

Rose	First	Second	Rejected	Ungraded
Highest				
Lowest				
Average				
Standard chrysanthemum	First	Second	Rejected	Ungraded
Highest				
Lowest				
Average				
Spray chrysanthemum	First	Second	Rejected	Ungraded
Highest				
Lowest				
Average				

19. How would you describe the nature of your relationship with your most preferred supplier?
-
.....
.....

20. Please respond to EACH of the following statements. Please circle your answer.

(Note: 1 is "strongly agree", 2 is "agree", 3 is "somewhat agree", 4 is "somewhat disagree", 5 is "disagree" and 6 is "strongly disagree")

1	I am satisfied with my transaction with my most preferred supplier	6	5	4	3	2	1
2	I am satisfied with the prices paid to my most preferred supplier	6	5	4	3	2	1
3	I am satisfied with the pay in full at an agreed time	6	5	4	3	2	1
4	Dealing with my most preferred supplier is less risky than others	6	5	4	3	2	1
5	My preferred supplier sell their cut flowers at a mutually agreed price	6	5	4	3	2	1
6	My most preferred supplier often meet my expectations	6	5	4	3	2	1
7	My supplier quickly respond to my concerns	6	5	4	3	2	1
8	My supplier and I have a close personal relationship	6	5	4	3	2	1
9	My supplier has the best offer relative to the other traders	6	5	4	3	2	1
10	My supplier sell me their produce all year round	6	5	4	3	2	1

21. Please respond to EACH of the following statements. Please circle your answer.

1	I trust my most preferred supplier	6	5	4	3	2	1
2	My most preferred supplier has a good reputation	6	5	4	3	2	1
3	My most preferred supplier is always honest	6	5	4	3	2	1
4	My most preferred supplier always considers my best interests	6	5	4	3	2	1
5	My most preferred supplier always keep their promises	6	5	4	3	2	1
6	I believe in the information provided by my most preferred supplier	6	5	4	3	2	1
7	My supplier follows to the agreement between us	6	5	4	3	2	1
8	I know my most preferred supplier very well	6	5	4	3	2	1
9	I understand my most preferred supplier's problems	6	5	4	3	2	1

22. Please respond to EACH of the following statements. Please circle your answer.

1	I expect my relationship with my most preferred supplier to continue in the future	6	5	4	3	2	1
2	It is more cost effective for me to rely on my preferred cut flower supplier rather than search for alternative suppliers	6	5	4	3	2	1
3	My most preferred supplier makes efforts to help me	6	5	4	3	2	1
4	I do not intend to change my supplier	6	5	4	3	2	1
5	My most preferred supplier do not breach the agreement/contract between us	6	5	4	3	2	1

23. Please respond to EACH of the following statements. Please circle your answer.

1	My most preferred supplier keeps me well informed on price in the cut flower market	6	5	4	3	2	1
2	My most preferred supplier frequently asks me how they might improve the level of product quality	6	5	4	3	2	1
3	We often discuss better way to pack, grade, store and transport cut flowers	6	5	4	3	2	1
4	There is frequent contact with my most preferred supplier	6	5	4	3	2	1
5	It is relatively easy to contact my most preferred supplier	6	5	4	3	2	1

24. Please respond to EACH of the following statements. Please circle your answer.

1	My most preferred supplier provides financial assistance	6	5	4	3	2	1
2	My most preferred supplier keeps me well informed on technical matters	6	5	4	3	2	1
3	I prefer to transact with local suppliers	6	5	4	3	2	1
4	My most preferred supplier is willing to share the risk (crop failure, unsold)	6	5	4	3	2	1
5	My most preferred supplier and me work together for mutual benefits	6	5	4	3	2	1
6	There is a good cooperation between my supplier and myself	6	5	4	3	2	1
7	Cooperation based on the contract between my supplier and me	6	5	4	3	2	1

25. Please respond to EACH of the following statements. Please circle your answer.

1	My most preferred supplier has all the power in our relationship	6	5	4	3	2	1
2	My most preferred supplier controls all the information in our relationship	6	5	4	3	2	1
3	My most preferred supplier will not take advantage of a strong bargaining position (not price pressure)	6	5	4	3	2	1
4	My most preferred supplier exerts a strong influence over us	6	5	4	3	2	1
5	I must to do what this supplier says	6	5	4	3	2	1
6	My most preferred supplier have a right to sell or not to sell the cut flowers	6	5	4	3	2	1

Section 3. To whom you sell cut flowers

26. a. To how many buyers do you sell the flowers you have purchased?
 b. FOR THE LAST 12 MONTHS, what percentage of the flowers that you purchased were sold to?

Buyer	Percentage (%)			
	Rose	Standard chrysanthemum	Spray chrysanthemum	Others
Wholesalers				
Traders				
Company				
Retailers				
Exporters				
Consumers				
Total	100%	100%	100%	100%

c. Were these percentages the same for the last 2 years?

Yes

No

If NO, what has changed?

.....
.....
.....

d. What type of buyer is your most preferred buyer? (Please circle the buyers in the **Question 26b**)

e. Can you please name your most preferred buyer?.....

f. For how many years have you been trading with your most preferred buyer?.....years

g. If you don't sell any cut flower to the rest, why is that? (Please answer about the person you did not trade with)

Wholesalers:.....

.....
.....

Traders:.....

.....
.....

Company:.....

.....
.....

Retailers:.....

.....
.....

Exporters:.....

.....
.....

27. a. Did you have a contract with your most preferred buyer?

Yes

No (**Go to Question 28**)

b. How many years has this contract left to run?years

c. What were the term and conditions between you and your most preferred buyer under this contract?

.....
.....
.....

d. What advantages/benefits did you believe you have obtained by operating under this contract?

