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Supplying Customer Requirements in the Fresh Produce Chain in the Highlands of Papua New Guinea

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John Lark Kewa

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Abstract of a thesis submitted in partial fulfilment of the requirements for the
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This research seeks to identify the desired requirements of buyers of fresh produce in the PNG
Highlands, and to evaluate how prepared those supplying and procuring fresh produce for the
current PNG markets are to meet likely future trends.

A customer satisfaction framework was developed and results from interviews with sixty
smallholders and seven marketers from two wards in the Eastern Highlands Province of PNG
were analysed using a mixed method approach. Results show that formal markets are shifting
towards more relationship type marketing arrangements with suppliers. Most formal markets
prefer procuring fresh produce from marketers because they are able to meet their
requirements.

Even though marketers tried to ensure that they met their customers' requirements, they were
not entirely satisfied with their overall relationships with most of the formal buyers.
Supermarkets on the other hand, treated them fairly in their relationships and provided better
options for marketers among the formal markets available to them.

A major result of the changes in the procurement systems is the increasing vertical coordination in the fresh produce supply chain. In combination with fresh produce in rising demand and increasing quality demanded. This imposes new requirements on smallholders that must be addressed.

Keywords: Procurement systems, fresh produce, customer requirements, smallholders, marketers, Papua New Guinea.

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Acronyms

CRM	Customer Relationships Management
DAL	Department of Agriculture and Livestock
EHP	Eastern Highlands Province
FAO	Food and Agriculture Organisation
FAOSTAT	Food and Agriculture Organisation Statistics
FPDA	Fresh Produce Development Agency
FMC	Food Marketing Corporation
GPNG	Government of Papua New Guinea
LNG	Liquefied Natural Gas
MTDS	Medium Term Development Strategy
NDAL	National Department of Agriculture and Livestock
NDAP	National Agriculture Development Plan
NZAID	New Zealand Agency for International Development
PNG	Papua New Guinea
VEW	Village Extension Worker

Chapter 1

Introduction

1.1   Introduction

This research is focussed on the requirements of fresh produce buyers in the Highlands of Papua New Guinea (PNG). With the PNG economy in a growth phase and markets for fresh produce apparently changing, it is important to note whether those supplying and procuring fresh produce for the current PNG markets are well positioned to meet likely future trends. This introductory chapter is structured as follows. Section 1.2 describes the wider context of the fresh produce industry in PNG, Section 1.3 looks at the demand and the fresh produce supply chain in PNG, Section 1.4 looks at the changing demand situation for fresh produce in PNG, Section 1.5 looks at the international trends in demand and the impact on supply chain, Section 1.6 looks at the research problem and objectives

1.2   The Wider Context

PNG has a dual economy, comprised of a small formal sector and a large informal sector. The formal sector includes 15% of the population and is supported by a limited manufacturing base with some large-scale commercial agriculture, and public sector activities. Also included are service industries such as finance, construction, transportation and utilities. Recently, large-scale resource projects, particularly in the mining and petroleum sector have contributed to this sector (Secretariat of the Pacific Community, 2008).

The informal sector includes 85% of the population and is supported through semi-subsistence agriculture (National Agriculture Department of Livestock, 2007; Spriggs and

Chambers, 2007; Bourke and Harwood, 2009). Many Papua New Guineans live in rural villages and are heavily dependent on subsistence agriculture supplemented by cash cropping (Secretariat of the Pacific Community, 2008).

Among the many semi-subsistence activities conducted in the country, fresh produce[1] farming remains the single biggest semi-subsistence activity, occurring widely across the nation (Benediktsson, 1998). More than 90% of the people in the informal sector are engaged in fresh produce farming and derive their incomes from the sale of fresh food (Allen et al., 2009). Consequently, the domestic trading of fresh food is a very important source of income for many people in PNG (Spriggs and Chambers, 2007).

In particular, fresh produce marketing has been the main source of income for most people in PNG for many years. The PNG Highlands in particular, produces and markets more fresh produce than any other parts of PNG due to its favourable climate and high soil fertility conditions. Hence, fresh produce has become a major income earner for the region, along with coffee and other cash crops.

The Government of PNG (GPNG) recognises the importance of this sector and tries in many ways to stimulate its activities. In 1976, the government set up the Food Marketing Corporation (FMC). Cool stores were setup in the Highlands to consolidate fresh produce to supply the coastal cities. Refrigerated trucks were used to transport the fresh produce but due to low volume and high costs, the project ceased in 1981. It is claimed that some urban consumers then reverted to imported fresh produce (Atkinson and Scott, 1987; Atkinson and Lewis, 1992; Benediktsson, 2002).

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[1] Fresh produce in this paper refers to a wide range of horticultural crops which include fruits and vegetables that are characterised by their highly perishable nature.

Numerous efforts have been made in the policy area by the government to stimulate the semi-subsistence agriculture sector. Among the many policy generated projects, the Fresh Produce Development Agency (FPDA), initially a pilot project jointly funded by NZAID (New Zealand Government's aid agency) and GPNG (Government of Papua New Guinea), to specifically develop the fresh produce sector, is now a fully funded government agency. It is the only government agency that specifically focuses on fresh produce farmers in the country today (Benediktsson, 1998, 2002).

In 2004, the government, in its 2005-2010 Medium Term Development Strategy (MTDS), stressed the importance of developing the rural areas to reduce poverty. The objective was to get the 85% of the population relying on subsistence farming to improve their standard of living (Medium Term Development Strategy, 2004). As a result of this policy direction from the government, the National Department of Agriculture and Livestock (NDAL) formulated the National Agriculture Development Plan 2007-2016 (NADP). The vision of this policy document was to transform the agriculture sector so that it becomes sustainable, vibrant and productive and therefore contribute to a range of government goals such as economic growth, social wellbeing, national food security, and poverty alleviation (National Agriculture Department of Livestock, 2007).

1.3   Demand and the Fresh Produce Supply Chain in PNG

The emphasis on developing the fresh produce sector is important in the national context. FAO statistics still classify PNG as one of the low-income, food-deficit countries in the world (FAO, 2000 and 2011). However, Bourke (2001) disputed the report by FAO, claiming that PNG has enough calorie food at the rural level, but has a problem accessing high quality foods in the country, especially those with protein and fats.

It has been noted that through numerous studies that domestic farmers do not meet existing fresh produce demand in the country, possibly due to constraints along the supply chain. Of the total fresh produce demand of the nation, one supply estimate suggests that 34% comes from the Highlands while, 24% comes from various other national sources and 42% comes from imports (Ehmig, 2004). These figures indicate that there is scope to increase the proportion of domestically produced fresh produce for the market in PNG.

It is thought that there is more than enough fresh produce grown in the highlands to meet the needs of PNG's coastal cities and even supply offshore markets. It has been suggested that it fails to do so because of the aging and inadequate marketing infrastructure in the country. It is also claimed that the marketing of fresh produce is hindered due to the long and complex chains between the consuming and producing regions (Spriggs and Chambers, 2007).

However, on a positive note, the PNG Highlands remains the ideal region in the country to meet the country's fresh produce demand. It has the potential to replace many imports, especially temperate food crops. The region is renowned for being able to produce quality fresh produce. The soils are rich and very productive and high-quality fresh produce can be grown organically all year round in this area (Atkinson and Scott, 1987; Benediktsson, 1998; National Agriculture Development Plan, 2007; Spriggs and Chambers, 2007).

The PNG Highlands, home to about one-third of the total population of PNG (PNG Census[2], 2000), is predominantly a subsistence based farming community (National Agriculture Development Plan, 2007; Spriggs and Chambers, 2007). The long history of agricultural farming in the highlands (Oldfield et al., 1980), coupled with the aggressiveness and ability of the farmers, particularly in this region (Finney, 1973, 1993; Benediktsson, 1998), to quickly

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[2] PNG population census occurs every 10 years. The last census was done in 2000. The one after 2000 was to have been carried out in 2010, but had been delayed and was carried out in 2011.

adapt to introduced farming methods, is believed to have contributed to the smallholder[3] farmers in the highlands becoming some of the more successful farmers in the country (Wilson, 2008).

Wilson, (2008) noted that the PNG Highlands, especially Western Highlands and Eastern Highlands province have advanced in fresh produce production. This underpins the report by Martin and Jagadish (2006) that some farmers in the Mt Hagen region had moved well beyond subsistence focus and were very commercially oriented. Most people in the informal sector in PNG at some stage are involved in fresh food production for cash income (Spriggs and Chambers, 2007; Secretariat of the Pacific Community, 2008; Wilson, 2008) but fresh produce farming may be more commercially-oriented for the people in the highlands than for other farmers in PNG (Benediktsson, 1998; Wilson, 2008).

Martin and Jagadish (2006) have indicated that in spite of the tough marketing conditions, fresh produce farming and marketing can thrive in the PNG Highlands. A significant volume of the fresh fruit and vegetables grown in the Highlands is sold in both Lae and Port Moresby formal and informal markets. Some of the fresh produce from the Highlands of PNG is marketed through large and small scale marketers (Martin and Jagadish, 2006) and others by the growers themselves (Benediktsson, 1998; McGregor et al., 2003).

1.4 The Changing Demand Situation for Fresh Produce in PNG

The demand for fresh produce is changing rapidly in the country. PNG's population is growing at 2.7% (PNG Census, 2000) annually, a rate well above the average for developing countries (Medium Term Development Strategy, 2004). The need to feed this growing

population is a challenge for the country. New fresh produce markets are also opening up in the country due to the economic growth. It has been reported that the PNG economy has been growing at 6.2% since 2007 (Bank of PNG, 2007) and has been further forecasted to accelerate (Commonwealth of Australia, 2008) with the new liquefied natural gas (LNG) project and other mining projects taking place in the country. Given that scenario, there is a daunting task ahead to cater for these markets.

The effect of the economic boom has also resulted in many people migrating to the main cities looking for better lives and employment. Hence, PNG is currently experiencing serious problems with the unplanned expansion of its urban and peri-urban communities (Medium Term Development Strategy, 2004). Rural-urban migration is estimated to be 13% annually (PNG Census, 2000). As a result, the food need in the main cities, especially Lae and Port Moresby, has increased. Unlike the rural population, people in the cities depend primarily on others to provide the food supply. These all contribute to the increased demand for marketed fresh produce in the country, creating a significant development challenge that needs to be addressed.

Economic growth in PNG and the associated rural-urban drift may also be having an impact on the demand for higher quality food. Anecdotal observation of the display of fresh produce in the open markets suggests that the general public is showing a preference for higher quality fresh produce. Some grading and sorting is already happening in the informal markets. With an economy that is growing and growth forecasted to accelerate (Commonwealth of Australia, 2008), it is likely that the market and demand for quality fresh food will increase.

With the high population growth rate and very impressive economic growth (Commonwealth of Australia, 2008), the situation now is one of increasing demand for fresh produce of higher

quality that domestic supply will find a challenge to meet. This is not because of lack of production or entrepreneurial drive, but because of various constraints in getting the right quantity and quality to those requiring it at the right time (McGregor et al., 2003; Martin and Jagadish, 2006; Spriggs and Chambers, 2007; Willson, 2008).

Therefore, a key question that emerges from this discussion is how prepared the fresh produce supply system is to cope with growing demand for increased quantity and higher quality fresh produce. In order to get some idea of how the demand situation in PNG might change in the near future, it is necessary to identify trends that have occurred in other countries facing a similar situation.

1.5   International Trends in Demand and the Impact on Supply Chain

Recent research has highlighted the significant rise of supermarkets and modernisation of supply chains in the fresh produce marketing systems in developing countries (Reardon et al., 2003; Deloitte Touche Tohmatsu, 2005). This new wave of change is called the "supermarket revolution" by many scholars. This supermarket revolution is having a profound impact on market structures in developing countries. The rapid growth and spread of supermarkets in many developing countries across the world has a significant effect on traditional fresh produce marketing systems (Schwentesius and Gómez, 2002; Reardon et al., 2003; Farina et al., 2004; Reardon et al., 2004; Trail, 2006; Humprey, 2007).

Traditionally, supermarkets were viewed as the rich person's place to shop by development economists and policymakers. Many people in the developing countries consider supermarkets to be the place for the affluent consumers (Reardon et al., 2003; Weatherspoon

and Reardon, 2003). However, supermarkets are now moving beyond this traditional focus and are successfully targeting lower income consumers through different marketing strategies.

These changes are occurring at different rates and vary across countries and regions. This growth and expansion of supermarkets has been driven by many factors. These factors are very similar in most countries and produce similar results across the developing countries. The main drivers for this transformation are socio-economic, such as the rapid expansion in urbanisation, higher per capita incomes, and improvements in local infrastructure in developing countries (Reardon et al., 2005; Trail, 2006; Gaiha and Thapa, 2007; Gulati and Reardon, 2007; Humprey, 2007; McCullough et al., 2008).

These changes are also influenced by the increasing number of women entering the work force, thus increasing the opportunity cost of women's time and so increasing their incentive to seek shopping convenience and to save cooking time. The change in the standard of living is also reflected in the increase in the ownership of cars, access to affordable urban transport systems, and the possession of refrigerators in homes, which are factors also linked to supermarket growth. The factors leading to these changes facilitated by the growth of supermarkets in developing countries are similar to the ones experienced in Europe and the United States in the twentieth century. However, these changes are happening at a much faster rate in developing countries (Reardon et al., 2005; Trail, 2006; Gaiha and Thapa, 2007; Gulati and Reardon, 2007; Humprey, 2007; McCullough et al., 2008).

It is also noted that the liberalisation of government policies on foreign investment restriction has led to the growth of foreign direct investment (Safiuddin, 2010). This in-flow of foreign direct investment by overseas-owned supermarkets has enabled the supermarket revolution in developing countries. Many richer countries had the incentive to invest in the developing

countries as domestic markets were saturated and competition was tough. There was also the attraction of investing in developing countries as capital costs are often lower, markets are growing rapidly, and there can be easier access to financial capital (Reardon et al., 2003; Trail, 2006; Gaiha and Thapa, 2007; Gulati and Reardon, 2007; Mutebi, 2007; Reardon, 2007; McCullough et al., 2008).

The success and spread of supermarkets in developing countries is linked to their ability to not only cater for the rich and the middle class, but also their ability to penetrate the markets of the poor. Supermarkets' flexibility to offer low prices for quality fresh produce is attributed to the economies of scale they enjoy as large stores. For the rural poor, price determines their propensity to purchase or not and supermarkets are able to target them through a low pricing strategy. Their ability to outperform wet markets[4] and small family-run stores is due to the economies of scale they enjoy through bulk purchasing, and the storing and selling of fresh produce. Supermarkets have even mimicked wet markets through displays and arrangement of fresh produce similar to the traditional markets. The clean environment found in the supermarkets is superior to the wet markets. Above all, the "one stop shopping experience" for the customers offered by supermarkets through their wide range of goods and services including banking services, restaurants, and non-food products can give them a competitive advantage over the traditional wet markets (Hagen, 2003; Miu and Penhirin, 2003; Weatherspoon and Reardon, 2003; Reardon et al., 2005; Trail, 2006; Gaiha and Thapa, 2007; Gulati and Reardon, 2007).

Traditional markets, such as wet markets and small shops, come under threat from the success and proliferation of supermarkets. In addition, wet markets are becoming targets of municipal government, as policies designed to improve hygienic conditions and reduce urban

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[4] A wet market is generally a traditional open food market where spot transactions occur.

overcrowding further add pressure on them, thus favouring the expansion of supermarkets. Given the passive support supermarkets receive from municipal governments and their comparative advantage in firm size and capabilities, traditional markets come under extreme threat. As a result, wet markets have been forced to change. For example, in Chile and Malaysia, traditional wet markets have upgraded their facilities and improved the procurement processes. Some wet markets have even adopted hygienic practices and large scale purchasing arrangements similar to those of the supermarkets. These challenges and changes have implications for the entire fresh produce marketing system (Reardon et al., 2005; Trail, 2006; Gulati and Reardon, 2007).

The supermarket revolution has transformed fresh produce marketing systems and thereby has forced change in fresh produce supply chains. Supermarkets achieve this through their ability to modify the distribution channels with logistical improvements to the procurement process (Reardon et al., 2005; Trail, 2006; Gaiha and Thapa, 2007; Humphrey, 2007). These trends are posing great challenges for smallholder farmers. In most developing countries, the production and marketing of fresh fruits and vegetables is characterised by a highly atomistic production side (many widely scatted small farmers growing perishable crops) and an oligopolistic marketing system (only a few traders) (Mendoza and Rosegrant, 1995). Also, in many developing countries, the marketing infrastructures are poor; transport systems inefficient, cool storage facilities inadequate, and accessibility to market information very limited. Some smallholder farmers may be unreachable due to locational factors, such as farming in remote places. These difficulties often lead to high transaction costs for the small farmers (Harris-White, 1995).

Smallholder farmers also face considerable challenges in meeting the requirements demanded by supermarkets. Traditionally, smallholder farmers in developing countries have operated in

the informal spot markets (Boselie et al., 2003; Reardon et al., 2003). However, the concept of formal supply chains entails contracts or some sort of commitment to supply an agreed quantity of products that meets pre-specified quality requirements. To meet these pre-specified requirements of supermarkets, such as safety, quality and freshness standards, and the ability to supply required volume consistently, is a difficult challenge for the smallholder farmers (Dolan and Humphery, 2000; Boselie et al., 2003; Reardon et al., 2003; Weatherspoon and Reardon, 2003; Muendo and Tschirley, 2004; Jaffee, 2005; Sonko et al., 2005; Trail, 2006; Humphery, 2007).

However, smallholder farmers in certain circumstances have comparative advantage over larger growers (Glover and Kusterer, 1990; Glover, 1994; Benziger, 1996). This can be derived from the production characteristics of the individual crops concerned, production technologies, and related manual labour requirements (Glover, 1990; Little and Watts, 1994). For example, some herbs, spices, fruits and vegetables require special care to achieve stringent quality requirements. Small farmers can demonstrate higher levels of commitment to these crops because of their economic benefit to the livelihood (Boselie et al., 2003).

While it is argued that there is the inevitable risk for the exclusion of smallholder farmers, it is also argued that there can be potential benefits to them as well (Reardon et al., 2003; Gaiha and Thapa, 2007; Humphery, 2007). However, empirical studies conducted in Africa (Weatherspoon and Reardon, 2003) and Latin America (Reardon et al., 2003) provided evidence that despite the opportunities existing for smallholder fresh produce farmers, the risks of exclusion were high. The exclusion of the smallholder farmers occurred as a result of the procurement arrangements stipulated by supermarkets. Supermarkets often prefer a procurement system that resulted in stability in product flows and meeting stringent private quality and safety standards, which smallholder fresh produce farmers can find hard to meet.