.....
.....
.....

e. What problems/difficulties have you experienced operating under this contract?

.....
.....
.....

f. What actions/events have strengthened the relationship?

.....

.....
.....
.....
.....
g. What actions/events have weakened the relationship?

28. a. Did you use any postharvest treatment prior to grading or sale to your most preferred buyer?

Yes

No (**Go to Question 29**)

- b. If YES, what chemicals did you use?

- c. How much chemical did you use per bucket?

- d. How many flower stems per bucket?

Rose:stems

Standard chrysanthemum:stems

Spray chrysanthemum:stems

- e. How much does the average cost of chemical for a bucket?

29. a. Did you grade/regrade the flowers prior to sale to your most preferred buyer?

Yes

No (**Go to Question 30**)

- b. What percentage of the flowers purchased fell into each of the following grades?

	First	Second	Rejected	Total
Rose				100%
Standard chrysanthemum				100%
Spray chrysanthemum				100%

- c. What were the main reasons for this rejection?

- d. What did you do with these flowers rejected?

30. a. Did you bunch the flowers prior to sale to your most preferred buyer?

Yes

No (**Go to Question 30d**)

- b. If YES, how many stems per bunch?

Rose:stems

Standard chrysanthemum:stems

Spray chrysanthemum:stems

c. What was the approximate cost for materials?

d. Did you pack the flowers prior to sale to your most preferred buyer?

Yes

No (**Go to Question 30h**)

If YES	Rose	Standard chrysanthemum	Spray chrysanthemum
e. How many bunches per carton?			
f. Number of hours graded, bunched and packed per day?			
g. Number of people involved?			

h. Did you buy cartons to pack prior to sale to your most preferred buyer?

Yes

No (**Go to Question 31**)

i. If YES, what was the approximate cost for a carton?

j. How many cartons did you buy?

k. For how long?

31. a. Did you store the flowers in a cold store prior to sale to your most preferred buyer?

Yes

No (**Go to Question 32**)

b. What percentage of the flowers did you cold store?

Rose:%
Standard chrysanthemum:%
Spray chrysanthemum:%

c. For how many days did you store the flowers?.....

d. What was the approximately cost to cold store the flowers for this period time?.....

e. What percentage of losses occurred during cold store?

Rose:%
Standard chrysanthemum:%
Spray chrysanthemum:%

f. What were the main reasons for this loss?

.....
.....
.....

32. a. Were you responsible for the cost of delivering the flowers to your most preferred buyer?

Yes

No (**Go to Question 32g**)

b. If YES, how much the average cost per turn was to deliver the flower to your most preferred buyer?.....

c. Number of turns delivered per day?

d. How many box per turn?

e. What percentage of losses occurred during transport?%
.....

f. What were the main reasons for this loss?.....
.....

g. Were you responsible for the loading and unloading cost?

Yes

No (**Go to Question 33**)

h. If YES, how much does the total loading/unloading cost per day?.....

33. Why did you choose to sell the flowers to your most preferred buyer?

.....
.....
.....

34. In choosing between ALTERNATIVE BUYERS, how important were EACH of the following factors. Please circle the appropriate response.

(Note: 1 is “very important”, 2 is “important”, 3 is “partly important”, 4 is “partly not important”, 5 is “not important” and 6 is “not at all important”)

1	be able to buy my cut flowers all year round	6	5	4	3	2	1
2	provide me with an acceptable price	6	5	4	3	2	1
3	pay on time	6	5	4	3	2	1
4	have confidence together	6	5	4	3	2	1
5	has a good business reputation	6	5	4	3	2	1
6	provides technical information/advice	6	5	4	3	2	1
7	provides market information	6	5	4	3	2	1
8	do all activities: harvest, grade, pack and store cut flowers	6	5	4	3	2	1
9	can transport cut flower from my farm	6	5	4	3	2	1
10	is willing to meet my immediate needs	6	5	4	3	2	1
11	is geographically close to me	6	5	4	3	2	1
12	we have a long-standing relationship	6	5	4	3	2	1
13	is in frequent communication with me	6	5	4	3	2	1

35. To what extent is your most preferred buyer able to fulfil your needs? On a scale of 1 to 6, please indicate how well you think your most preferred buyer can meet EACH of these criteria.

(Note: 1 is “very well”, 2 is “well”, 3 is “partly well”, 4 is “partly not well”, 5 is “not well” and 6 is “not at all well”)

1	be able to buy my cut flowers all year round	6	5	4	3	2	1
2	provide me with an acceptable price	6	5	4	3	2	1
3	pay on time	6	5	4	3	2	1
4	have confidence together	6	5	4	3	2	1
5	has a good business reputation	6	5	4	3	2	1
6	provides technical information/advice	6	5	4	3	2	1
7	provides market information	6	5	4	3	2	1
8	do all activities: harvest, grade, pack and store cut flowers	6	5	4	3	2	1
9	can transport cut flower from my farm	6	5	4	3	2	1
10	is willing to meet my immediate needs	6	5	4	3	2	1
11	is geographically close to me	6	5	4	3	2	1
12	we have a long-standing relationship	6	5	4	3	2	1
13	is in frequent communication with me	6	5	4	3	2	1

36. What were the most important things that prevent your most preferred buyer from meeting your needs?

.....
.....
.....

37. What criteria do you think are most important to your most preferred buyer in their decision to purchase the flowers from you?

.....
.....
.....

38. On a scale of 1 to 6, please indicate how important you believe EACH of the following criteria were to your most preferred buyer in choosing between ALTERNATIVE SUPPLIERS

(Note: 1 is “very important”, 2 is “important”, 3 is “partly important”, 4 is “partly not important”, 5 is “not important” and 6 is “not at all important”)

1	provide regular and stable volume	6	5	4	3	2	1
2	have cut flowers in the desired quality	6	5	4	3	2	1
3	have cut flowers that free of pests and disease	6	5	4	3	2	1
4	have cut flowers that are free of physical injury	6	5	4	3	2	1
5	have cut flowers with the right maturity	6	5	4	3	2	1
6	have cut flowers that are well graded	6	5	4	3	2	1
7	have cut flowers that are appropriately packed	6	5	4	3	2	1
8	have cut flowers that are good-looking	6	5	4	3	2	1
9	have cut flowers that store well	6	5	4	3	2	1
10	be willing to meet their intermediate needs	6	5	4	3	2	1
11	ability to deliver cut flowers when required	6	5	4	3	2	1
12	have a good reputation	6	5	4	3	2	1
13	provide cut flowers that are competitively priced	6	5	4	3	2	1
14	offer a wide range of fresh cut flowers	6	5	4	3	2	1
15	be able to give credit (deferred payment)	6	5	4	3	2	1
16	we have a long-standing relationship	6	5	4	3	2	1
17	have confidence together	6	5	4	3	2	1
18	have a contract	6	5	4	3	2	1
19	provide quality information of cut flowers	6	5	4	3	2	1

39. To what extent do you believe that you were able to fulfil your most preferred buyer’s needs for EACH of following criteria? On a scale of 1 to 6, please indicate how well you think you met EACH of these criteria.

(Note: 1 is “very well”, 2 is “well”, 3 is “partly well”, 4 is “partly not well”, 5 is “not well” and 6 is “not at all well”)

1	provide regular and stable volume	6	5	4	3	2	1
2	have cut flowers in the desired quality	6	5	4	3	2	1
3	have cut flowers that free of pests and disease	6	5	4	3	2	1
4	have cut flowers that are free of physical injury	6	5	4	3	2	1
5	have cut flowers with the right maturity	6	5	4	3	2	1
6	have cut flowers that are well graded	6	5	4	3	2	1
7	have cut flowers that are appropriately packed	6	5	4	3	2	1
8	have cut flowers that are good-looking	6	5	4	3	2	1
9	have cut flowers that store well	6	5	4	3	2	1
10	be willing to meet their intermediate needs	6	5	4	3	2	1
11	ability to deliver cut flowers when required	6	5	4	3	2	1
12	have a good reputation	6	5	4	3	2	1
13	provide cut flowers that are competitively priced	6	5	4	3	2	1
14	offer a wide range of fresh cut flowers	6	5	4	3	2	1
15	prepare to accept delayed payment	6	5	4	3	2	1
16	we have a long-standing relationship	6	5	4	3	2	1
17	have confidence together	6	5	4	3	2	1
18	have a contract	6	5	4	3	2	1
19	provide quality information of cut flowers	6	5	4	3	2	1

40. a. What were the most important things that prevent or stop you from meeting your most preferred buyer's needs?
-
.....

- b. What things can you do to improve your ability to fulfil your most preferred buyer's needs?
-
.....

41. OVER THE LAST 12 MONTHS, what were the lowest, highest and average prices you receive PER STEM by grade from your most preferred buyer?

Rose	First	Second	Rejected	Ungraded
Highest				
Lowest				
Average				
Standard chrysanthemum	First	Second	Rejected	Ungraded
Highest				
Lowest				
Average				
Spray chrysanthemum	First	Second	Rejected	Ungraded
Highest				
Lowest				
Average				

42. How would you describe the nature of your relationship with your most preferred buyer?
-
.....

43. Please respond to EACH of the following statements concerning the nature of the relationship between you and your most preferred buyer. Please circle your answer.

(Note: 1 is "strongly agree", 2 is "agree", 3 is "somewhat agree", 4 is "somewhat disagree", 5 is "disagree" and 6 is "strongly disagree")

1	I am satisfied with my transaction with my most preferred buyer	6	5	4	3	2	1
2	I am satisfied with the prices received from my most preferred buyer	6	5	4	3	2	1
3	I am satisfied with the pay in full at an agreed time	6	5	4	3	2	1
4	Dealing with my most preferred buyer is less risky than others	6	5	4	3	2	1
5	My most preferred buyer purchase my cut flowers at a mutually agreed price	6	5	4	3	2	1
6	My most preferred buyer often meet my expectations	6	5	4	3	2	1
7	My most preferred buyer quickly respond to my concerns	6	5	4	3	2	1
8	My most preferred buyer and I have a close personal relationship	6	5	4	3	2	1
9	My most preferred buyer has the best offer relative to the other traders	6	5	4	3	2	1
10	My most preferred buyer purchase my products all year round	6	5	4	3	2	1

44. Please respond to EACH of the following statements concerning the nature of the relationship between you and your most preferred buyer. Please circle your answer.

1	I trust my most preferred buyer	6	5	4	3	2	1
2	My most preferred buyer has a good reputation	6	5	4	3	2	1
3	My most preferred buyer is always honest	6	5	4	3	2	1
4	My most preferred buyer always considers my best interests	6	5	4	3	2	1
5	My most preferred buyer always keep their promises	6	5	4	3	2	1
6	I believe in the information provided by my most preferred buyer	6	5	4	3	2	1
7	My most preferred buyer follows to the agreement between us	6	5	4	3	2	1
8	I know my most preferred buyer very well	6	5	4	3	2	1
9	I understand my most preferred buyer's problems	6	5	4	3	2	1

45. Please respond to EACH of the following statements concerning the nature of the relationship between you and your most preferred buyer. Please circle your answer.