Consequently, the smallholder fresh produce farmers can be marginalised (Bignebat et al., 2009).

Such changes occurring in fresh produce supply chains in other developing countries are of interest to PNG. This literature suggests that supply chains may change dramatically for the fresh produce marketing system in PNG. Given the fast economic growth of the country, food demand in PNG is expected to increase, giving rise to an increase in the demand for quality of such goods. Supermarkets are likely to become increasingly important to consumers. Indeed, supermarkets and other formal markets in PNG have already shown a strong desire for quality fresh produce, but smallholders may not understand or be able to deliver buyer preferences with respect to quality and continuity. As a result, procurement patterns by supermarkets and other formal markets may change. The demand for quality fresh produce may change in the informal markets as well, which may also drive changes in procurement patterns.

1.6 Research Problem and Objectives

Given this context, this research seeks to identify desired requirements of buyers of fresh produce in the PNG Highlands, and to evaluate how prepared those supplying and procuring fresh produce for the current PNG markets are to meet likely future trends.

This research problem is broken down into the following research objectives:

1. To determine buyers' perceptions of the current and future market needs of their own customers.

2. To identify what procurement and marketing relationship strategies are used by buyers to meet the current requirements of their own customers.

3. To determine smallholders' perceptions of the current and future market requirements of their buyers.

4. To determine how satisfied fresh produce buyers are in meeting the requirements of their own customers.

5. To provide recommendations for policy makers on improving the procurement of fresh produce to meet current and future market requirements.

1.7   Structure of the Thesis

Chapter 2 reviews relevant literatures on fresh produce marketing and is addressed in two parts. The first section of the review looks at fresh produce production and marketing in developing countries. More specifically, the literature identifies buyer requirements and supplier (producer) issues in growing and marketing fresh produce in these countries. The second part of the review focuses on relevant theory that can be used to provide a framework for this research. Chapter 3 focuses on the research methods used to collect data from both marketers and smallholders. Chapter 4 is the first of the results Chapters. It focuses on the responses from marketers, while Chapter 5 discusses the results from smallholders. In Chapter 6, these results are discussed, while Chapter 7 summaries the findings and offers conclusions and recommendations based on the findings. It also highlights the limitations of the study and proposes areas for future research.

Chapter 2

Literature Review

2.1   Introduction

The literature review on fresh produce marketing begins by looking at the context and potential of fresh produce production and marketing in developing countries. Section 2.2 looks at the context and potential of fresh produce in developing countries. The second part of the review focuses on relevant theories that are used to observe the framework for the research. More specifically, the literature looks at the marketing view of customer requirements in fresh produce marketing. This view is explained more in the customer satisfaction conceptual framework.

2.2   The Context and Potential of Fresh Produce in Developing Countries

Most of the world's poor live in developing countries and depend on horticultural production (fruit, vegetables and flowers) for their livelihood (Dixon et al., 2001; Watkins and von Braun, 2003). The horticulture sector, and more specifically, the fresh produce sector, plays an important role for the income of the rural poor (Dolan and Humphrey, 2000; Lumpkin et al., 2005; Barrett et al., 2010). In these developing countries, the fresh produce sector has been growing rapidly. This growth is claimed to be due to the higher net farm income it generates relative to other traditional crops (Weinberger and Lumpkin, 2005). In the developing countries, the growth and expansion of agricultural output and productivity is thought to be a way of alleviating poverty, and horticulture in particular, is thought to be very effective in raising rural incomes (Grindle and Thomas, 1991; Grindle, 2004; Humprey, 2006). Consequently, many developing countries' development policies include improving

the horticulture sector (Grindle and Thomas, 1991; Grindle, 2004) through governments' pro-poor policies and the determination of the rural poor themselves to improve their standard of living, (Islam, 1990).

As a result, horticulture has become a very dynamic sector in global agriculture (Islam, 1990; Friedland, 1994; Jaffee, 1994; Thrupp, 1995; Weinberger and Lumpkin, 2005; Humprey, 2006). These have been aided by the steady increase in demand for vegetables in the developed countries. These opportunities are presented by recent demographic shifts towards an older population and changing lifestyles. More and more people eating away from home, increased number of people making changes in their diets, and nutrition and health concerns has become important, especially in the United States, Canada, and the European Community. Hence, both demand for and supply of fresh produce has increased in developing countries, and this is reflected in the global trade in horticultural products.

The volume of fresh fruits and vegetables traded by developing countries increased fivefold between 1961 and 2001 (FAOSTAT, 2004, as cited by Weinberger and Lumpkin, 2005). While the trade of fresh fruits and vegetables has continued to grow, other traditional tropical food crops have declined or remain static in the export markets. In 1980-81, traditional tropical food crops (such as cocoa, tea, sugar, coffee, natural fibres, confectionary, nuts, and spices) accounted for 39% of the developing countries' agricultural exports, while horticultural products only accounted for 15%. Twenty years later, in 2000-01, the horticultural share of the exports from developing countries increased to 21% while the share of traditional tropical products had fallen to 19%. It has also been noted that the value of developing country horticultural exports has also surpassed the combined value of grains, dairy, meat, oilseeds, and edible oils (Jaffee, 2005).

There is also a general trend in the developing world showing that the planting of traditional agricultural products has declined, while production of non-traditional agricultural products has increased greatly. For instance, (Humprey, 2006) in Africa, exports of peas and beans to the European Union have increased in volume by 270% in the period 1988-2003. In that same period, there was a 13% increase in the price per tonne of these exports which resulted in an overall increase in revenue of 320%. He further notes that over the same period, the European Union's imports of coffee from Africa fell by 67%. The value of coffee imports from Africa into the European Union in the period 1988-90 were 25% greater than those of peas and beans. However, that ratio had fallen to less than two-to-one by 2003. It has also been noted that horticulture exports from the developing countries contributed to a third of trade, twice the value to their traditional agricultural exports (Friedmann, 1993; Friedland, 1994; Jaffee, 1994; Thrupp, 1995).

Not only does fresh produce make an impact on global trade, but also domestic markets are growing rapidly. Studies show that the volume of fresh vegetables taken up domestically in the supermarket is bigger than the export markets (Muendo and Tschirley, 2004). They estimate that, in Kenya, the total value of fresh fruits and vegetables sold in the domestic market was four times more than the value of the exports in the period 1997-2001. This is despite Kenya being one of the successful exporters of fresh vegetables in Africa. Reardon and Berdegue (2002) reported that the value of fresh vegetable in Latin American domestic supermarkets was 2-3 times greater than that of the export market. Higher domestic demand than export demand is also the case in parts of Asia. Reardon et al (2007) noted that according to the United Nations in 2001, supermarkets in Indonesia sold almost $500 million of fruits and vegetables, nearly all bought from local farmers. In that same year the export value was roughly $286 million. From 1995-2000 in China, supermarkets sales of fruits and vegetables

were roughly $2 billion compared to $1.7 billion from the exports (Gale, 2002, as cited by Reardon et al., 2005).

This increase in the volume of fresh fruits and vegetables traded both domestically and internationally testifies to the ability and capacity of farmers and in particular, smallholders to produce them. Many people in developing countries see fresh produce as the production of choice among traditional agricultural crops, as it provides more net farm income, which can be used to improve the standard of living. This appears to be a key driving factor in the increase in the volume of fresh produce produced by smallholder farmers (Humphrey, 2006).

This rise in the global and domestic trade of fresh produce has brought about many changes to marketing structures in the developing countries. The buying and selling of fresh produce that was traditionally conducted through spot markets is now increasingly being done through vertically coordinated markets, which impose new requirements on the smallholder farmers. These changes alter the traditional marketing relationships between the smallholder farmers and the buyers (Saxowsky and Duncan, 1998; Reardon and Barrett, 2000; Peterson et al., 2001). This is quite challenging for smallholder farmers who are used to "producing first and then looking for markets", whereas theory and good practice suggests that it should be the other way around; seeking out markets first, making the contractual arrangements with the buyers, and then producing what the market wants (Boehlje, 1996; Fairbairn, 2003).

An increase in the contractual arrangements that are fast replacing traditional spot market transactions has far reaching ramifications for the agri-food systems of developing countries (Reardon and Barrett, 2000). These changes in the procurement system appear to be driven by retailers and processors, who prefer to carry out business transactions based on contractual arrangements (Reardon and Berdegué, 2002). Such procurements system are preferred for

many reasons, such as having a reliable supply source, improvements to the quality and safety of produce, and minimisation of transaction costs. A key factor driving this change is to make sure customers' requirements are met on a consistent basis; in other words, to ensure that the product sold and the process involved in acquiring this product brings the most satisfaction to the customer acquiring it. To gain a deeper understanding of customer satisfaction, a selective review of marketing literature addressing this issue is presented in the following section.

2.3   A Marketing View of Customer Requirements

Traditional commodity marketing is where a producer grows a product and then tries to sell what is grown on a spot market. In many instances, the spot market system is being replaced by the marketing approach. This marketing approach can be defined as the process through which a marketer identifies the needs and wants of customers and endeavours to deliver the right product to the right consumer at the right time at a profit (Kotler and Zaltman, 1971; Pride et al., 2007). Marketing thus holds the promise of increased efficiency over traditional spot market practices. This is why fresh produce retailers and processors are harnessing the marketing concept in order to remain competitive in a changing marketing environment. Unlike other products, fresh produce is highly perishable and has a shelf life that is shorter. This makes it all the more important for suppliers to ensure that their produce gets to the final consumer as soon as possible. Hence, the suppliers have to ensure that they produce and supply what the customers want or need, and determine how best the produce can be delivered to the customer in the most convenient way possible. This is the essence of the marketing approach.

From a marketing point of view, a product can be defined as "anything that can be offered to a market for attention, acquisition, use, or consumption and that might satisfy a want or need"

(Armstrong and Kotler, 2005, p.223). Other authors have defined a product as a "bundle of attributes that exists for the purpose of exchange to satisfy customer and organisational objectives" (Pride et al., 2006, p.8). Rephrasing this; a product is a bundle of attributes that can be offered to a market to satisfy a need or want of a customer, while at the same time accomplishing organisational objectives. As such, marketers need to find out what customers want and determine how best the product or service can be delivered to the customers at a profit (Armstrong and Kotler, 2005; Pride et al., 2007).

In marketing theory, a product can be described as having three different levels; the core product, the actual product and the augmented product. The core product delivers the core benefits that the customer wants and buys (Armstrong and Kotler, 2005). In the PNG context, one of the core benefits a customer might seek is freshness. A customer buys fresh produce to satisfy their hunger or appetite for a particular food. Although a customer may be willing to spend money on other parts of the product such as packaging, brand name and other features, the benefit received from consuming or using this product is the ultimate force driving the customer to make the actual purchase. Assael et al (2007) noted that, in customer-oriented marketing, the process of segmenting markets by identifying the outcomes they desire is called benefit segmentation. Marketers use the benefit (need) criteria to target markets. Fresh produce retailers often use the core benefit of the product to target consumers. For example, health conscious consumers can be targeted through selling organically grown fruits and vegetables, since health conscious customers may feel that fruits and vegetables grown organically are good for their health so they buy them on that basis.

The actual product can be referred to as the product's parts, styling, features, brand name, packaging and other attributes that combine to deliver core product benefits (Armstrong and Kotler, 2005). It is this visible and attractive part of the product that customers see and so buy.

Fresh produce retailers can put a lot of effort into making the actual product attractive (such as packaging, labelling, branding, sorting and grading and other product display features) in order to attract customers (Weatherspoon and Reardon, 2003; Reardon et al., 2005). Although the core benefit of the product is what the customer is actually buying, the physical attractiveness of the product plays a significant role in the customer's purchase behaviour.

For instance, a health conscious consumer may buy fresh produce that is identified as organically grown; looks clean, is sorted and graded, is packaged in clean bags and is sold in a clean environment. The core benefit is fresh produce but the buying decision is influenced by their healthy living lifestyle. Alternatively, a green consumer[5] who is concerned about the environment, look at the food miles if available and base their purchase decision on the distance the food travelled. In fresh produce marketing, grading and sorting of produce and selling in different ways such as in heaps, weights and sizes are different techniques applied in selling. These techniques play an important role in the physical display of the produce, thus influencing consumers' purchase behaviour.

The augmented product consists of the non-physical but additional benefits and services built around the core and actual product (such as warranties, customer services, installation, deliveries and any after-sale services). Although the concept of an augmented product was defined with manufactured products in mind, the conception apply, with modifications, to tourism and hospitality and other goods and services (Armstrong and Kotler, 2005). For fresh produce marketing, retailers can augment the product by providing recipes to the consumers for a variety of dishes. Arrangements can also be made for deliveries of fresh produce to (big) customers and price discounts can be used for continued business. Even well-presented staff serving customers can be an important part of product augmentation. If the core and actual

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[5] A green consumer is someone who is very concerned about the environment and, therefore, only purchases products that are environmentally-friendly or eco-friendly.

product attributes are similar for competing suppliers, the augmented product attributes can become critical for an organisation's strategies to remain competitive in the market.

The basic reason for aiming to deliver a product with all the features that gives the customer the desired benefits is to satisfy the customer buying it. A satisfied customer is more likely to make repeat purchases with the supplier who can provide what they need or want. As such, customer satisfaction is very vital in a business relationship. This notion is explored further in Section 2.4, where, a conceptual framework has been derived that links the customer (buyer) with the product and relationship attributes in order to illustrate how customer satisfaction may be determined in the supply chain with the suppliers.

In Figure 2.1, a customer satisfaction framework has been presented. It suggests that customer satisfaction can lead to customer loyalty. It further suggests that customer satisfaction is achieved by paying attention to procurement patterns, product issues and relationship issues.

The components of this framework are now described Section 2.4 – 2.9.

2.4 Customer Satisfaction for Fresh Produce.


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                    ┌──────────────────────────┐
                    │   Procurement Patterns   │
┌───────────────────┴──────────────────────────┴────────────────────────┐
│  ┌─────────────────────┐                                               │
│  │   Product Issues    │                                               │
│  │ ┌─────────────────┐ │                                               │
│  │ │Perceived Quality│ │                                               │
│  │ │of Fresh Produce │ │                                               │
│  │ ├─────────────────┤ │                                               │
│  │ │Perceived Value  │ │      ┌──────────────┐   ┌──────────────┐      │
│  │ │of Fresh Produce │ │      │   Customer   │   │   Customer   │      │
│  │ ├─────────────────┤ │      │ Satisfaction │──▶│   Loyalty    │      │
│  │ │Consistency in   │ │      └──────────────┘   └──────────────┘      │
│  │ │Quality and Qty  │ │                                               │
│  │ └─────────────────┘ │                                               │
│  │ ┌─────────────────┐ │                                               │
│  │ │Quality of       │ │                                               │
│  │ │Relationships    │ │                                               │
│  │ ├─────────────────┤ │                                               │
│  │ │Buyer-Seller     │ │                                               │
│  │ │Relationships    │ │                                               │
│  │ └─────────────────┘ │                                               │
│  │    Relationship     │                                               │
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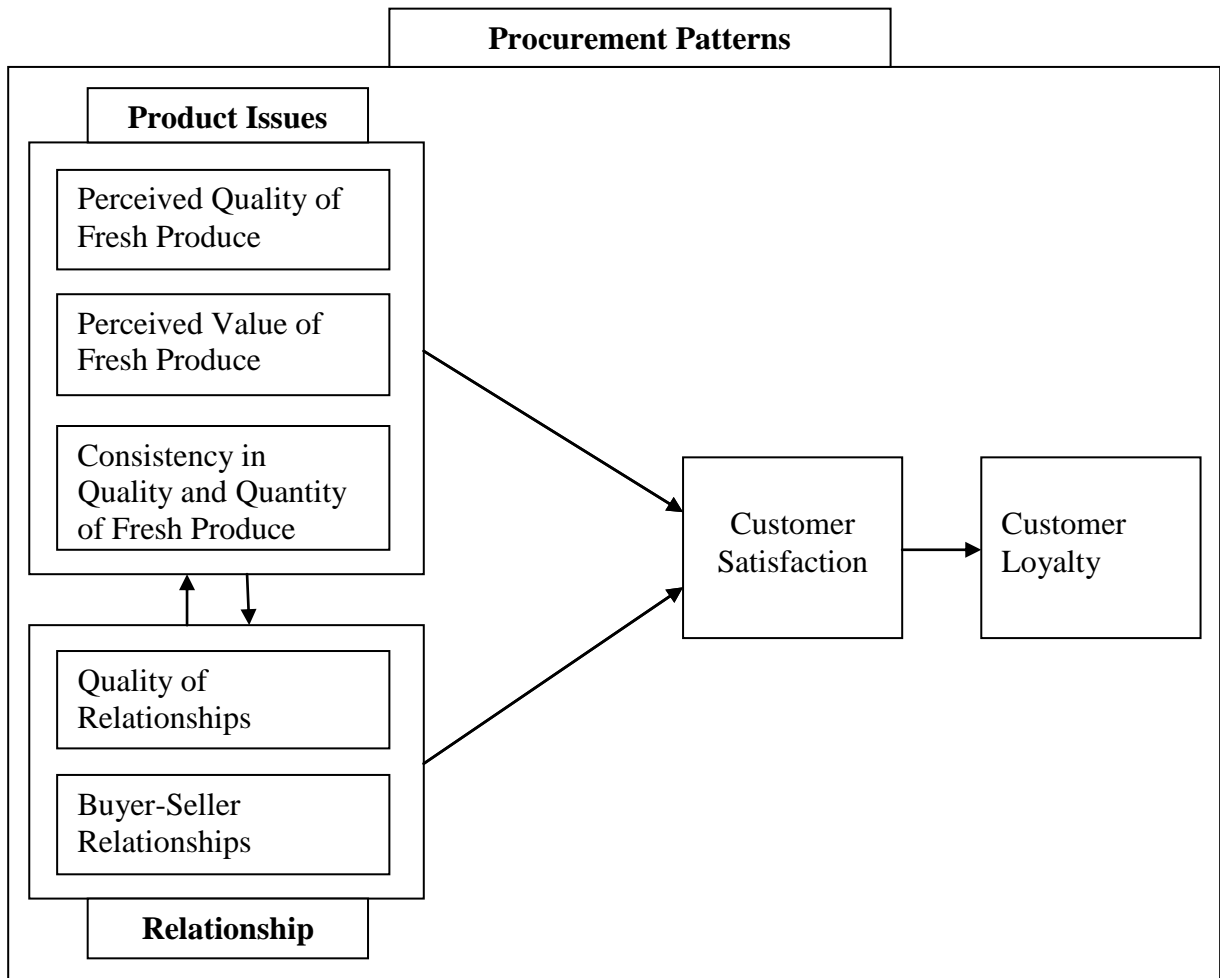
Figure 2.1: A Customer Satisfaction Framework for Fresh produce buyers

2.5 Procurement Patterns

Smallholder fresh produce farmers in developing countries can miss out on many benefits due to opportunistic behaviour exhibited in spot markets. This occurs because customer relationships have not been established and supplies of fresh produce are inconsistent in quality and quantity. A likely result is unsatisfied customers. When customers' preferences are not met, there is not satisfaction with that particular transaction, and this can lead to

disloyalty among participants. Hence, both the buyer and the supplier can lose because of the nature of the relationship.

Because of this potential for unreliability in their business relationships, there is a trend towards customers (buyers) of fresh produce tightening their procurement policies to ensure they deal with reliable suppliers that can meet their product requirements. As a result, procurement patterns in fresh produce marketing are challenging. These changes are occurring in order to meet customer requirements or standards and are driven by various actors in the fresh produce system such as the wholesalers, processors, retailers, and food service sectors. Reardon (2006) noted that while others play their part in determining customers' requirements and standards are met by suppliers, supermarkets (and large processors) tend to play a much bigger role. This is because very large numbers of traditional food industry actors down the supply chain, including wet markets, small-scale processors and the traditional brokers, do not have the capacity to implement standards, or can do so only minimally. However, supermarkets can implement standards on a larger scale as they have taken over markets from traditional players due to their rapid expansion.

The procurement patterns of supermarkets are similar in many aspects across many developing countries. The following procurement systems, although depicting those prevailing in the Central American marketplace (Berdegué et al., 2005) are likely to apply to other developing countries.

A **Type One** procurement system is where there is a total reliance on traditional wholesalers delivering to individual stores. This occurs when a few relatively small chains of small to medium size supermarkets rely on a traditional system with traditional wholesalers delivering produce to each store. There are minimal quality standards in this case, and quality control is

based on end of line inspection, which can lead to a high proportion of wasted produce (Reardon, 2006).

A **Type Two** procurement system is where a firm uses outsourced and decentralized procurement. This system is utilised by small-medium chains. These chains rely on one or two specialised wholesalers, who in turn, rely on centralised wholesale markets, and some products from individual growers. Here quality standards are higher than in the Type 1 procurement system. This is due a focus on middle-high to high-income clientele. Wholesalers in this system are more powerful and operate formally compared to the wholesalers in type one procurement system (Reardon, 2006).

A **Type Three** procurement system is when a firm uses a decentralized mixed procurement system. This is a case when chains are about to make a switch in favour of a centralised system. Though the system is largely reliant on one or two specialised wholesalers, direct sourcing from individual growers and preferred wholesalers/ suppliers is encouraged. This is because relying on more than one supplier gives leverage to bargain and to demand higher quality produce for lower prices. In this system, quality standards are higher than in Type One and Two systems (Reardon, 2006).

A **Type Four** procurement system is when a firm uses centralized passive procurement. With this system, the chain defines and enforces what requirements should be met, such as strict quality and safety standards, standards on pesticide residues or the presence of pathogens such as E. Coli. This system is based on a centralised procurement system with a shift towards direct sourcing of produce from producer suppliers. The aim of this strategy is to enforce more stringent quality standards at lower monitoring costs. Producer-suppliers with the highest rates of compliance are rewarded with increased volumes per order. The opposite

happens to the supplier who complies poorly. This system is called passive because the supplier has to find the best way to meet the requirements that are normally written as a guide to be followed. The system is dictated by clear rules that are set out to be followed with likely rewards (Reardon, 2006).

Finally, a **Type Five** procurement system uses the centralized proactive system. This system's only difference with that of the previous one (Type Four) is that with this system, the supermarket chain establishes a mechanism for technical assistance and a training programme to assist suppliers reach the higher quality and safety standards required (Reardon, 2006).

There may be more than one procurement system along the length of a chain. A fresh produce supply chain starts from the farm with the smallholder farmer and ends with the final consumer. Within the supply chain, an intermediate customer also becomes a supplier to the next customer, and so on to the end consumer (Martin and Jagadish, 2006).

In PNG, there may be a mix of procurement patterns in the fresh produce industry. A mixture of Type One and Type Two type of procurement patterns are likely to be prevalent in the country. However, due to the rapid growth in the economy and the increase in the need for safe and quality fresh produce, procurement patterns may change and become more like the Type Three procurement pattern described by Reardon (2006). Hence, the types of relationships exhibited and how satisfied the intermediate customers are down the chain depends on whether the supplier above can meet their needs.

2.6   Product Issues

The framework outlined in Figure 2.1 suggests that product issues consist of three components. These are perceived quality of produce, perceived value of produce, and consistency in quality and quantity of produce.

2.6.1   Perceived Quality of Fresh Produce

Quality is defined as the measure of belief statements or attributes of the performance of products and services as perceived by consumers (Churchill and Surprenant, 1982). It has been noted that quality can act like a bridge between the supplier and the customer and can bring about satisfaction that can result in a continued business relationship (Sparks and Legault, 1993). Unlike other products, fresh produce is highly perishable and has a very short shelf life. Hence, it is important to get the produce to the final consumer in the shortest time possible with the quality attributes anticipated by the customer intact.

As such, perceived quality of fresh produce plays a significant role in customer satisfaction. There is a belief that there is a direct relationship between quality, customer satisfaction and economic returns (Anderson et al., 1994), and studies show that satisfaction and perceived quality are interrelated (Churchill and Surprenant, 1982; Bitner and Hubbert, 1994). Theoretical arguments have been supported by empirical relationships between quality and satisfaction (de Ruyter, Bloemer and Peeters, 1997; Cronin et al., 2000). Marketing researchers have demonstrated that quality performance leads to customer satisfaction (Oliver, 1997; Dabholkar et al., 2000), which in turn, influences actual buying behaviour (Oliver, 1999; Johnson and Gustafsson, 2000).

Fresh produce retailers buy fruits and vegetables they consider to be of a reasonable quality standard. This is important because they will resell their produce to the final consumers who will want fresh produce that is of acceptable quality levels to them. Given this importance, retailers currently are demanding higher quality and fresher fruit and vegetables, as it plays a key role in sustaining consumer demand and also contributes to being competitive in retail market (Damianos and Demoussis, 1992; Shukor et al., 2001; Nicola and Fontana, 2010).

Demand for higher quality products has increased over the years and continues to increase worldwide (Desatnick, 1989). The greater effort put in by companies and individuals to improve the quality of products and services are in response to that growing demand for quality. Deming (1986) and Govindasamy (1997) have argued that quality is defined by the customer, as it has observable indicators that the customer considers important. Perceived quality then, is the consumer's judgement about a product's excellence or superiority. Opara (1999) defined quality of agricultural products as those characteristics and features of a product that the customer expects from the product. These features and characteristics can be delivered through planned activities that are designed to continually satisfy customer expectations.

Therefore, a key aspect of customer satisfaction is the quality level of the product attributes (Oliver, 1997; Dabholkar et al., 2000). These product attributes are described as the distinctive tangible and intangible features of a product that gives it its value to a user. The attributes reside in the product while benefits reside in the consumer (Armstrong and Kotler, 2004). It has been noted that perceived quality can be a key indicator in an assessment of a supplier's offering (Steenkamp, 1989). Satin (1997) stated that quality is defined as an integrated measure of purity, flavour, texture, colour, appearance, and workmanship in the food industry. This idea is similar to the concept of total quality. However, the idea of total

quality widens its scope to include all aspects of the offering, including service and delivery time (Saunders, 1997). Quality can also be defined as a grouping of features or attributes that are vital in providing a product's consumer acceptability, including fitness of use, freedom from defects and provision of satisfaction (Satin, 1997; Saunders, 1997; Juran and Gryna, 1998, cited in Saunders, 1997). The idea is to continuously improve the quality of the products and processes involved in delivering the products and services so as to satisfy the customer demanding it.

Marketers have also defined quality as the customer's perception of the value of the product with reference to price (Satin, 1997; Saunders, 1997). It can in addition refer to a product's unfailing adherence to a requirement, specification or standard (Satin, 1997; Saunders, 1997; Burrill and Ledolter, 1999; Fredendall and Hill, 2001). Quality is intangible, but in spite of this, it is an idealistic picture of what a product or service should be like to the consumers (Burrill and Ledolter, 1999). It is also seen as a feature of excellence or an ideal which can be measured using a combination of characteristics that are critical in establishing a product's acceptability (Satin, 1997; Saunders, 1997). As a result of this intangible nature of quality, ensuring customer satisfaction through provision of quality products and services is a very challenging task. Despite this fact, quality of the product or service must be stressed in a supply chain as it brings about satisfaction to customers. A satisfied customer is most likely to be loyal to the supplier and continue to do business with the supplier.

2.6.2   Perceived Value of Fresh Produce

It is natural for customers to demand good products while at the same time they are reluctant to overpay. This is the dilemma most companies face when selling products. Irrespective of the product category, it is the consumers' assessment of value that determines which supplier

gets their business. Therefore, it is imperative that companies who make and price products need to understand how much their products are worth on the market. Attracting customers and gaining and retaining customer loyalty are difficult tasks in today's dynamic and challenging marketing environment. Therefore it is vital to note that products and services that attract customers and retain their loyalty are often the ones that can produce superior overall performance than their competitors. These products and services win by delivering better customer-perceived value (Gale and Swire, 2006).

The value or the worth of a product or service resides in the mind of the consumers. Customers evaluate the value of the product or service by comparing either intuitively or explicitly, the benefits and costs of the offering compared to the alternatives. As such, the perceived value of a product or service is an important factor to consider in marketing a product and service to target markets. Zeithaml (1988) and Monroe (1991) defined customer-perceived value as the consumer's overall assessment of the benefits of a product or service based on the perception of what is received and what is to be given. The more value received from a product in comparison to an alternative, the more satisfied a customer feels. As such, customer satisfaction is dependent on customer perceived value of a product or service (Ravald and Gronroos, 1996).

While value is driven by the final consumer, suppliers along a supply chain must meet the needs of the intermediate customer above them in the chain. Thus, a value creation process occurs along the entire chain, and each intermediate customer along the chain is satisfied when they feel they get value out of a transaction. From the supply chain context of adding value to a product, though, final customers are the drivers of value in the chain (Martin and Jagadish, 2006).

2.6.3   Consistency of Fresh Produce Supplies

Consistency is defined as the state of being regular; conformity with other earlier attitudes, practice, etc. It could also be described as the achievement of a level of performance that does not vary greatly in quality over time (Concise Oxford Dictionary, 1995). In fresh produce marketing, consistency of supply plays a significant role in customer satisfaction. Consistency is imperative as inconsistencies in supplies can signal unreliability of suppliers, and ultimately, can result in unsatisfied customers who may not want to deal with inconsistent suppliers.

Meeting customer requirements consistently in developing countries is often challenging. Many smallholders can be in a situation of supplying a few buyers down the chain. Supply of fresh produce of required quality and quantity often becomes a problem, and as a result, transaction costs increase for customers. Big fresh produce customers like supermarkets and wholesalers aim to supply their customers with products that are consistent in appearance and taste, not only at one particular time, but preferably across the growing season. This requires consistency of production and distribution from the suppliers (Dolan and Humphrey, 2000).

Fresh produce buyers stress the importance of consistency of supply from their suppliers. It plays a big part in their operations, as without consistency of the fresh produce supplied, they may not be able to meet their customers' demand, thus losing business to competitors who are able to supply what customers want. The importance of consistently supplying quality and quantity demanded and meeting safety and other requirements of customers without fail can have a big impact on overall customer satisfaction. Shepherd (2005) noted that traditional marketing arrangements often failed to address issues of consistency in quality, safety and other marketing requirements of customers.

This need for supply consistency is a key reason why customers, such as wholesalers and supermarkets, have moved away from the traditional marketing arrangements, and have contracted production with suppliers that meet the specific grades and standards of the retail chain, which are driven by their final consumers. For example, in Kenya, importers deal mainly with large-scale specialised fresh produce farmers. That is, they deal with only a few suppliers. In some extreme cases, importers may deal with only one dedicated supplier who can consistently supply the customer requirements (Barrett et al., 1999).

2.7   Relationship Issues

Figure 2.1, demonstrates the importance of relationships. It is noted from the customer satisfaction framework that the nature of relationship determines customer satisfaction. As such, be it in business or any personal relationships, there has to be two mutually satisfied partners that are happy for a relationship to continue.

2.7. 1   Quality of Relationship

The quality of the relationship between a supplier and a buyer can mean a lot in any business. In fresh produce marketing, it may be particularly important due to the nature of the product. Fresh produce is highly perishable, can easily be contaminated, and pest and damage in transit can affect its market value. However, if there is a good relationship with a buyer, these issues can be addressed collaboratively.

From a more general perspective, quality of relationship has become so important that some organisations have tried to understand customers by using customer relationship management (CRM) programs. CRM is a company strategy to understand the customer, maintaining the

customer's desired experience and building profitable customer loyalty (Crosby and Johnson, 2000). Although, the concept of a CRM system is laudable, Reinartz et al (2004) states that it does impose challenges, since it can be difficult to identify bottom-line improvement in company performance. However, a CRM system can help firms maintain relationships with customers and suppliers through the use of personalised information.

Organisations are increasingly becoming aware of the importance of having close relationships with customers as a means of increasing customer retention, which can depend on the quality of the relationship between the organisation and the customer (Chang and Ku, 2009). The term "quality of relationship" can defer in context and meaning, Smith (1998) identifies relationship quality as the general assessment of the strength of a relationship in relation to how it meets the needs and expectations of the parties concerned based on some past encounters or events that were successful or unsuccessful. However, Morgan and Hunt (1994) described relationship quality in terms of commitment and trust components. They stressed that marketers should resist attractive short-term offerings from other parties in favour of the long-term benefits of cooperation with existing partners. This is done so as to retain loyalty and avoid the opportunistic behaviour.

Organisations are now realising that the intangible aspects of customer relationship may not be easily duplicated by competitors. In fact, they can provide a unique competitive advantage to the firm concerned (Kanji, 1998; Roberts et al., 2003). The person to person relationship is important in the sense that it can lead to satisfaction and trust in customers. This results in repeat purchases to the firm and as a result, it improves organisational performance. Many organisations are now recognising the importance of developing close relationships with customers as a means of increasing retention.

2.7.2 Buyer-Seller Relationship

Marketing has become more challenging over the last few decades due to stiff competition from competitors. What used to be a firm's unique marketing strategy that attracted customers in the past may not be effective now. This has prompted firms to ensure existing customers are retained as much as possible, by dealing with them on individual basis. Thus, quality relationships have been established between firms and customers, and firms treat customers as integral to their business. This has led to firms carrying out relationship marketing.

Relationship marketing is described as the activities undertaken by a company to retain individual customers by using a variety of after-marketing tactics for customer bonding or staying in touch after the sale is made (Vavra, 1991). A more popular view of relationship marketing is to focus on individual relationships with customers through the application of information technology with the intention of retaining customers (Peppers and Rogers, 1993).

This could only happen if customers are satisfied with what is offered by a supplier. No relationship can ever be established with an unsatisfied customer. As such, in fresh produce marketing, product issues such as quality, value, and consistency in quantity and quality of produce supplied often result in quality relationships between the buyer-seller. This opens up the door for marketers to start moving forward to establishing mechanisms that would help retain customers. Sheth and Parvatiyar (2000) noted that cooperative and collaborative relationships between the firm and its customers lead to greater market value creation and benefits both parties engaged in the relationship. As such, Sheth (1996) suggested that the purpose of relationship marketing is to create and enhance mutual economic value for both parties. Though initiatives are undertaken by the supplier, the customer plays an equally

important role in supplying right information to the firm where it is utilised to bring about the relationship benefit to both parties at reduced costs (Sheth and Parvatiyar, 2000).

Now that we have looked at procurement patterns, product issues, and relationships issues, we will focus on aspects of customer satisfaction and customer loyalty.

2.8 Customer Satisfaction and Customer Loyalty

Customer satisfaction can be defined as the customer's fulfilment response or the degree to which the customer's level of fulfilment is pleasant or unpleasant (Oliver, 1997). Although satisfaction is very fluid in definition, two generic conceptualisations of customer satisfaction can be distinguished; transaction-specific and cumulative (Boulding et al., 1993). In the transaction-specific viewpoint, customer satisfaction is seen as the post-purchase judgement of a specific purchase occasion (Hunt, 1977; Oliver, 1980, 1993). Cumulative satisfaction on the other hand is an overall assessment based on the total purchase and consumption experience with the product over time (Johnson and Forell, 1991; Fornell, 1992).

Given this context, it is important that organisations ensure that the products sold bring about the greatest satisfaction possible to the consumer. This is important because when a product satisfies the needs and wants of a customer, repeat purchases are highly likely and the probability that the customer becomes a "brand ambassador" and a loyal customer is increased. The loyal customer promotes the product through word of mouth to friends, family members and others. These loyal customers are then able to tolerate some service failures and are prepared to come back more than unsatisfied customers. Hence, marketers try to ensure that products sold give the customers the greatest satisfaction (Assael et al., 2007; Pride et al., 2007).

Studies have shown that customer satisfaction is related to customer loyalty, which in turn is related to profitability (Gummesson, 1993; Anderson and Fornell 1994; Heskett et al., 1994). The fundamental driving factor of a business is profit. Hence, customer satisfaction is crucial to getting customer loyalty, which, in turn is a key factor in profitability (Hallowell, 1996).

2.9   Conclusion

Most of the world's poor live in developing countries and depend on horticultural production, more specifically fresh produce for their livelihoods. Fresh produce marketing has been making an impact on the global trade as well as on the domestic markets due to increase in production and marketing by smallholders. Many people in developing countries see fresh produce as the production of choice among traditional crops, as it provides more net farm income, which can be used to improve their living standards. This appears to be a key driving factor in the increase in the volume of produce produced by smallholders.

Marketing of fresh produce has brought about changes in the procurement systems. The buying and selling that was traditionally done through spot market is increasingly being replaced by the preferred vertically coordinated markets, which impose new requirements on smallholders. These changes are basically to deliver customer requirements. The aim is to deliver a product with all the attributes that gives the customer the desired benefits and satisfy the customer buying it.

In summary, to meet customer requirements, two areas were looked at by suppliers in addressing customer requirements. They are basically product requirements and relationship requirements. Product requirements related to the quality attributes of the product customers wanted and relationship issues related to the way trading partners met their customer's needs.

Chapter 3

Research Method and Design

3.1　Introduction

The choice of method was dictated by location and context of the project. In large part, the intensity of fresh produce production and marketing in the region, the safety of the researcher and logistical issues dictated the strategy.