1	I expect my relationship with my preferred buyer to continue in the future	6	5	4	3	2	1
2	It is more cost effective for me to rely on my most preferred buyer rather than search for alternative buyers	6	5	4	3	2	1
3	My most preferred buyer makes efforts to help me	6	5	4	3	2	1
4	I do not intend to change my most preferred buyer	6	5	4	3	2	1
5	My preferred buyer do not breach the agreement/contract between us	6	5	4	3	2	1

46. Please respond to EACH of the following statements concerning the nature of the relationship between you and your most preferred buyer. Please circle your answer.

1	My most preferred buyer keeps me well informed on price in the cut flower market	6	5	4	3	2	1
2	My most preferred buyer frequently asks me how they might improve the level of product quality	6	5	4	3	2	1
3	We often discuss better way to pack, grade, store and transport cut flowers	6	5	4	3	2	1
4	There is frequent contact with my most preferred buyer	6	5	4	3	2	1
5	It is relatively easy to contact my most preferred buyer	6	5	4	3	2	1

47. Please respond to EACH of the following statements concerning the nature of the relationship between you and your most preferred buyer. Please circle your answer.

1	My most preferred buyer provides financial assistance	6	5	4	3	2	1
2	My most preferred buyer keeps me well informed on technical matters	6	5	4	3	2	1
3	I prefer to transact with local buyers	6	5	4	3	2	1
4	My most preferred buyer is willing to share the risk (crop failure, unsold)	6	5	4	3	2	1
5	My most preferred buyer and me work together for mutual benefits	6	5	4	3	2	1
6	There is a good cooperation between my buyer and myself	6	5	4	3	2	1
7	Cooperation based on the contract between my buyer and me	6	5	4	3	2	1

48. Please respond to EACH of the following statements concerning the nature of the relationship between you and your most preferred buyer. Please circle your answer.

1	My most preferred buyer has all the power in our relationship	6	5	4	3	2	1
2	My most preferred buyer controls all the information in our relationship	6	5	4	3	2	1
3	My most preferred buyer will not take advantage of a strong bargaining position (not price pressure)	6	5	4	3	2	1
4	My most preferred buyer exerts a strong influence over us	6	5	4	3	2	1
5	I must to do what my preferred buyer says	6	5	4	3	2	1
6	My most preferred buyer have a right to buy or not to buy the cut flowers	6	5	4	3	2	1

THANK YOU FOR PARTICIPATING IN THIS REVIEW. YOUR TIME AND THE INFORMATION THAT YOU HAVE PROVIDED ARE GREATLY APPRECIATED

Appendix 7. Questionnaires for retailers

Day:/...../2010

Name of participant:.....ID:

Section 1. About your business

1. a. Location of your business:

b. Type of retailer shops (Please tick appropriate box below)

Flower shop Flower stall Fruit and flower stall Hawker

c. Are you engaged in any other activities apart from cut flower trading?

Yes No

d. If YES, please specify

.....
.....
.....

2. For how many years have you been buying/selling cut flowers?years

3. What average quantity of cut flowers did you purchase PER DAY all year round?

Rose:bunches. Average number stems per bunch:.....

Standard chrysanthemum:bunches. Average number stems per bunch:.....

Spray chrysanthemum:bunches. Average number stems per bunch:.....

Other cut flowers:bunches. Average number stems per bunch:.....

4. a. NEXT YEAR, do you expect your sales to (Please tick appropriate box below)

increase decrease stay the same

b. If your answer is increase or decrease, why do you expect your sales to change?

.....
.....

5. a. Are your sales constant all year round?

Yes No

b. If NO, at what time of the years do sales peak?

.....
.....

Section 2. From whom you purchase cut flower

6. a. From how many suppliers did you purchase cut flowers?

b. OVER THE LAST 12 MONTHS, what percentage of the total amount chrysanthemums and roses did you buy from EACH of the following suppliers?

Supplier	Percentage (%)			
	Rose	Standard chrysanthemum	Spray chrysanthemum	Others
Farmers				
Traders				
Wholesalers				
Company				
Total	100%	100%	100%	100%

c. Were these percentages the same for the last 2 years?

Yes

No

If NO, what has changed?

.....
.....
.....

d. What type of supplier is your most preferred supplier? (Please circle the suppliers in the **Question 6b**)

e. Can you please name your most preferred supplier?

f. For how many years have you been trading with your most preferred supplier?.....years

g. If you don't purchase any cut flower from the rest, why is that? (Please answer about the person you did not purchase from)

Farmers:.....

.....
Wholesalers:.....

.....
Traders:.....

.....
Company:.....

7. a. Did you have a contract with your most preferred supplier?

Yes

No (**Go to Question 8**)

b. For how many years has this contract left to run?years

c. What were the term and conditions between you and your most preferred supplier under the contract?

.....
.....

d. What advantages/benefits do you believe you have obtained by operating under a contract?

.....
.....

e. What problems/difficulties have you experienced under the contract?

.....
.....

f. What actions/events have strengthened the relationships?

.....
.....

g. What actions/events have weakened the relationships?

.....
.....

8. a. Did you harvest the flowers you purchase from your most preferred supplier?

Yes

No (**Go to Question 9**)

	Rose	Standard chrysanthemum	Spray chrysanthemum
b. Number of stems harvested per day			
c. How long the harvest process took place per day?			
d. Number of people involved?			
e. How often did you harvest for each variety?			

f. What percent of flower do you reject at the time of harvest as being unmarketable?

Rose: %

Standard chrysanthemum: %

Spray chrysanthemum: %

g. What were the main reasons for this rejection?

-
-
-

9. a. Did you use any treatment prior to grading or sale?

Yes

No (**Go to Question 10**)

b. If YES, what chemicals did you use?

-
-
-

c. How much chemical do you use per bucket?.....

d. How many stems per bucket?

Rose: stems

Standard chrysanthemum: stems

Spray chrysanthemum: stems

e. How much does the average cost of chemical for a bucket?.....

10. a. Did you grade/regrade the flowers purchased from your most preferred supplier prior to sale?

Yes

No (**Go to Question 11**)

b. What percentage of the cut flowers fell into each of the following grades?

	First	Second	Rejected	Total
Rose				100%
Standard chrysanthemum				100%
Spray chrysanthemum				100%

c. What were the main reasons for this rejection?

-
-

13. a. Were you responsible for the costs of receiving the flowers from your most preferred supplier?

Yes

No (**Go to Question 13g**)

b. If YES, how much the average cost per turn was to transport the cut flowers from your most supplier?

c. Number of turns delivered per day?

d. How many stems per turn?

e. What percentage of losses occurred during transport? %

f. What were the main reasons for this loss?

.....
.....
.....

g. Were you responsible for the loading and unloading cost?

Yes

No (**Go to Question 14**)

h. If YES, how much did the total loading /unloading cost per day?.....

14. Why did you decide to purchase the flowers from your most preferred supplier?

.....
.....
.....

15. In choosing between ALTERNATIVE SUPPLIERS, how important were EACH of the following factors. Please circle the appropriate response.

(Note: 1 is “very important”, 2 is “important”, 3 is “partly important”, 4 is “partly not important”, 5 is “not important” and 6 is “not at all important”)

1	provide regular and stable volume	6	5	4	3	2	1
2	have cut flowers in the desired quality	6	5	4	3	2	1
3	have cut flowers that free of pests and disease	6	5	4	3	2	1
4	have cut flowers that are free of physical injury	6	5	4	3	2	1
5	provide cut flowers with the right maturity	6	5	4	3	2	1
6	have cut flowers that are well graded	6	5	4	3	2	1
7	have cut flowers that are appropriately packed	6	5	4	3	2	1
8	have cut flowers that are good-looking	6	5	4	3	2	1
9	have cut flowers that store well	6	5	4	3	2	1
10	willingness to meet my intermediate needs	6	5	4	3	2	1
11	ability deliver cut flowers when required	6	5	4	3	2	1
12	have a good reputation	6	5	4	3	2	1
13	provide cut flowers that are competitively priced	6	5	4	3	2	1
14	offer a wide range of fresh cut flowers	6	5	4	3	2	1
15	be prepared to accept delayed payment	6	5	4	3	2	1
16	we have a long-standing relationship	6	5	4	3	2	1
17	have confidence together	6	5	4	3	2	1
18	have a contract	6	5	4	3	2	1
19	provide quality information of cut flowers	6	5	4	3	2	1

16. To what extent is your most preferred supplier able to fulfil your needs? On a scale of 1 to 6, please indicate how well you think this preferred supplier can meet EACH of these criteria.

(Note: 1 is “very well”, 2 is “well”, 3 is “partly well”, 4 is “partly not well”, 5 is “not well” and 6 is “not at all well”)

1	provide regular and stable volume	6	5	4	3	2	1
2	have cut flowers in the desired quality	6	5	4	3	2	1
3	have cut flowers that free of pests and disease	6	5	4	3	2	1
4	have cut flowers that are free of physical injury	6	5	4	3	2	1
5	provide cut flowers with the right maturity	6	5	4	3	2	1
6	have cut flowers that are well graded	6	5	4	3	2	1
7	have cut flowers that are appropriately packed	6	5	4	3	2	1
8	have cut flowers that are good-looking	6	5	4	3	2	1
9	have cut flowers that store well	6	5	4	3	2	1
10	willingness to meet my intermediate needs	6	5	4	3	2	1
11	ability deliver cut flowers when required	6	5	4	3	2	1
12	have a good reputation	6	5	4	3	2	1
13	provide cut flowers that are competitively priced	6	5	4	3	2	1
14	offer a wide range of fresh cut flowers	6	5	4	3	2	1
15	be prepared to accept delayed payment	6	5	4	3	2	1
16	we have a long-standing relationship	6	5	4	3	2	1
17	have confidence together	6	5	4	3	2	1
18	have a contract	6	5	4	3	2	1
19	provide quality information of cut flowers	6	5	4	3	2	1

17. a. What were the most important things that prevent your most preferred supplier from meeting your needs?

.....

.....

b. What did you think your most preferred supplier can do to improve the quality of cut flowers they supply?

.....

.....

18. Turning now to think about your most preferred supplier, what criteria do you think were most important to this supplier in choosing to sell cut flowers to you?

.....

19. On a scale of 1 to 6, please indicate how important you think EACH of the following criteria were to your most preferred supplier in choosing between ALTERNATIVE BUYERS

(Note: 1 is “very important”, 2 is “important”, 3 is “partly important”, 4 is “partly not important”, 5 is “not important” and 6 is “not at all important”)

1	be able to buy supplier’s cut flowers all year round	6	5	4	3	2	1
2	provide supplier with an acceptable price	6	5	4	3	2	1
3	pay on time	6	5	4	3	2	1
4	have confidence together	6	5	4	3	2	1
5	has a good reputation for doing business	6	5	4	3	2	1
6	offer to provide technical information	6	5	4	3	2	1
7	be willing to provide market information	6	5	4	3	2	1
8	do all activities: harvest, grade, pack and store cut flowers	6	5	4	3	2	1
9	can transport cut flower from supplier premises	6	5	4	3	2	1
10	be willing to meet suppliers’ immediate needs	6	5	4	3	2	1
11	be geographically close to supplier	6	5	4	3	2	1
12	have a long-standing relationship with supplier	6	5	4	3	2	1
13	be in frequent communication with supplier	6	5	4	3	2	1

20. To what extent do you believe that you were able to fulfil your most preferred supplier's needs on EACH of the following criteria? On a scale of 1 to 6, please indicate how well you think you can meet EACH of these criteria.