The chapter has eight sections including the introduction. Section 3.2 describes the justification for the selection of the research location, Section 3.3 looks at the research design of the study, and Section 3.4 looks at the research approach. Section 3.5 describes the selection of respondents, Section 3.6 looks at the design and administration of the questionnaire, while Sections 3.7 and 3.8 describe the data analysis and ethical issues respectively.

3.2　Justification for Research Location

A large quantity of fresh produce for commercial purposes is grown in the Highlands of PNG. Despite other highlands provinces growing fresh fruits and vegetables, the Eastern and Western Highlands Provinces are the major producers of fresh produce. Hence, it was thought important to conduct the study in one of these provinces, due to the intensity of production specifically for commercial purposes.

Constraints faced by the researcher contributed substantially to the determination of the research location. The most notable constraints were the financial and logistical resources

needed to assist in undertaking the study. However, with limited finance and not having easy access to transport, it was impossible to conduct the research in both provinces. The option of a postal survey was not possible due to the low literacy rate. Most of the respondents' levels of education were assumed to be low, and as such, it might have been difficult for them to read and fully comprehend the questionnaire. In addition, there were no postal services, making it impossible to use this method. Therefore, it was necessary to conduct the study using personal interviews.

Although the researcher came from Western Highlands Province, providing an advantage for that research site, tribal conflicts involving the researcher's clan made it quite unsafe to conduct interviews there. In addition, the researcher was assisted by a former employer with logistical support and provided staff members to conduct the study that made the survey run smoothly. As a result of this support, the project was conducted in the EHP. Thankfully, the province was a safer environment[6] within which to conduct the research.

EHP is made up of eight districts covering an area of 11200 square kilometres and has a total population of 432,972 (PNG Census, 2000). Like every other highlands province in PNG, most parts of the EHP are inhospitable and have little human habitation. With rugged mountains and poor physical infrastructure, survival is a real challenge for the people in these areas. The only sealed road in the province is the Highlands Highway that links the highlands to the Morobe and Madang Provinces. Most rural roads are in very bad condition. Despite this, the production and marketing of fresh produce has become an important component of generating cash income and is widespread in the province. Although traditional cash crops like coffee have been grown for many years, the commercial orientation of fresh produce production is on the rise in the province.

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[6] Tribal conflicts and the general civil unrest were on-going in the PNG Highlands at the time of data collection.

Figure 1 presents PNG as a whole, whilst Figure 2 shows the map of Eastern Highlands Province and its districts.

Figure 3.1: Map of Papua New Guinea

After selecting EHP as the province of choice for the study, the researcher had to scale down coverage to a specific study site, given financial and logistical constraints. Even time was a constraint, as the researcher only had a short period to complete the study. That made it impossible to cover the whole province. After thorough discussions of these constraints with key informants, it was decided that the Daulo district was an ideal study site.

The district was selected because of the greater intensity of production and marketing of fresh produce compared to other districts in the province. At the time of the survey, the total population of Daulo District was estimated to be 30,000 people (PNG Census, 2000). The district is also close to the regional capital of Goroka, which made it easier logistically to reach and was known to be a relatively safe district within which to gather data.
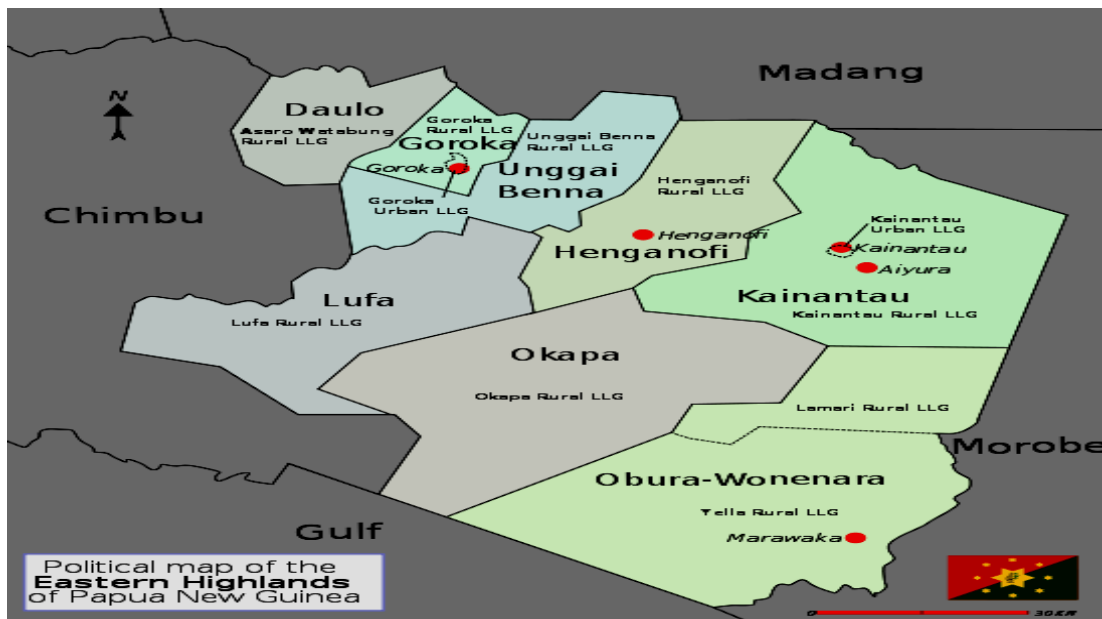
Figure 3.2: Map showing districts of EHP

3.3 Research Design

The research was designed to identify the requirements of buyers of fresh produce in the PNG Highlands, and to evaluate how prepared those supplying and procuring fresh produce for the current PNG markets were to meet likely future trends. These research issues led to the specification of various research objectives. These included determining buyers' perceptions of the current and future market needs and the type of procurement and marketing relationships strategies used by buyers. This also required determining smallholders' perception of current and future market requirements and how satisfied fresh produce buyers were in their relationship with smallholders. Providing recommendations for policy makers on improving the procurement of fresh produce was also a primary concern. These objectives, in light of the above described location problem, led to the selection of method.

3.4   Approach

A mixed method was chosen because it was the most reasonable means for accomplishing the research goals, given the constraints. With mixed methods, there is no discrete way of conducting a study, and researchers are encouraged to develop a design that answers their own research questions within the constraints and boundaries of the study context (Johnson & Onwuegbuzie, 2004: 20; Johnson and Turner, 2002). Creswell (1995), described the mixed model studies approach as a research design that "represents the highest degree of mixing paradigms ... The researcher would mix aspects of the qualitative and quantitative paradigm at all or many ... parts" (p. 177-178). With this study approach, "there may be single applications within phases of the study, such as quantitative (experimental) design, followed by qualitative data collection, followed by quantitative analysis after the data are converted" (Tashakkori and Teddlie , 1998, p.19).

The mixed method approach is thus most appropriate in this study, given the substantial constraints described above, how the study site and respondents were selected, the way interviews were conducted, and how the data collected was analysed. As noted above, the selection of the study site was done through the use of key informants. FPDA and Department of Agriculture and Livestock (DAL) staff confirmed the study area as appropriate, given the intensity of production and marketing of fresh produce from that district.

3.5   Selection of Respondents

There are 23 wards within the Daulo District, (National Research Institute, 2007). The sample frames were the smallholder farmers in Wards 1 and 2 of the District, and the marketing

agents who operated in these areas. The wards were chosen because of their large crop production area and because access to respondents was relatively easy to arrange.

A purposive sampling, non-random method was used to selecting respondents in this study. These respondents were identified by the FPDA VEW[7] representatives in the wards. FPDA and DAL staff identified potential smallholder farmer respondents. These farmers were then approached and interviewed. The smallholders then identified the marketing intermediaries that they sold their produce to and those marketing intermediaries were approached and interviewed. Information was collected through personal interviews using a tight design with a prepared questionnaire consisting of open-ended and close-ended questions. Data collected was then analysed using whatever qualitative and quantitative techniques were appropriate in order to address the research objectives

The purposive sampling method was considered appropriate because comprehensive lists of potential respondents were not available. It is noted that a benefit of applying a purposive sampling method in a research design is that it lets the researcher focus in on the research respondents or events which may appear to have the best likelihood of providing relevant and accurate data. These people and events are critical for the research (Dane, 1990). Hence, this research method was considered appropriate for this study.

Marshall (1996) argued that an appropriate sample size for a qualitative study is one that adequately answers the research question. "For simple questions or very detailed studies, this might be in single figures; for complex questions and large samples, a variety of sampling techniques might be necessary" (Marshall, 1996, p.523). In this study, sixty (60) smallholder farmers were interviewed from the study area. The smallholders then directed the researcher

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[7] FPDA VEWs (Village Extension Workers) are rural farmers trained by FPDA to do model farms in their communities.

to ten marketing agents in the area. However, only seven marketers were able to be interviewed as the other three were in Port Moresby, the capital city of PNG at the time of the interviews, selling their produce. Although the number interviewed is small, it represents 70% of the total population of marketers within the Daulo district. However, only seven marketers interviewed means that the results must be considered somewhat fragile, and care must be taken not to extrapolate too strongly or generalise on the basis of the results.

3.6 Questionnaire Design and Administration

3.6.1 Introduction

Miles and Huberman (1994) noted a difference between "tight" and "loose" qualitative research designs. Tight research designs are characterised by narrow and restricted questions and by pre-structured selection procedures. It is tight in the sense that the researcher does not deviate and explore other issues in the data or information collection process. It acts as a guide to guide the researcher to remain focussed on the main issues. These conditions apply to the current project, suggesting that a tight research design was appropriate. Personal safety concerns meant it was prudent to use skilled interviewers unaffected by the conflict to conduct the majority of the interviews and for the researcher to oversee this process. This constraint also suggests a tight design is appropriate.

Two different questionnaires were used to measure the views of the two different types of survey respondent. The first questionnaire was directed at the smallholders. The second questionnaire was directed at the marketers.

3.6.2   Smallholder Questionnaire

Information was sought on the demographics of the smallholder respondents, the resources they owned and used in their production, the crops they grew, and how and where they marketed their produce. They were then asked to rate which vegetables fetched higher prices and which markets were paying higher prices. This was then followed with questions on the type of procurement systems they had with their trading partners and if there had been any changes in the procurement systems during the time they had been in business.

Smallholders were asked to respond to prepared statements about their ability to meet their buyers' requirements (perceived quality and value of fresh produce and consistency in quality and quantity of fresh produce). These statements were based on the findings of the literature review outlined in Chapter 2. The statements were measured on a 3-point scale from 1 (Always Meet) to 3 (Hardly Meet). The farmers were then asked to describe if they were satisfied with their relationship with the trading partners. The various statements presented were developed from the buyer-seller relationship perspective. These were measured on a 3-point scale, from 1(Agree) to 3 (Disagree). Finally, smallholders were asked to respond to further statements about their overall satisfaction with the buyers' ability to meet their needs and their willingness to continue trading with them. These statements were also measured on a 3-point scale from 1 (Satisfied) to 3 (Dissatisfied). Note that while 3 point scales only allow relatively crude perceptions to be elicited, it was reasoned that 5 or 7 point scales would impose undesirable complexity, with the risk of compromising participation. In addition, the questionnaires were ambitious, trying to measure a large number of variables. The need for simplicity and ease of scoring thus led to reliance on these truncated scales.

3.6.3   Marketers' Questionnaire

At the end of each smallholder interview, they were asked to identify their trading partners. A list of marketing intermediaries they sold to was provided but logistical and security issues limited interviews to only marketing agents in the local area. Given that the marketing agents (marketers) were growers as well as buyers and marketers, questions were asked on their growing and marketing activities. Information was sought on the demographics of the respondents, resources owned and used in their production and marketing, and how they marketed their produce. In this respect, they were asked what proportion of produce marketed was procured from the smallholders and where they sold the produce they had for sale. They were then asked which vegetables fetched higher prices and which markets were paying higher prices. This was then followed with questions on the type of procurement systems they had with their partners and if there had been any changes in the procurement systems during the time they had been in business.

Marketers were then asked to respond to a similar set of prepared statements about their ability to meet buyers' requirements (perceived quality and value of fresh produce and consistency in quality and quantity of fresh produce). They were also asked if their suppliers (smallholders) met these requirements when they sold to them. Finally, the marketers were asked to rank statements on the level of satisfaction with their relationship with the trading partners, including both their suppliers (smallholders) and their buyers.

3.6.4   Interviewer training and pilot survey

As noted previously, actually interviewing was done by skilled interviewers, who were overseen by the researcher. These interviewers were FPDA staff who were carefully briefed

by the researcher. These interviewers were assisted by two enumerators from each of the two ward councils. The enumerators only assisted when language became a barrier. Hence, little training was required as FPDA staff were skilled, familiar with such surveys, and were well-versed in the local area and cultures. The questionnaire was tested through a pilot study. After identifying flaws, adjustments were made to the final questionnaires and finalised copies were printed. Although the questionnaire itself was expressed in English, interviews were conducted in Pidgin, the (PNG national language), but recorded in English. The researcher checked all questionnaires as they were completed. Arrangements were then made to correct any obvious errors and oversights, and to gain further information if answers were unclear.

3.7   Data analysis

The data collected from the survey were entered directly into an Excel spreadsheet. Data were then imported into the Statistical Package for the Social Sciences (SPSS) program for analysis. Descriptive statistics and cross-tabulations were calculated where appropriate. Further analyses were conducted where needed with results reported in Chapter 4 and Chapter 5.

3.8   Ethical issues

Human Ethics committee clearance as was not required for this research as the questions asked related only to the respondent's business decisions. Every effort was made to ensure that the research was conducted in a culturally respectful way. FPDA staff who assisted the researcher have worked with the local farmers and understood the local culture, which ensured there was minimal risk of cultural or moral offence. In the interest of best practice, respondents were informed that participation was voluntary, confidential and anonymous;

they were not required to answer all questions if they chose not to do so. They were told that they could withdraw their information at any time. In addition, they were informed that their names would not be recorded on the questionnaires and that the interviews would not be recorded.

Chapter 4

Results: The Marketer–Buyer Dyad

4.1   Introduction

Chapter Four presents results and some interpretation of the data on the marketer-buyer dyad provided by marketers. Section 4.2 describes the marketers and their activities, Section 4.3 describes procurement arrangements between marketers and a number of buyers, Section 4.4 describes perceived causes of changes in procurement, Section 4.5 describes perceived quality of product supplied by marketers to buyers, Section 4.6 describes consistency of supply by marketers to buyers, and Section 4.7 describes relationship issues between marketers and buyers. Finally, in Section 4.8, these results for the marketer-buyer dyad are summarised.

It is important to note that this chapter reflects the results of interviews with seven marketers of the ten marketers identified by key informants operating in the wards one and two of the Daulo district. Whilst this is a large proportion of marketers in Daulo, it is still only seven informants, and therefore results will be treated with care when it comes to generalisation. The results of the interviews represent the operations of this small number of marketers in these wards only, and results may differ with other districts in the province. In addition, resource constraints meant that buyers could not be interviewed, so it is acknowledged that dyadic issues reflect the perceptions of the marketers and not the buyers.

4.2   The Marketers and their Activities

4.2.1   Marketers Operations

Marketers played an important role in their wards. This was so because procuring fresh produce in the local areas provided an outlet for smallholders who often find it difficult to sell their produce at other very competitive markets in town and distant markets. Analysis of the demographic data showed the marketers were middle-aged and mostly 35 to 45 years of age, reasonably well educated and had an average family size of five members. Their decision to engage in marketing activity as an active choice was motivated by potential economic returns.

Table 4.1 Capital investments

Characteristic	N=7	Proportion of marketers (%)
Storage facility	2	28.6
Chillers	1	14.3
Access to water	2	28.6
Access to telephone	7	100
Access to electricity	2	28.6
Owns truck	2	28.6

N.B. Note that in some situations respondents ticked more than one choice.

Table 4.1 shows the marketing resources owned by marketers. All interviewed had cell phones, which they reported were very useful in their operations. Two of the marketers among this group had quite advanced operations. They owned storage facilities, trucks, and had convenient access to water and electricity. One of them had installed a chiller container in his storage facility. These two more advanced marketers[8] had been buying and selling fresh produce for a considerable time, with one being in the business for 25 years. He started as an employee of another marketer who left the ward. After his employer ventured into another business, he decided to maintain the contacts with the buyers and carry on with the marketing

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[8] Advanced marketers are distinguished by the resources they have as permanent storage facilities, trucks, have access to water and electricity.

operations himself. This allowed him to make quick progress due to relationships already established. The other marketer started his operations from a zero base. He identified the market demand and started buying and selling produce, and had been buying and selling produce for nearly 15 years at the time of the interview.

4.2.2   Growing and buying of produce by marketers

All of the fresh produce marketers interviewed are grower-marketers growing their own produce as well as buying from smallholders to sell to various markets.

Table 4.2 Growing and buying of produce by marketers

Percentage growing and marketing		
Marketers (7)	(%) Grow	(%) Procure
1	40	60
3	50	50
1	70	30
1	80	20
1	90	10
Produce procured from		
Suppliers	N=7	(%) Marketers
Households	7	100
Extended families	5	71.4
Whole village	2	28.6
Farmer marketing cooperatives	1	14.3

N.B. Note that in some situations respondents ticked more than one choice.

Table 4.2 shows that, out of the seven marketers interviewed, the proportions of produce grown to produce purchased varied from 90% grown and 10% purchased down to 40% grown to 60% purchased. All marketers noted that procuring from others and growing themselves was important. They stated that they have to grow some produce themselves to ensure they do not run out of produce, while at the same time procuring from others provided an incentive for smallholders to grow. The smallholders' production provides the security to meet volumes and variety requirements they cannot meet from their own production.

Most of the marketers' purchases were procured from the individual household suppliers. The marketers noted that when households could not meet or supply what they wanted, the households then directed them to others, often their extended families, who had produce ready for sale. This type of networking was noted to be a common practice as farming of fresh produce was not consistently done by households. Even if the households did plant consistently, the volume available was sometimes was not always large enough. Consequently, extended families fill the missing volume for the marketers. Tow marketers also have arrangements where everyone in the village participates.

It was noted from the survey that the two advanced marketers grew 50% and procured 50% from the smallholders. They reported that initially when they started growing and selling, most of what they sold came from their own gardens. However, this changed as they concentrated more on marketing and planting a few select high revenue crops. When the marketers' buyers increased the volume they procured from the marketers, the marketers decided to get other households in their village to grow more so they could procure from them and then resell them to their buyers.

These two marketers noted that, of the 50% of production that comes from their own farms, 80% to 90% of these are high revenue crops. They said it was imperative to grow the high revenue crops as their relationship with the buyers depended very much on the supply of these vegetables. As such, they did not want to rely on the smallholders. The marketer who produced 70% and procured 30% was very similar in operations to the two advanced marketers.