(Note: 1 is "very well", 2 is "well", 3 is "partly well", 4 is "partly not well", 5 is "not well" and 6 is "not at all well")

1	be able to buy supplier's cut flowers all year round	6	5	4	3	2	1
2	provide supplier with an acceptable price	6	5	4	3	2	1
3	pay on time	6	5	4	3	2	1
4	have confidence together	6	5	4	3	2	1
5	has a good reputation for doing business	6	5	4	3	2	1
6	offer to provide technical information	6	5	4	3	2	1
7	be willing to provide market information	6	5	4	3	2	1
8	do all activities: harvest, grade, pack and store cut flowers	6	5	4	3	2	1
9	can transport cut flower from supplier premises	6	5	4	3	2	1
10	be willing to meet suppliers' immediate needs	6	5	4	3	2	1
11	be geographically close to supplier	6	5	4	3	2	1
12	have a long-standing relationship with supplier	6	5	4	3	2	1
13	be in frequent communication with supplier	6	5	4	3	2	1

21. a. What were the most important things that prevent you from meeting your most preferred supplier's needs?

-.....
-.....
-.....

b. What things did you believe you can do to improve your ability to fulfil your most preferred supplier's needs?

-.....
-.....
-.....

22. OVER THE LAST 12 MONTHS, what were the lowest, highest and average prices you paid per stem for cut flower, by variety and grade, to purchase the flowers from your most preferred supplier?

Rose	First	Second	Rejected	Ungraded
Highest				
Lowest				
Average				
Standard chrysanthemum	First	Second	Rejected	Ungraded
Highest				
Lowest				
Average				
Spray chrysanthemum	First	Second	Rejected	Ungraded
Highest				
Lowest				
Average				

23. How would you describe the nature of your relationship with your most preferred supplier?

-.....
-.....
-.....

24. Please respond to EACH of the following statements. Please circle your answer.

(Note: 1 is “strongly agree”, 2 is “agree”, 3 is “somewhat agree”, 4 is “somewhat disagree”, 5 is “disagree” and 6 is “strongly disagree”)

1	I am satisfied with my transaction with my most preferred supplier	6	5	4	3	2	1
2	I am satisfied with the prices paid to my most preferred supplier	6	5	4	3	2	1
3	I am satisfied with the pay in full at an agreed time	6	5	4	3	2	1
4	Dealing with my most preferred supplier is less risky than others	6	5	4	3	2	1
5	My preferred supplier sell their cut flowers at a mutually agreed price	6	5	4	3	2	1
6	My most preferred supplier often meet my expectations	6	5	4	3	2	1
7	My supplier quickly respond to my concerns	6	5	4	3	2	1
8	My supplier and I have a close personal relationship	6	5	4	3	2	1
9	My supplier has the best offer relative to the other traders	6	5	4	3	2	1
10	My supplier sell me their produce all year round	6	5	4	3	2	1

25. Please respond to EACH of the following statements. Please circle your answer.

1	I trust my most preferred supplier	6	5	4	3	2	1
2	My most preferred supplier has a good reputation	6	5	4	3	2	1
3	My most preferred supplier is always honest	6	5	4	3	2	1
4	My most preferred supplier always considers my best interests	6	5	4	3	2	1
5	My most preferred supplier always keep their promises	6	5	4	3	2	1
6	I believe in the information provided by my most preferred supplier	6	5	4	3	2	1
7	My supplier follows to the agreement between us	6	5	4	3	2	1
8	I know my most preferred supplier very well	6	5	4	3	2	1
9	I understand my most preferred supplier’s problems	6	5	4	3	2	1

26. Please respond to EACH of the following statements. Please circle your answer.

1	I expect my relationship with my most preferred supplier to continue in the future	6	5	4	3	2	1
2	It is more cost effective for me to rely on my preferred cut flower supplier rather than search for alternative suppliers	6	5	4	3	2	1
3	My most preferred supplier makes efforts to help me	6	5	4	3	2	1
4	I do not intend to change my supplier	6	5	4	3	2	1
5	My most preferred supplier do not breach the agreement/contract between us	6	5	4	3	2	1

27. Please respond to EACH of the following statements. Please circle your answer.

1	My most preferred supplier keeps me well informed on price in the cut flower market	6	5	4	3	2	1
2	My most preferred supplier frequently asks me how they might improve the level of product quality	6	5	4	3	2	1
3	We often discuss better way to pack, grade, store and transport cut flowers	6	5	4	3	2	1
4	There is frequent contact with my most preferred supplier	6	5	4	3	2	1
5	It is relatively easy to contact my most preferred supplier	6	5	4	3	2	1

28. Please respond to EACH of the following statements. Please circle your answer.

1	My most preferred supplier provides financial assistance	6	5	4	3	2	1
2	My most preferred supplier keeps me well informed on technical matters	6	5	4	3	2	1
3	I prefer to transact with local suppliers	6	5	4	3	2	1
4	My most preferred supplier is willing to share the risk (crop failure, unsold)	6	5	4	3	2	1
5	My most preferred supplier and me work together for mutual benefits	6	5	4	3	2	1
6	There is a good cooperation between my supplier and myself	6	5	4	3	2	1
7	Cooperation based on the contract between my supplier and me	6	5	4	3	2	1

29. Please respond to EACH of the following statements. Please circle your answer.

1	My most preferred supplier has all the power in our relationship	6	5	4	3	2	1
2	My most preferred supplier controls all the information in our relationship	6	5	4	3	2	1
3	My most preferred supplier will not take advantage of a strong bargaining position (not price pressure)	6	5	4	3	2	1
4	My most preferred supplier exerts a strong influence over us	6	5	4	3	2	1
5	I must do what this supplier says	6	5	4	3	2	1
6	My most preferred supplier have a right to sell or not to sell the cut flowers	6	5	4	3	2	1

Section 3. Other suppliers

30. Excepted your most preferred buyer above, did you sell the chrysanthemums to the other types of buyer?

Yes

No (**Go to Question 31**)

If NO, THANH YOU FOR YOUR COOPERATION

31. a. What type of supplier is your second preferred supplier?.....

b. Can you please name this supplier?.....

c. For how many years have you been trading with this supplier?years

32. a. Did you have a contract with this supplier?

Yes

No (**Go to Question 33**)

b. For how many years has this contract left to run?years

c. Was there any formal document signed between you and the contractor?

Yes

No

d. What were the term and conditions between you and this supplier under the contract?

.....
.....
.....

e. Whether the existing system was profitable for both of you?

Yes

No

f. What advantages/benefits did you believe you have obtained by operating under a contract?

.....
.....
.....

g. What problems/difficulties have you experienced under the contract?

.....
.....
.....

h. What actions/events have strengthened the relationships?

.....
.....
.....

k. What actions/events have weakened the relationships?

.....
.....
.....

33. a. Did you harvest the flowers you purchased from this supplier?

Yes

No (Go to Question 34)

	Rose	Standard chrysanthemum	Spray chrysanthemum
b. Number of stems harvested per day			
c. How long the harvest process took place per day?			
d. Number of people involved?			
e. How often did you harvest for each variety?			

f. What percent of flower do you reject at the time of harvest as being unmarketable?

Rose:%
Standard chrysanthemum:%
Spray chrysanthemum:%

g. What were the main reasons for this rejection?

.....
.....
.....

34. a. Did you use any treatment the flower purchased from this supplier prior to grading or sale?

Yes

No (Go to Question 35)

b. If YES, what chemicals did you use?

.....
.....
.....

c. How much chemical do you use per bucket?

d. How many stems per bucket?

Rose:stems
Standard chrysanthemum:stems
Spray chrysanthemum:stems

e. How much does the average cost of chemical for a bucket?

35. a. Did you grade/regrade the flowers purchased from this supplier prior to sale?

Yes

No (Go to Question 36)

b. What percentage of the flowers fell into each of the following grades?

	First	Second	Rejected	Total
Rose				100%
Standard chrysanthemum				100%
Spray chrysanthemum				100%

f. What were the main reasons for this loss?

.....
.....
.....

38. a. Were you responsible for the costs of receiving the flowers from this supplier?

Yes

No (**Go to Question 38g**)

b. If YES, how much the average cost per turn was to transport the flowers from this supplier?

.....
.....
.....
.....
.....

c. Number of turns delivered per day?

d. How many stems per turn?

e. What percentage of losses occurred during transport? %

f. What were the main reasons for this loss?

.....
.....
.....
.....

g. Were you responsible for the loading and unloading cost?

Yes

No (**Go to Question 39**)

h. If YES, how much did the total loading /unloading cost per day?

39. Why did you decide to purchase the flowers from this supplier?

.....
.....
.....

40. To what extent is this supplier able to fulfil your needs? On a scale of 1 to 6, please indicate how well you think this supplier can meet EACH of these criteria.

(Note: 1 is “very well”, 2 is “well”, 3 is “partly well”, 4 is “partly not well”, 5 is “not well” and 6 is “not at all well”)

1	provide regular and stable volume	6	5	4	3	2	1
2	have cut flowers in the desired quality	6	5	4	3	2	1
3	have cut flowers that free of pests and disease	6	5	4	3	2	1
4	have cut flowers that are free of physical injury	6	5	4	3	2	1
5	provide cut flowers with the right maturity	6	5	4	3	2	1
6	have cut flowers that are well graded	6	5	4	3	2	1
7	have cut flowers that are appropriately packed	6	5	4	3	2	1
8	have cut flowers that are good-looking	6	5	4	3	2	1
9	have cut flowers that store well	6	5	4	3	2	1
10	willingness to meet my intermediate needs	6	5	4	3	2	1
11	ability deliver cut flowers when required	6	5	4	3	2	1
12	have a good reputation	6	5	4	3	2	1
13	provide cut flowers that are competitively priced	6	5	4	3	2	1
14	offer a wide range of fresh cut flowers	6	5	4	3	2	1
15	be prepared to accept delayed payment	6	5	4	3	2	1
16	we have a long-standing relationship	6	5	4	3	2	1
17	have confidence together	6	5	4	3	2	1
18	have a contract	6	5	4	3	2	1
19	provide quality information of cut flowers	6	5	4	3	2	1

41. a. What were the most important things that prevent this supplier from meeting your needs?

.....
.....
.....
.....

b. What did you think this supplier can do to improve the quality of cut flowers they supply?

.....
.....
.....
.....

42. Turning now to think about this supplier, to what extent do you believe that you were able to fulfil this supplier's needs on EACH of the following criteria? On a scale of 1 to 6, please indicate how well you think you can meet EACH of these criteria.

(Note: 1 is "very well", 2 is "well", 3 is "partly well", 4 is "partly not well", 5 is "not well" and 6 is "not at all well")

1	be able to buy supplier's cut flowers all year round	6	5	4	3	2	1
2	provide supplier with an acceptable price	6	5	4	3	2	1
3	pay on time	6	5	4	3	2	1
4	have confidence together	6	5	4	3	2	1
5	has a good reputation for doing business	6	5	4	3	2	1
6	offer to provide technical information	6	5	4	3	2	1
7	be willing to provide market information	6	5	4	3	2	1
8	do all activities: harvest, grade, pack and store cut flowers	6	5	4	3	2	1
9	can transport cut flower from supplier premises	6	5	4	3	2	1
10	be willing to meet suppliers' immediate needs	6	5	4	3	2	1
11	be geographically close to supplier	6	5	4	3	2	1
12	have a long-standing relationship with supplier	6	5	4	3	2	1
13	be in frequent communication with supplier	6	5	4	3	2	1

43. a. What were the most important things that prevent you from meeting this supplier's needs?