The other four marketers were also selling regularly but were not as advanced in their operations as the first three marketers. They also reported that growing high revenue crops

themselves was important to keeping their markets. However, all these marketers noted that to grow all crops they sell was not possible so they had to procure from other suppliers to meet their buyers' requirements.

Table 4.3 Most common produce grown and procured by the marketers.

Produce Grown	Proportion of marketers (%)	Produce procured	Proportion of marketers (%)
English cabbage	100	English cabbage	86
Carrot	100	Carrot	71
Chinese cabbage	71	Potato	71
Potato	71	Broccoli	57
Kaukau	71	Kaukau	43
Broccoli	57	Sugar fruit	43
Spring onion	57	Chinese cabbage	29
Tomato	43	Tomato	29

N.B. Note that in some situations respondents ticked more than one choice.

Table 4.3 shows the most common produce grown and procured by marketers. The key finding from this table is that for all these common vegetables, a higher proportion of marketers grow than purchase, which reinforces the earlier findings on proportions grown and purchased in total.

Table 4.4 Common high revenue crops grown and sold by marketers

Top ten revenue crops	
1.Broccoli	6. Kaukau
2.Carrot	7. Potato
3. Cauliflower	8. Spring onion
4. Chinese cabbage	9. Sugar fruit
5. English cabbage	10. Tomato

Table 4.4 shows the ten top revenue crops grown by most marketers. It was also noted that marketers tend to grow more of the introduced vegetables than the traditional crops as these vegetables generated more revenue than the traditional food crops.

Table 4.5 Sale of produce.

Produce sold	N=7	Proportion of marketers (%)
Sell all produce intended for sale	4	42.9
Sell only some of it	3	57.1
Produce unsold		
Donated to others	4	57.1
Thrown away	3	42.9

Table 4.5 shows that of the seven marketers interviewed, three reported usually selling all produce intended for sale while four faced problems in this regard. Interestingly, those that sold all produce intended for sale had regular buyers who bought fixed volumes per fortnight. Of these four marketers who sold fixed volumes, two of them were the advanced marketers.

The other three marketers also had regular buyers but volumes purchased fluctuated depending on the buyers' requirements. Marketers reported that, to keep their markets, they had to do production planning so that required volumes could be met. However, if buyers cannot guarantee a specified volume of product on a regular basis from the suppliers, it is then very difficult to anticipate and plan for customer requirements. The marketers reported this was a challenge for them as they were facing a situation where they had to supply customer requirements to keep their business. Failing to do so may result in losing their buyers.

Table 4.5 also shows what marketers do with produce they could not sell. All marketers reported that if they could not sell all the produce, they would take them back home if they are selling within Goroka. However, when they take their produce to distant markets, especially the coastal markets, they would give the unsold produce to others, especially to friends to recompense for accommodation and meals. Three marketers reported that they throw away produce they cannot sell.

Table 4.6 Top five sales variance problems

Sales vary due to
1. Fluctuation in demand of produce
2. Financial/Credit constraints
3. Not meeting customer requirements
4. Logistical problems
5. Seasonal variations

1 = Biggest problem, 2 = Second biggest problem...5 = Fifth biggest problem

Table 4.6 shows the top five major problems marketers faced in descending order with the first as being critical to the last as not as severe as the one above them. They noted that fluctuation in the demand for produce was the main sales issue. Marketers said that most of their buyers did not have a fixed order from them. This causes uncertainty for the marketers in managing production schedules and their commitment to their own suppliers at the village level.

Marketers reported that not meeting their buyers' requirements as the third ranked problem. Although they try their best, sometimes it proves too difficult when their suppliers (smallholders) are unable to supply the volume and quality they needed to meet the buyers' requirements. This can then affect the marketers' relationships with their buyers as they cannot be relied on to supply what they require.

4.2.3   Market Outlets

Marketers sold produce to a range of markets such as wholesalers, institutions, hotels, supermarkets, kai bars and town open markets. Although they preferred selling to regular markets, they did seek out other buyers when they had more than what their regular suppliers could absorb. Most of them sold regularly to supermarkets, institutions, hotels, wholesalers and town open markets. Three sold to kai bars[9] one of the marketers was able to sell to a

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[9] Kai bars are fast food stores in PNG. They are quite cheap fast food stores where most people can afford.

mining company. However, they did not sell to other marketing agents in the local area, or to the village markets and roadside markets.

Table 4.7 Regular markets where produce is sold.

Markets	N=7	Proportion of marketers (%)
Agents	0	n/a
Wholesalers	5	71.4
Institutions	5	71.4
Hotels	4	57.1
Supermarkets	6	85.7
Mines	1	14.3
Kai bars	3	42.9
Town open markets	5	71.4
Village markets	0	n/a
Roadside markets	0	n/a

N.B. Marketers can and do sell to more than a single destination

A few marketers claimed that, at times, they make more money from the town open markets than from selling the same volume to the formal markets. Asked how this was so, and they claimed that, for the formal markets, they sell in bulk, while in the open markets, they sell in smaller units and so make more money. However, this was later discovered they were referring to revenue and that much of the cost (transaction costs) associated with selling at the open markets were not properly accounted for. They reported that they could bargain for higher prices when there was a low supply of produce in the markets. Consequently, town open markets presented a stable, ongoing destination for marketers.

Table 4.8 Market ranking by quality and price in general

Quality preference of buyers	Price offered by buyers
1. Supermarkets	1. Hotels
2. Hotels	2. Supermarkets
3. Wholesalers	3. Town open markets
4. Town open markets	4. Wholesalers
5. Institutions	5. Institutions
6. Kai bars	6. Kai bars

1 = High to 6 = Low with reference to quality and price.

Table 4.8 shows the aggregate results of the marketers' assessments of buyers according to price paid for produce and the level of produce quality demanded by these markets. Generally, hotels were regarded as high paying markets, followed by supermarkets and town open markets then followed by wholesalers and institutions. Kai bars were ranked bottom on the list. A single marketer sold to the mines, and the price received was much higher than that received from other sources.

With reference to quality, marketers ranked supermarkets at the top while the kai bars stores were rated at the bottom. Quality preferences for produce in hotels and wholesalers are also high. Interestingly, town open markets' preference for quality ranking was higher than institutions and kai bars. Town open markets are primarily informal by nature. As such, one would expect it to be placed last on the list of markets regarding quality preference. However, due to the increasing urban working population, sellers have to sell quality if they want to sell quickly and make good money. As a result, most produce sold is sorted and graded before taken to the markets and that lifts the quality standards in the town open markets.

However, it should be noted that the price and quality ranking of produce is not rigid and can change depending on economic and social factors. It can also depend on individual marketers' perceptions of different buyers. Even though the seven marketers performed the same function at the wards, buying from smallholders, two groups emerged from this marketer group. One was more advanced selling more volumes and had some fixed order arrangements while another was also selling regularly to formal markets. Hence, the list is indicative and positions may change depending on individual marketers.

The two advanced marketers had storage facilities and trucks and, along with a third marketer, were selling more produce compared to the other four marketers. They noted that selling at

the open markets was a waste of time and effort. They also noted even kai bars were not worth selling to as their prices are too low. These marketers only sold to the supermarkets, hotels, wholesalers and institutions markets. Among the three marketers, two noted that the buyers that paid high prices for produce are supermarkets, hotels, and wholesalers, respectively.

The three marketers unanimously agreed that the requirement for quality was ranked high, in descending order, for supermarkets, hotels, wholesalers and institutions that they regularly supplied. These markets demand high quality produce and are willing to pay more for the produce they procure. They noted that to maintain relationships with the buyers who are willing to pay premiums for quality products, they, in their turn, demand their suppliers (smallholders) supply quality produce to them. Marketers reported that because of these strict quality requirements, they rely on households to supply what they need. Hence, their relationship with these households is important to them.

The second group comprised marketers who did not have extensive fixed capital equipment, although, they had some sort of storage sheds for storing produce before taking them to the markets. They did not sell fixed orders of a variety of produce and neither did they procure fixed orders from suppliers. Although they supplied regularly to formal markets such as supermarkets, hotels, institutions and others, the volume traded by these marketers was less compared to the first group.

Given that the second group of marketers also had regular buyers, they had to source extra produce from other suppliers to fill the missing variety and volume they could not get from their own production. As noted previously, this was done through the suppliers such as household suppliers, extended families, and anyone from within the village who was able to

supply a variety of produce to them regularly. These marketers also preferred quality products, but because they supplied some markets that had lower preference for quality, they procured the produce from the smallholders and then sorted and graded it themselves. This graded produce that matched quality requirements for various markets was then sold to these markets. However, produce that could not be sold to the formal markets are often sold at the open markets.

4.3 Procurement arrangements

In this section, the procurement arrangements introduced in Section 4.2 are expanded upon further. Marketers supplied fresh produce to a number of buyers in both local and more distant markets. Procurement arrangements in place between the marketers and their buyers, and marketers and their suppliers were important in achieving sustainable relationships.

4.3.1 Procurement Arrangements with Buyers

Due to the marketers' formal arrangements with buyers, they were able to procure from smallholders at the wards and then resold the produce to their buyers. Some marketers procured fixed orders and also sold fixed orders while others did not have that sort of arrangement.

Figure 4.1 Type of procurement arrangements
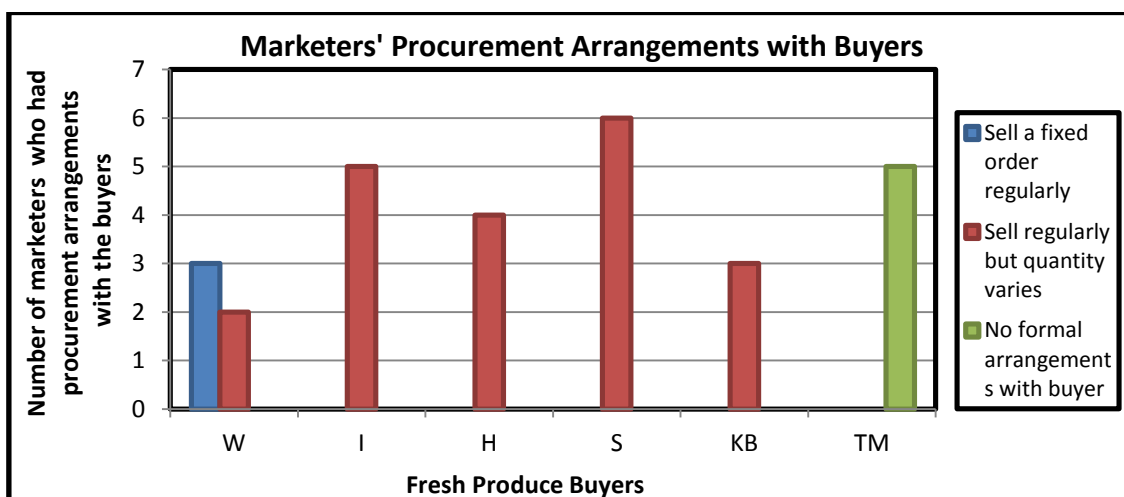
Figure 4.1 Type of procurement arrangements

W = Wholesalers, I = Institutions, H = Hotels, S = Supermarkets, KB = Kai bars, TM = Town open markets

Figure 4.1 shows the type of procurement arrangements marketers had with the buyers. The most common arrangement was selling regularly but with the quantity varying. Not surprisingly, there were no formal arrangements with buyers in the town open markets. The three advanced marketers sold fixed orders regularly to wholesalers. Two of the more advanced marketers noted selling regularly to supermarkets and hotels that had very little variance in their orders and thus, could be recognised as fixed orders.

Most of the other marketers sold regularly to wholesalers, institutions, supermarkets and kai bars. However, quantity supplied varied a lot. Marketers reported that it was good for their business to be able to supply regularly but fluctuation in the volume and variety of produce demanded by buyers is a problem. Marketers noted that the predicament they faced was how to meet inconsistent buyer requirements. This was so because buyers' demand for produce varied each purchase period. While the marketers understood the predicament of the buyers, they also had problems meeting buyers' requirements, as sourcing produce was a problem given they did not always have the volume to supply them at the time required.

The first group of more advanced marketers sold to wholesalers, institutions, hotels and supermarkets. The marketers noted that they supplied fixed orders to the wholesalers. Their supply to the other formal markets varied a little bit but not significantly. Most of the second group of marketers sell to the wholesalers, institutions, hotels, supermarkets, kai bars, and the town open markets.

All marketers noted that their regular buyers faxed purchase orders listing all produce and the quantity they wanted and what time it was to be delivered to them. The first group of marketers comprised the three marketers who were doing well among the seven marketers. They noted their relationships with the regular buyers were based on trust. They had been very faithful to these buyers for a very long period of time supplying consistently. As a result, their buyers give them fixed orders for a couple of different types of produce and variable quantity orders crops to be supplied fortnightly. Because their own production cannot meet buyer requirements, they engage household suppliers to supply fixed orders to them. Produce from their farms plus those procured from the smallholders is then consolidated to meet buyer requirements.

Figure 4.2 shows who initiates the business relationships. It was interesting to note that all selling arrangements were initiated by the marketers. All marketers reported going out looking for buyers to sell their produce with buyers rarely looking for suppliers. They waited for suppliers to come to them to sell their produce. There are too many marketers trying to sell to a few buyers. Marketers noted that they have to be as convincing as possible to sell to the formal markets.

Figure 4.2 Initial contacts with trading partner
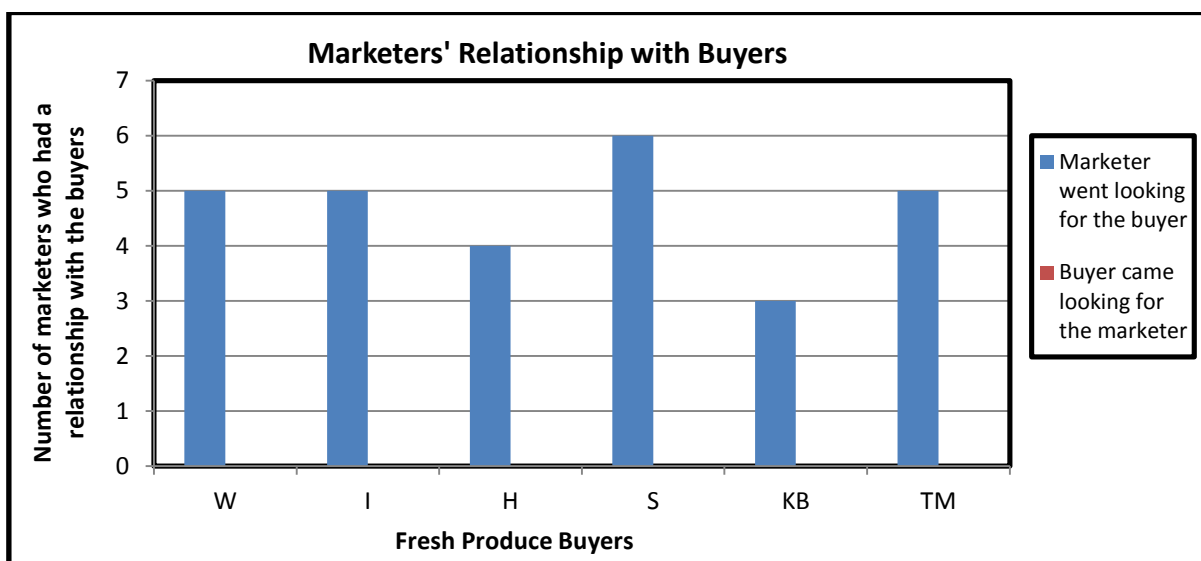
Marketers' Relationship with Buyers

W = Wholesalers, I = Institutions, H = Hotels, S = Supermarkets, KB = Kai bars, TM = Town open markets

The three marketers who were more advanced than the other four noted that initially, marketing of produce was very difficult for them. Firstly, they had to go looking for buyers to sell their produce and it took them nearly a year to earn the buyers' trust. They noted that to ensure a healthy business relationship, they made it their business to ensure their buyers' requirements were met without fail. This resulted in buyers procuring fixed or nearly stable volume of produce from them regularly.

The second group comprised four marketers. Like group one, they were looking for buyers as no buyer was interested in looking for marketers to supply to them. The marketers in the second group noted competition was tough among marketers and it was quite difficult to enter into a fixed term buying and selling relationship. They noted they were probably lucky to be able to supply regularly to these buyers who had access to many other marketers as well.

The difference between these two groups of marketers is that the first group does not sell to the kai bars and the town open markets while the second group does. Also, in terms of volume supplied to these formal markets, the first group supplied more produce and most buyers procured a consistent volume and variety. The second group also sold to the formal markets

but volume supplied varied a lot. They regularly supplied to the buyers but the relationship was not as strong as that for the first group.

4.3.2   Changes in Procurement Systems

Most marketers reported that changes in the procurement systems were occurring rapidly. Consequently, most suppliers (marketers) try to cope with the system as best as they can. It was noted that the traditional spot marketing system, which most marketers were used to, is being replaced by more preferred relationship marketing arrangements where buyers choose to deal with a few select suppliers over others. Although marketers welcomed the changes occurring in the procurement systems, especially the formal marketing arrangements with buyers, they responded that they have more work to do to satisfy the requirements of the buyers.

Figure 4.3 gives greater detail on changes in procurement arrangements with different outlets. Nearly all marketers reported changes in procurement systems with supermarkets, and most with wholesalers and institutions. Four out of seven reported changes in hotel procurement systems. At the less formal end of the market, only two marketers reported changes in kai bar procurement systems. These changes occurring in the procurement patterns in the formal markets were expected but when marketers reported that town open markets were also experiencing changes, it was interesting to probe further to find out what type of changes they were experiencing.

Marketers noted that formal markets now prefer relationships with trading partners. They noted that buyers tend to increase volumes purchased after marketers consistently supply buyer requirements. Some marketers claimed even getting seasonal greetings from their

buyers. They noted though seasonal greetings had no monetary value, they display the recognition of the importance of the supplier.

Marketers also noted that often buyers would take them through their quality standards and what were sub-standard products to them. This product information is then used to improve meeting customers' product requirements. It also helps marketers plan productions as well procuring to meet customer requirements. The product-oriented and people-oriented changes discussed above are changes that are progressively changing the procurement systems. They noted that they anticipate more changes would occur given their past experiences.