.....
.....
.....
.....

b. What things did you believe you can do to improve your ability to fulfil this supplier's needs?

.....
.....
.....
.....

44. OVER THE LAST 12 MONTHS, what were the lowest, highest and average prices you paid per stem for cut flower, by variety and grade, to purchase cut flower from this supplier?

Rose	First	Second	Rejected	Ungraded
Highest				
Lowest				
Average				
Standard chrysanthemum	First	Second	Rejected	Ungraded
Highest				
Lowest				
Average				
Spray chrysanthemum	First	Second	Rejected	Ungraded
Highest				
Lowest				
Average				

45. How would you describe the nature of your relationship with this buyer?

.....
.....
.....

46. Please respond to EACH of the following statements. Please circle your answer.

(Note: 1 is “strongly agree”, 2 is “agree”, 3 is “somewhat agree”, 4 is “somewhat disagree”, 5 is “disagree” and 6 is “strongly disagree”)

1	I am satisfied with my transaction with this supplier	6	5	4	3	2	1
2	I am satisfied with the prices paid to this supplier	6	5	4	3	2	1
3	I am satisfied with the pay in full at an agreed time	6	5	4	3	2	1
4	Dealing with this supplier is less risky than others	6	5	4	3	2	1
5	This supplier sell their cut flowers at a mutually agreed price	6	5	4	3	2	1
6	This supplier often meet my expectations	6	5	4	3	2	1
7	My supplier quickly respond to my concerns	6	5	4	3	2	1
8	My supplier and I have a close personal relationship	6	5	4	3	2	1
9	My supplier has the best offer relative to the other traders	6	5	4	3	2	1
10	My supplier sell me their produce all year round	6	5	4	3	2	1

47. Please respond to EACH of the following statements. Please circle your answer.

1	I trust this supplier	6	5	4	3	2	1
2	This supplier has a good reputation	6	5	4	3	2	1
3	This supplier is always honest	6	5	4	3	2	1
4	This supplier always considers my best interests	6	5	4	3	2	1
5	This supplier always keep their promises	6	5	4	3	2	1
6	I believe in the information provided by this supplier	6	5	4	3	2	1
7	My supplier follows to the agreement between us	6	5	4	3	2	1
8	I know this supplier very well	6	5	4	3	2	1
9	I understand this supplier’s problems	6	5	4	3	2	1

48. Please respond to EACH of the following statements. Please circle your answer.

1	I expect my relationship with this supplier to continue in the future	6	5	4	3	2	1
2	It is more cost effective for me to rely on my preferred cut flower supplier rather than search for alternative suppliers	6	5	4	3	2	1
3	This supplier makes efforts to help me	6	5	4	3	2	1
4	I do not intend to change my supplier	6	5	4	3	2	1
5	This supplier do not breach the agreement/contract between us	6	5	4	3	2	1

49. Please respond to EACH of the following statements. Please circle your answer.

1	This supplier keeps me well informed on price in the cut flower market	6	5	4	3	2	1
2	This supplier frequently asks me how they might improve the level of product quality	6	5	4	3	2	1
3	We often discuss better way to pack, grade, store and transport cut flowers	6	5	4	3	2	1
4	There is frequent contact with this supplier	6	5	4	3	2	1
5	It is relatively easy to contact this supplier	6	5	4	3	2	1

50. Please respond to EACH of the following statements. Please circle your answer.

1	This supplier provides financial assistance	6	5	4	3	2	1
2	This supplier keeps me well informed on technical matters	6	5	4	3	2	1
3	I prefer to transact with local suppliers	6	5	4	3	2	1
4	This supplier is willing to share the risk (crop failure, unsold)	6	5	4	3	2	1
5	This supplier and me work together for mutual benefits	6	5	4	3	2	1
6	There is a good cooperation between my supplier and myself	6	5	4	3	2	1
7	Cooperation based on the contract between my supplier and me	6	5	4	3	2	1

51. Please respond to EACH of the following statements. Please circle your answer.

1	This supplier has all the power in our relationship	6	5	4	3	2	1
2	This supplier controls all the information in our relationship	6	5	4	3	2	1
3	This supplier will not take advantage of a strong bargaining position (not price pressure)	6	5	4	3	2	1
4	This supplier exerts a strong influence over us	6	5	4	3	2	1
5	I must do what this supplier says	6	5	4	3	2	1
6	This supplier have a right to sell or not to sell the cut flowers	6	5	4	3	2	1

52. Who are your major customers?

-.....
-.....

53. What percentage of your sales is:

to consumer:%

to other business/office/ hotel/restaurants:%

Total (should be equal to): 100 %

54. For what reasons do people buy flowers?

-.....
-.....
-.....

55. What percentage of your sales

By stems:%

By bunches%

Bouquets/baskets%

Wreaths%

Others:%

Total (should be equal to): 100 %

56. OVER THE LAST 12 MONTHS, what were the lowest, highest and average prices that you sold these flower PER STEM by grade to your customers?

Rose	First	Second	Third (if any)	Ungraded
Highest				
Lowest				
Average				
Standard chrysanthemum	First	Second	Third (if any)	Ungraded
Highest				
Lowest				
Average				
Spray chrysanthemum	First	Second	Third (if any)	Ungraded
Highest				
Lowest				
Average				

THANK YOU FOR PARTICIPATING IN THIS REVIEW. YOUR TIME AND THE INFORMATION THAT YOU HAVE PROVIDED ARE GREATLY APPRECIATED