Figure 4.3 Changes in the procurement systems – Marketers' Context.
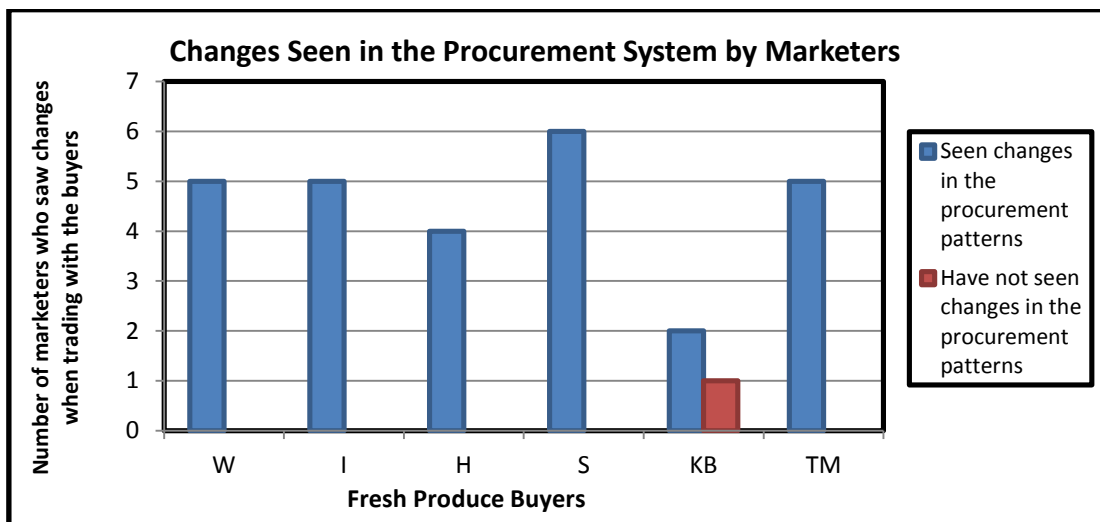
W = Wholesalers, I = Institutions, H = Hotels, S = Supermarkets, KB = Kai bars, TM = Town open markets

Marketers reported that the most notable change was the presence of middle market players operating within the open market itself. These people buy the produce in bulk from the growers or other middle marketers and resell the produce in the market. They are often referred to as "black market people". These middle marketers have taken the produce display in the open market to a higher level. They are sorting, grading and pricing the goods so as to attract buyers. Most marketers said that nearly 60% of the sellers in the town open markets are in this category. The marketers said that most times they sell to these marketers and then

return home, but when they see that there is a low supply of produce in the markets; they sell their produce themselves to get greater returns.

Other changes seen in the open markets are the designated section within the market area for specific produce to be sold. Previously one could sell any produce anywhere in the market area, but now, specific produce is sold only in a specified area. Buyers know where to buy certain produce and this makes it a lot easier and more convenient for the sellers and buyers to meet and transact business.

Procurement changes happening in the town open market settings reflect much bigger changes in the procurement systems with the formal markets like the wholesalers, institutions, hotels, supermarkets and kai bars.

4.4   Perceived causes of changes in procurement

All marketers confirmed that changes in the procurement systems are influenced by four major factors. These are the (1) quality of produce, (2) continuity of supply of the same produce regularly when needed, (3) fluctuation in the volume of produce supplied to buyers and (4) reliability of the suppliers to be loyal to their trading partners, both in good and bad times.

The marketers noted that there could be other issues related to the buyers operations that may cause the changes, but the ones listed are obvious issues that they are aware of when dealing with the fresh produce buyers.

Figure 4.4 Perceived causes of changes in procurement systems
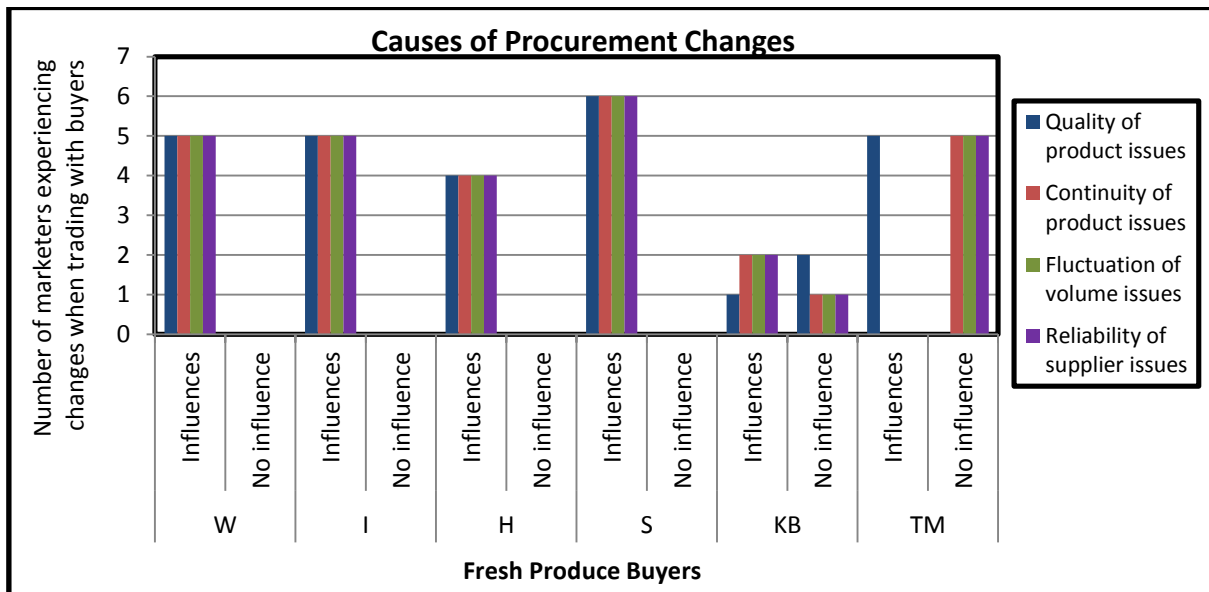
W = Wholesalers, I = Institutions, H = Hotels, S = Supermarkets, KB = Kai bars, TM = Town open markets

Figure 4.4 shows factors that influenced changes in the procurement systems by market outlets. All marketers who supplied regularly to formal market buyers reported quality of products, continuity of products, and fluctuation in the volume of products supplied and the reliability of supplier issues have influenced changes in the procurement systems. For kai bars and town open markets, marketers reported mixed responses. Some claimed seeing changes while others reported otherwise. It was interesting to note that quality of produce has been a major factor in the changes happening in the town open markets. This is attributed to the increase in the urban working population who depend on the markets for household consumption.

4.5   Perceived quality of product supplied to buyers

As noted in the previous section, one of the factors that influenced the changes in the procurement systems was the quality of products. Different markets have different quality preferences. As such, marketers noted meeting quality standards of each buyer varies and sometimes proves challenging. For generic produce quality measurements, eight perceived

quality attributes are used to measure the quality of a product. These quality attributes are (1) products free from pest and disease, (2) products that are fresh and clean, (3) products that are free from chemical residue, (4) products that have long shelf life, (5) products that are well graded, (6) products that look good in appearance, (7) products with right colour and size, (8) products that have little or no mechanical injury.

However, quality standards required by different buyers differ. Therefore, for some market outlets, marketers judge that they are deficient in meeting some quality attributes even though buyers do not rate these attributes highly. These attributes are used to determine what attributes have been met and what have not been met for each type of buyer by the marketers. Care must be exercised in interpreting the following results. Although they purported to show the marketers' ratings of produce sold to different market outlets, they appear to reflect the marketers' subjective standard of quality. It appears that they judge that some of their produce sold to particular buyers meet these subjective standards, whereas, produce sold to other buyers does not.

Figure 4.5 Perceived quality of produce - Wholesalers
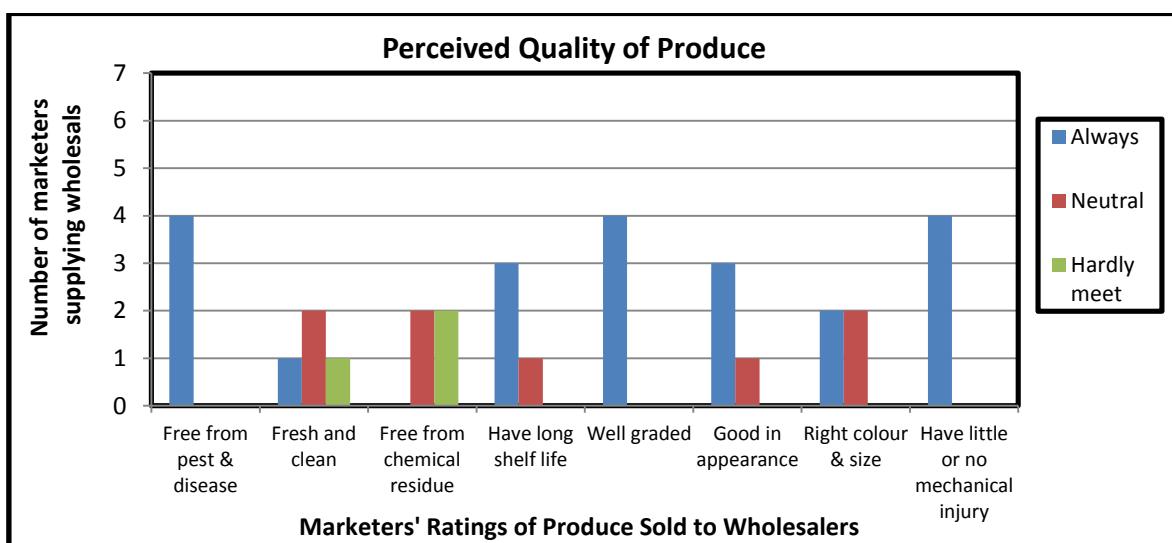
Figure 4.5 shows results of four marketers that supplied fresh produce regularly to the wholesalers. The results show the quality attributes they met and did not meet. The results in general show that most marketers were able to supply products that were free from pest and disease, products that were well graded, products having little or no mechanical injury, and products that look good in appearance.

However, it was also noted that marketers did not do well in meeting other perceived quality requirements such as fresh and clean, free from chemical residue, and right colour and size. They sometimes met these requirements and failed at other times. A small number of marketers noted they hardly met perceived quality attributes such as products that are free from chemical residue and products that are fresh and clean.

Figure 4.6 Perceived quality of produce – Institutions
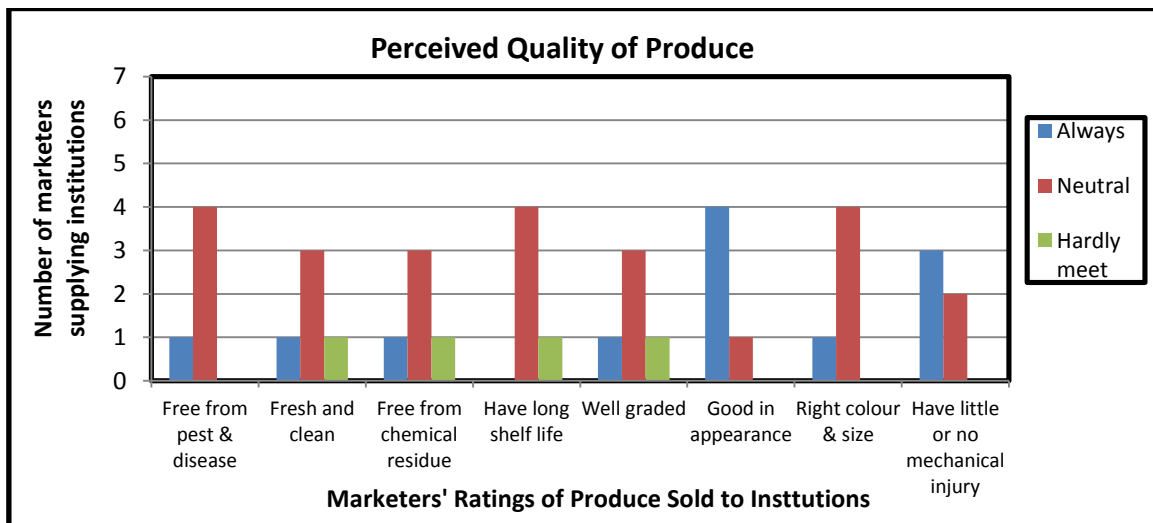
Figure 4.6 shows results of how marketers fared in meeting the perceived quality of produce when selling to the institutional buyers. Five marketers supplied regularly to the institutions. Results show that marketers did not do well in meeting the perceived quality requirements such supplying products free from pest and disease, fresh and clean, free from chemical residue, have long shelf life, well graded, and products that have the right colour and size when selling to the institutions. However, they noted that institutions key procurement

requirements were based on produce that looked good in appearance and that had little or no mechanical injuries.

Figure 4.7 Perceived quality of produce – Hotels

Figure 4.7 shows results of four marketers who supplied produce regularly to hotels. The results show that most marketers were doing fairly well in meeting perceived quality attributes such as products being free from pest and disease, fresh and clean, good in appearance, having little or no mechanical injuries and importantly free from chemical residue. However, marketers failed to supply attributes such as products having long shelf life, well graded and having right colour and size.

Figure 4.8 Perceived quality of produce – Supermarkets

Perceived Quality of Produce
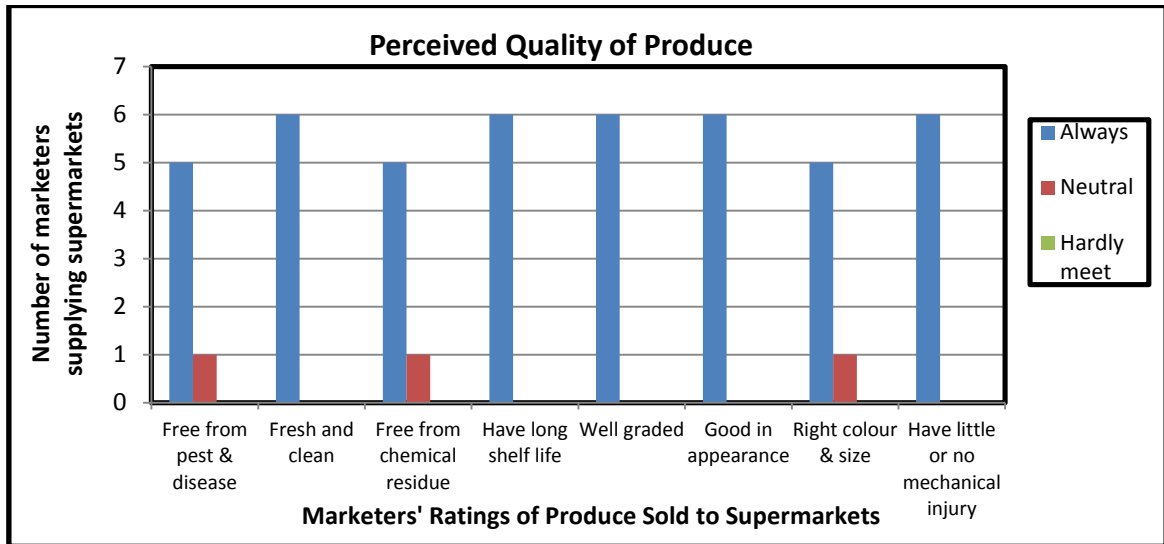
The supermarkets requirements for quality were strict. Hence, marketers had to ensure quality checks were done on produce at their own place before taken to the buyers. Figure 4.8 shows that most marketers made sure that perceived quality attributes of products were met. They noted that selling to supermarkets was challenging as products had to meet quality strict requirements of the supermarkets. Marketers noted that all sorting, grading and packaging of produce were done to ensure it all was good before taking the produce to the supermarkets.

Figure 4.9 Perceived quality of produce – Kai bars

Perceived Quality of Produce
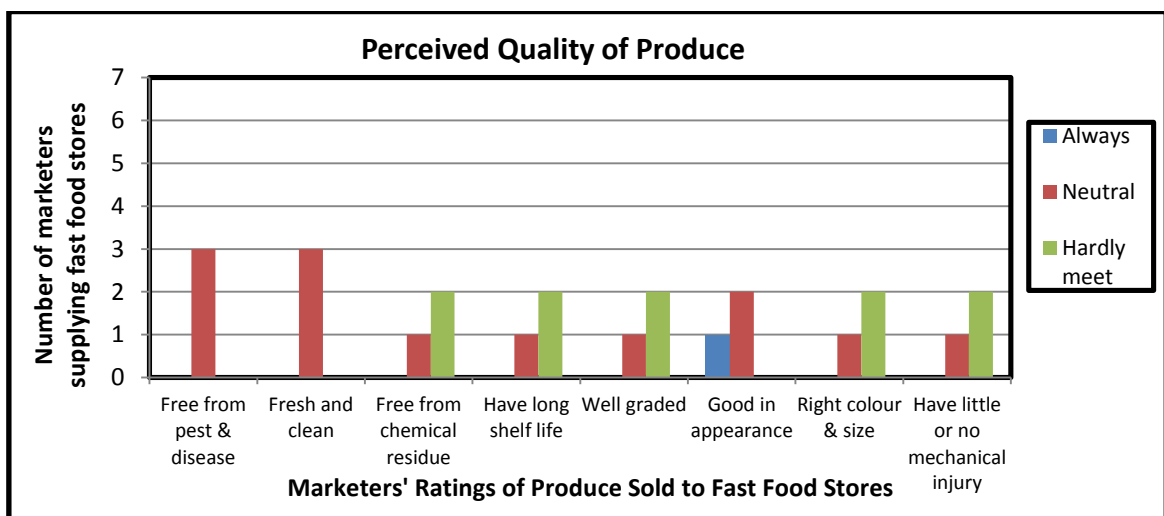
Figure 4.9 shows results of how marketers met perceived quality of produce when selling to the kai bars. Three marketers sold regularly to the kai bars. It clearly shows that the kai bars were not really concerned about the quality aspect of the produce. All marketers who sold produce to the kai bars gave less attention to the quality attributes. They reported that the reason for the slack in meeting quality attributes was because kai bars did not care what they procured, and as long as the produce looked good, that was good enough for them.

Figure 4.10 Perceived quality of produce – Town Open Markets
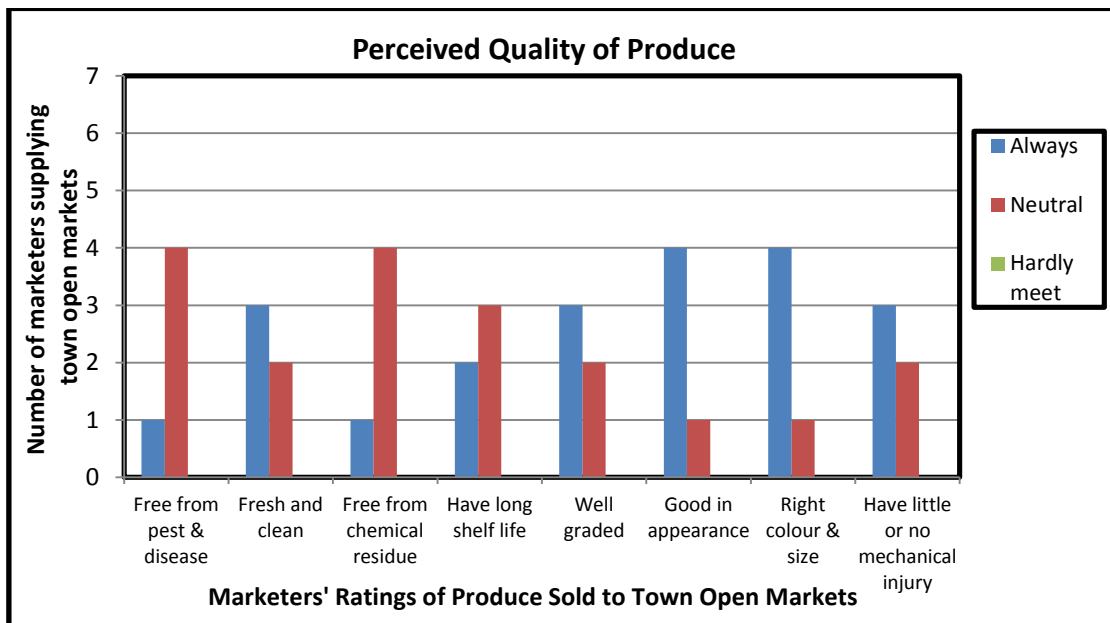
Figure 4.10 shows results of five marketers who supplied to the town open markets. Quality standards in the town open markets have improved a lot. Consequently, marketers noted they had to supply quality products in order to sell quickly. It was noted some of the quality attributes they met were fresh and clean, long shelf life, well graded, good in appearance, right colour and size and products with little or no mechanical injuries. However, they also failed to meet quality attributes such as free from pest and disease, free from chemical residue, and long shelf life. In general, it was noted that town open markets have improved but there is need for further improvement.

In general, marketers tried their best to meet all quality attributes of produce; however, what stood out among the attributes supplied to all markets were fresh and clean products, well graded products, products that were good in appearance, and products with little or no mechanical injury. Most marketers placed more emphasis on these requirements as they noted these attributes were more important than others and they are the attributes that sell the products. Attributes that marketers reported having problems with were free from chemical residue and long shelf life.

4.6   Consistency of Supply to Buyers

One of the factors that influenced change in the procurement systems was the ability of suppliers to continue to supply the product demanded and how well they could manage volume fluctuation issues. The ability of marketers to meet the above requirement was measured through six items and they are (1) meeting delivery and schedule times of customers, (2) supply quality products to customers, (3) supply sufficient quantity to customers, (4) supply customer's desired variety, (5) supply wide range of fresh produce, and (6) supply produce appropriately packed. Most fresh produce buyers are in the business of selling and not growing it. Therefore, buyers want trading partners who are be able to supply quality produce and the quantity required consistently.

Being consistent in supplying customer requirements helps sustain healthy business relationship among trading partners. Marketers strive to be consistent in their business transactions with the different buyers of fresh produce. Results for all buyers that marketers traded with are show in Figure 4.11.

Figure 4.11 Consistency of supply
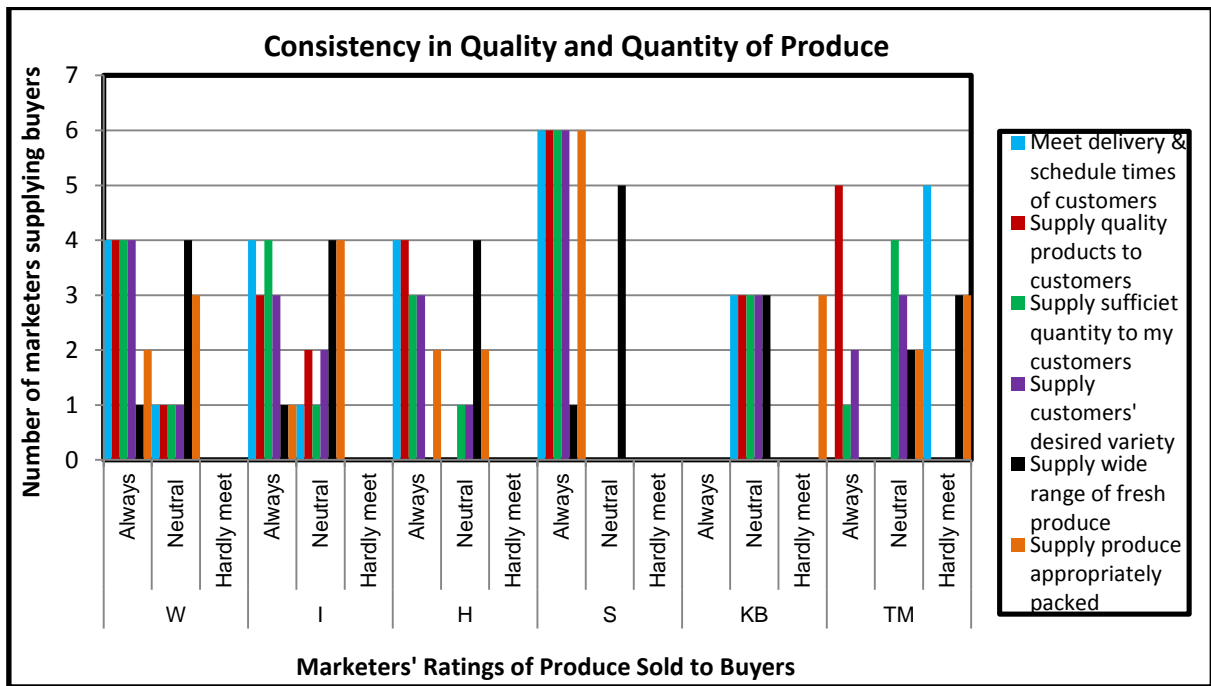
W = Wholesalers, I = Institutions, H = Hotels, S = Supermarkets, KB = Kai bars, TM = Town open markets

Five of the marketers that supplied the wholesalers met consistency requirements such as meeting delivery and schedule times of customers, supplying quality products, supplying sufficient quantity, and supplying customers' desired variety. However, others reported not meeting consistency requirements such as supplying a wide range of produce and supplying produce appropriately packed. Marketers noted that it was difficult to supply all produce marketers wanted. They could only supply a restricted range of produce they were comparatively advantaged at growing and procuring from others in their areas.

Five marketers also reported selling regularly to institutions. Most of the marketers stated meeting consistency requirements such as meeting delivery and schedule times, supplying quality products, supplying sufficient quantity, and supplying customers' desired variety. However, it was also noted that marketers also did not do so well in meeting consistency requirements such as supplying wide range of produce, and supplying produce appropriately packed. They were also noted to have not done so well with supplying quality produce and supplying customers' desired variety.

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Of the four marketers that regularly supplied hotels, it was noted that they were able to meet consistency requirements such as meeting delivery and schedule times, supplied quality produce, supplied sufficient quantity, supplied customer's desired variety, and supplied produce that were appropriately packed However, it was noted that the consistency requirement of supplying wide range of fresh produce was not adequately met. Also, meeting the supply of produce appropriately packed was not adequately met.

Six marketers were supplying supermarkets regularly. All consistency requirements were met except the supplying of a wide range of produce. Marketers noted that what supermarkets want is more than they can supply. They supply what they can and restrict themselves to produce where they are able to grow or have access to procuring.

Three marketers regularly supplied kai bars. However, they did not have strong relationships with their buyers, and their ability to meet consistency requirements was not so good. Meeting consistency requirements for the town open markets was interesting to note. Five marketers sold produce at the town open markets. The marketers stated that they hardly met the delivery and schedule times of customers because, for obvious reasons, they had no formal customer. Two others stated they also did not supply a wide range of produce nor did they supply produce properly packed. However, they all stated that they supply quality products. They did not rank so well in supplying sufficient quantity as well as supplying customers' desired variety.

Most marketers reported that, to conclude that they always met the requirements would not be accurate as they did not have the resources and means to do that. This was so because farming fresh produce was a labour intensive job, and as such, they could only grow little and procure the rest from others to sell to their buyers. When the marketers' suppliers could not

supply the produce they needed, they could not do anything but to supply less than the volume required to their buyers.

4.7   Relationships with buyers

Apart from the product issues associated with changes in the procurement patterns, there are relationship issues between trading partners that are also associated with changes in the procurement systems. The marketers' relationships with their preferred trading partners were measured using fifteen items. These are: (1) trading partner poses less risk, (2) good cooperation with trading partner, (3) continue trading with trading partner, (4) trading partner meets your expectations, (5) trading partner treats you fairly & equitably, (6) trading partner is quick to handle complaints, (7) not much conflict with trading partner, (8) trading partner always keeps promises, (9) believe all information provided by trading partner, (10) close friendship with trading partner, (11) trading partner has best offer relative to alternatives, (12) trading partner has all the power, (13) trading partner controls all the information, (14) trading partner does not act opportunistically, and (15) more dependent on trading partner

The items noted above were used to measure the kind of relationship exhibited between marketers and the different types of trading partners.

Figure 4.12 Marketers' relationships with the wholesalers
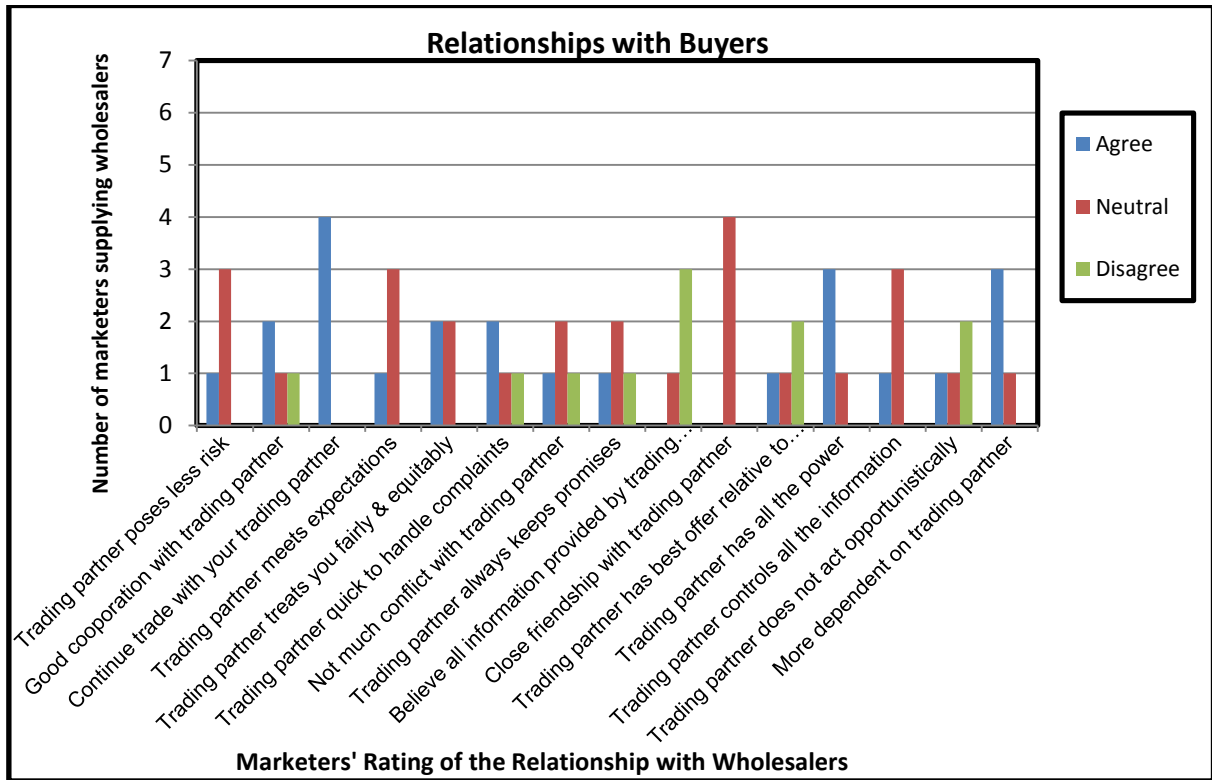
Figure 4.12 shows four marketers who traded regularly with wholesalers. The relationship between the marketers and their wholesalers was not particularly strong. Most marketers did not believe all information provided by the buyer. There was no close relationship with the trading partner and they noted that trading partner had all the power in the relationship. It was noted that trading partner controlled all information. Marketers noted that they were more dependent on the wholesalers but given that competition was tough, they all noted that they would continue to trade with the wholesalers.

Figure 4.13 Marketers' relationships with the institutions
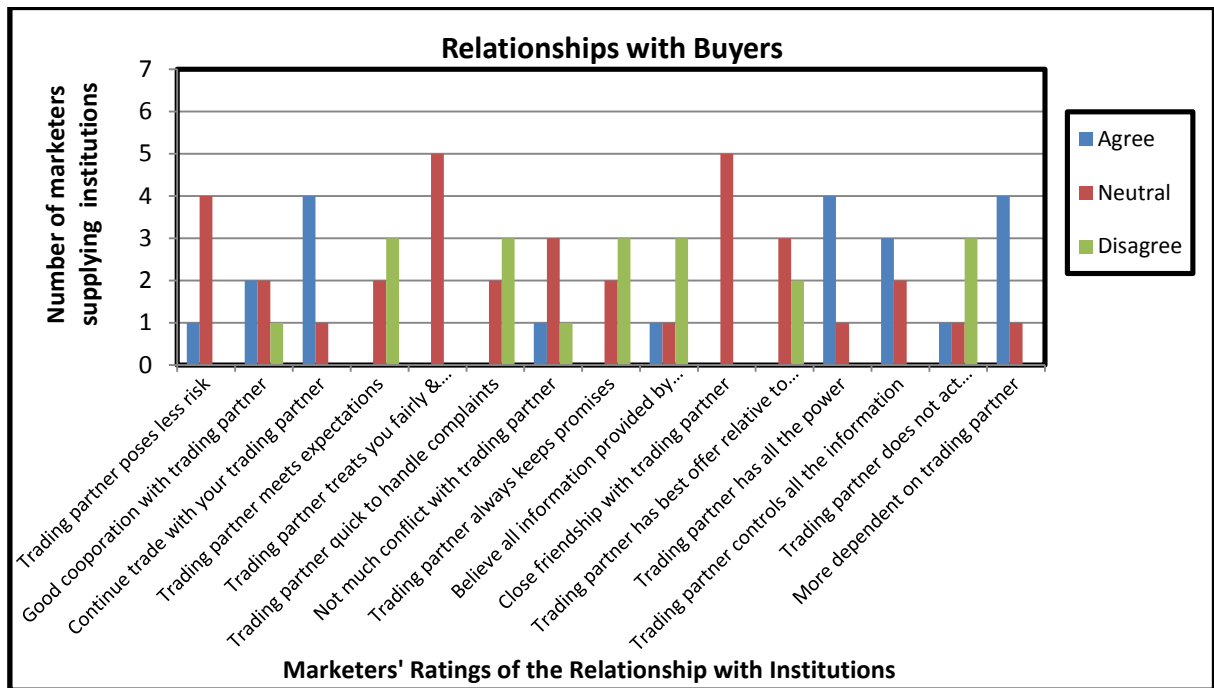
Figure 4.13 shows results of the five marketers that traded regularly with the institutions. Relationship between marketers and these trading partners was not strong. Results indicated that trading partners did not treat them fairly and equitably. As such, there was not a close relationship between the trading partners. The buyers were seen to have all the power in their relationship and they controlled all information. Therefore, marketers were more dependent on their trading partners. Marketers noted that institutions did not meet their expectations and were not quick to handle complaints. They noted that their trading partners posed a risk to their business as they were opportunistic and so likely to cut ties with them in favour of other suppliers. However, most marketers were willing to continue trading with the institutions, even though buyers have the bargaining power and marketers are price takers.

Figure 4.14 Marketers' relationships with the hotels
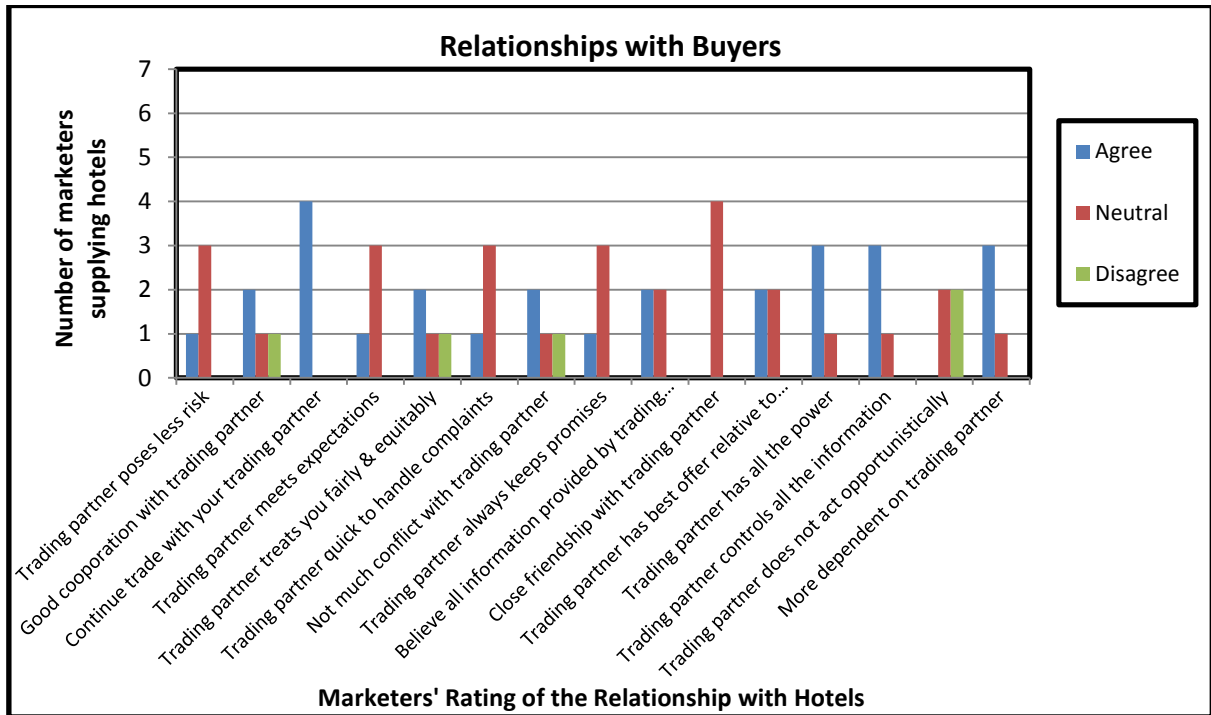
Figure 4.14 shows four marketers that traded regularly with the hotels. Generally, the relationship between the marketers and the hotels was not strong. Marketers reported the buyers had the power in their relationship and that their buyers controlled all information. There was no close relationship between the buyers and them. Marketers noted that this was because buyers had access to many suppliers. As a result, the marketers were more dependent on the hotel buyers. Though buyers did not meet their expectations and were not quick to handle complaints, they were prepared to continue trading with them. The marketers noted that though competition was tough, they would keep supplying to the hotels.

Figure 4.15 Marketers' relationships with the supermarkets
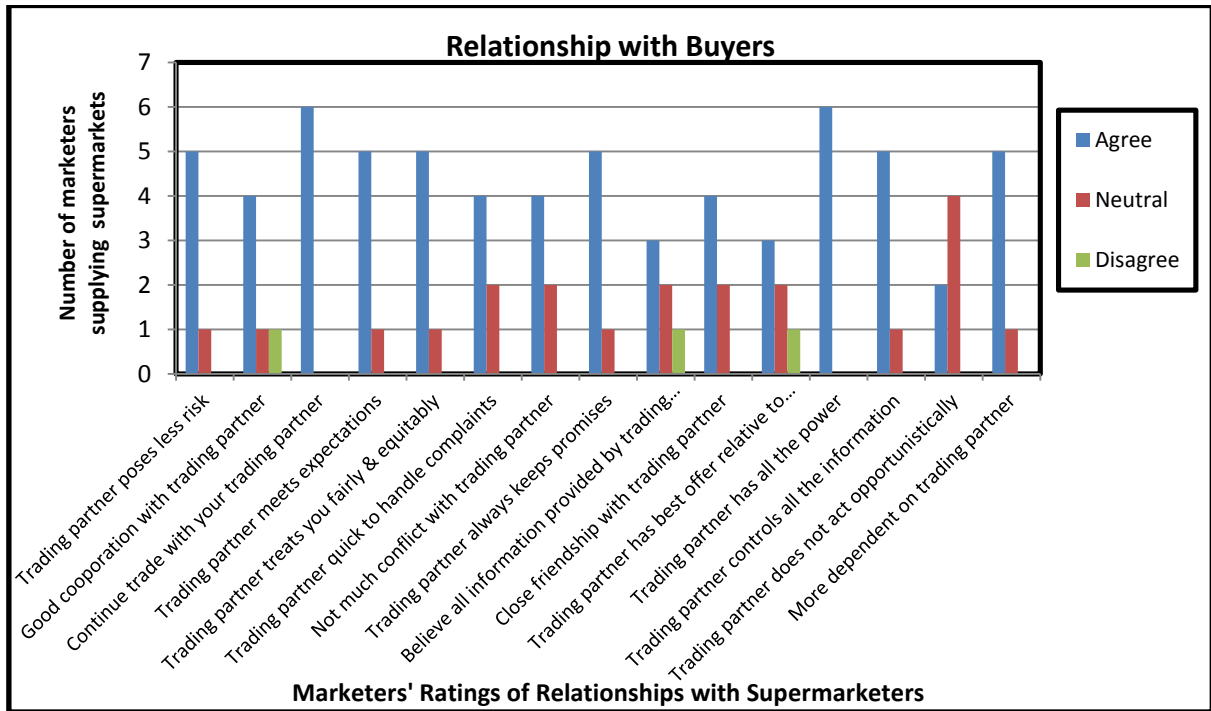
Figure 4.15 shows the nature of the relationships between marketers and supermarkets. Six marketers sold produce regularly to the supermarkets. Like the other buyers, supermarkets also had a lot of influence on what happened in their relationships. All marketers reported that their buyers had all the power in their relationships and that buyers controlled all information. In general, marketers reported that supermarket buyers were not opportunistic. Marketers did not report conflict with the supermarkets, as the supermarkets were quick to handle complaints if they had any. Generally, supermarkets provided the marketers with an attractive avenue as they were seen as better than the other buyers discussed thus far. Most marketers noted supermarket buyers met their expectations and that they treated them fairly and equitably. As a result, marketers were more than willing to continue trading with the supermarkets.

Figure 4.16 Marketers' relationships with the kai bars
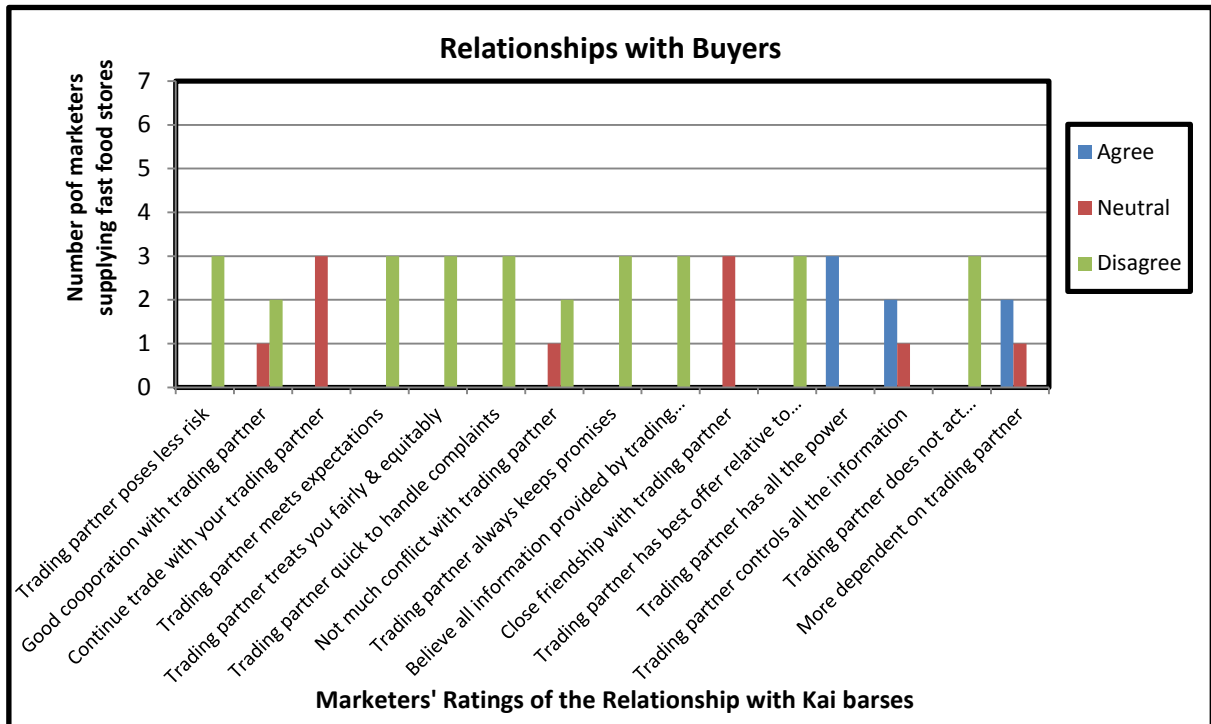
Figure 4.16 shows the nature of relationships between the three marketers and the kai bars. Of all the relationships discussed between the different buyers and marketers, relationships between marketers and kai bars were the worst. Marketers reported that most kai bars were operated by husband and wife and they preferred buying from their own family members. It was noted that not much produce was procured by these buyers. Sometimes the fast food stores preferred to buy from the town open markets for their requirements. As a result, relationships between these fast food stores and the marketers supplying them were very poor.

Figure 4.17 Marketers' relationships with the town open markets
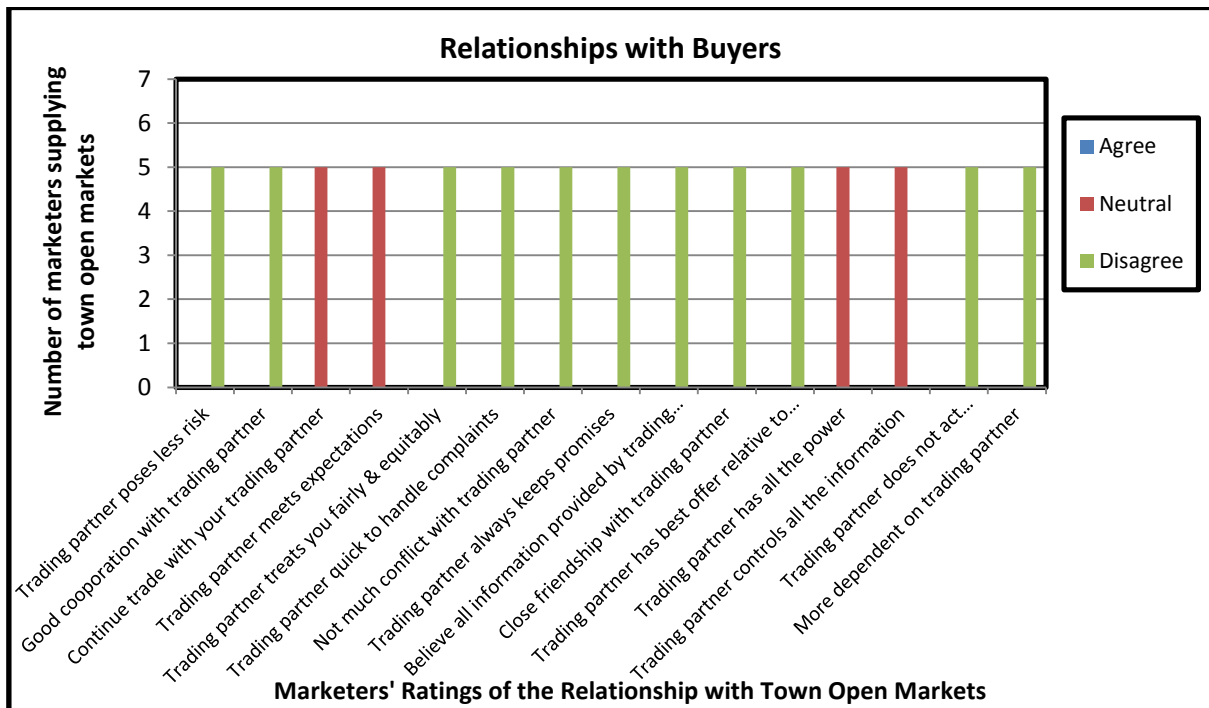
Figure 4.17 shows none of the attitudes of a strong relationship between marketers and buyers in the open market. However, marketers were still very willing to continue trading in this outlet. It is imperative to note that marketers selling produce in the town open markets had no regular buyers. However, there were some regular buyers operating within the markets that procured from farmers in bulk and resold the produce in the markets. Marketers noted that when they had other commitments and did not have the time to sell it themselves, they often sold the produce to these buyers, often called 'black marketers'. Marketers said these buyers knew their business and could out-bargain suppliers on the selling price. The marketers reported that the black marketers were very opportunistic in their business relationships. Even the general public buying from the town open market were opportunistic. Hence, this is the only market place where pure spot marketing takes place.

Marketers noted that they did their best to ensure a friendly business relationship existed between them and their preferred trading partners. This was so because there were fewer buyers to sell to, and most of these buyers had the bargaining power in their relationships. In

general, it was noted that most of the relationships were not strong between the trading partners. However, marketers preferred to continue trading with the buyers as there were not many markets to sell their produce. Supermarkets were the only ones that had exhibited a friendly relationship with the marketers.

Customer satisfaction between marketers and buyers is examined. As noted in Chapter 2, if the relationship between trading partners is to be sustainable, there has got to be some satisfaction with the relationship. As such, marketers were asked to determine how satisfied they were overall with their trading partners.

Figure 4.18 Satisfaction in the relationship with trading partners
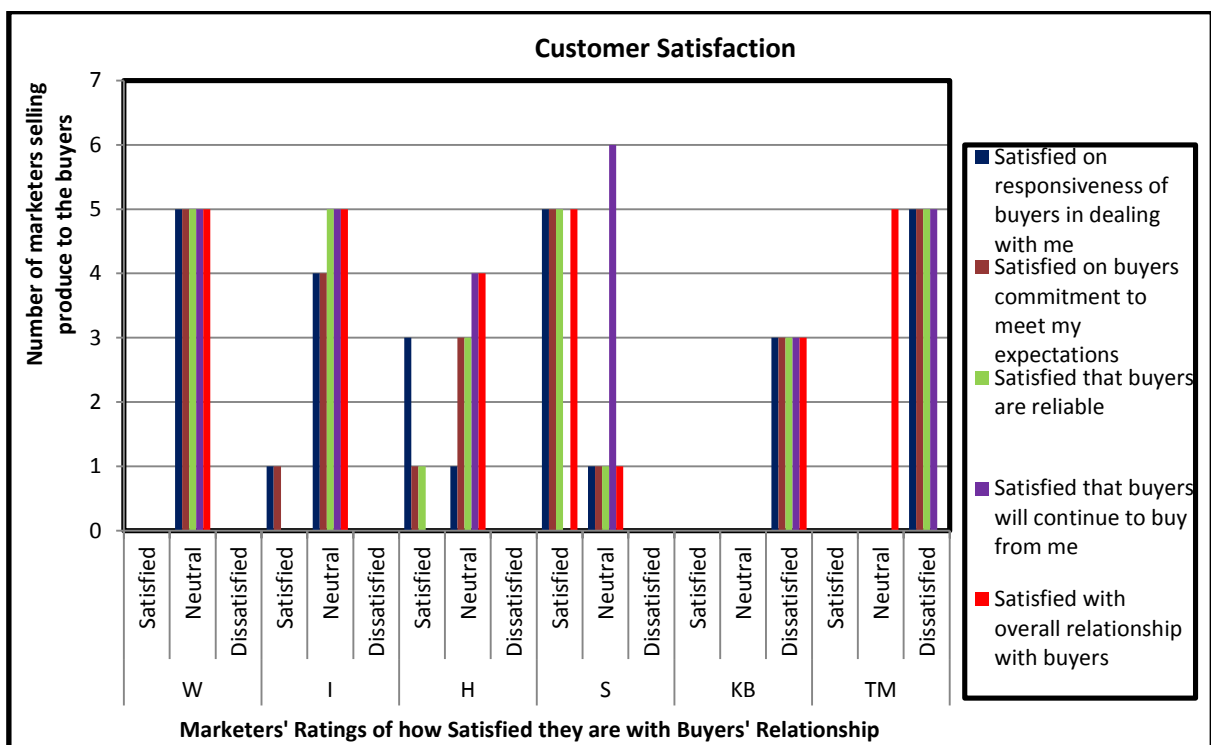
W = Wholesalers, I = Institutions, H = Hotels, S = Supermarkets, KB = Kai bars, TM = Town open markets

Figure 4.18 shows the relationship between the trading partners and how marketers rated their buyers to determine how satisfied they were in relation to their relationships. The overall relationship relationships with the supermarkets were satisfactory. Although they were neutral

on the issue of whether buyers would continue to buy from them, the marketers were satisfied with trading with the supermarkets.

Marketers noted that the overall relationships with wholesalers and institutions were neutral; that is neither satisfactory nor dissatisfactory. Marketers noted that their overall relationships with hotels were either satisfactory or neutral, and marketers noted that they were satisfied with the responsiveness of the buyers in dealing with them.

There was no relationship satisfaction with the kai bars and town open markets as noted from the results. All marketers claimed that the responsiveness of buyers in dealing with them was unsatisfactory, there was no commitment from buyers to meet their expectations and buyers were not expected to continue buy from them. They were dissatisfied with the overall relationship.

4.8   Conclusion

The marketers were between 35 to 45 years of age, middle-aged, reasonably well educated and had an average family size of five members. Most of the marketers had land ranging from $5001m^2$ to one hectare. Of the seven marketers interviewed, two were advanced in their operations. They had storage facilities, trucks, and had access to electricity and water. The other five did not have storage facilities and trucks.

Most marketers grew high revenue crops themselves. They noted that it was imperative to grow the high revenue crops as their relationship with the buyers depended on the supply of these vegetables. Most of these high revenue crops grown were introduced temperate vegetables. Marketers noted that key issues that affected sales were fluctuation in the demand

of produce, credit constraints, not meeting customer requirements, logistical problems and seasonal variations.

Most of the marketers sold produce on a regular basis to wholesalers, institutions, hotels, supermarkets, kai bars and town open markets. A few marketers were able to supply fixed orders to some buyers while also selling regularly to other buyers. Price of produce was dependent on quality of produce. Fresh produce buyers showed differing degrees of quality preference. Some preferred higher quality produce while others were satisfied with more moderate quality attributes. Listed in order from the higher quality preference to moderate preference for quality are supermarkets, hotels, wholesalers, town open markets, institutions, and kai bars. Price of produce often reflected the quality of produce, with higher prices received from higher quality buyers.

There were two groups of marketers operating in the ward. Group one was advanced while group two was not. Group one was signified by fixed capital and had more produce turnover. They had fixed supply orders with buyers. These marketers did not like selling at the open markets and the kai bars. Group two comprised of marketers who did not sell fixed orders to their buyers. Although these marketers sold regularly to the buyers, volume and variety procured and sold often influenced.

Marketers supplied produce to a number of buyers in both local and distant markets, such as wholesalers, institutions, hotels, supermarkets, kai bars and town open markets. Three comparatively advantaged marketers among the group were able to supply fixed orders of a range of products to wholesalers. They also sold a stable volume of produce to other markets with very little fluctuations in the volume figures. Other marketers also sold regularly to the formal markets but volume and variety sold to the buyers varied a lot depending on buyer

requirements. Due to a large number of marketers trying to sell to these buyers, it was the marketers' job to go looking for these buyers. No buyer came looking for the marketers to supply produce to them. As such, building trust and confidence with buyers to consistently procure from them became paramount for the marketers.

One of the underlying trust building factors was supplying buyer requirements. As such, supplying the right produce with all the required quality attributes and the ability to supply consistently was crucial in establishing buyer trust.

Marketers acknowledged that rapid changes were occurring in the procurement systems with buyer. As a result, they had to adapt to remain in business as failing to do so would result in them losing business. Marketers noted four perceived causes of changes in the procurement systems. They were (1) quality of produce, (2) continuity of supply the same produce issues, (3) fluctuation in the volume of produce issues, (4) and reliability of supplier issues. These issues were grouped into two groups under product-related issues and people-related issues. The first three items relate to product issues while the fourth item relates to people or relationship issues.

Fresh produce marketing outlets such wholesalers, institutions, hotels, supermarkets, kai bars, and town open markets have also been through a lot of changes. The four factors noted above played a big part in these changes. It was noted that marketers were able to meet the product requirements of the buyers. Marketers had a reason to do so as competition was high among marketers trying to sell to the same buyers. However, in general, the nature of relationships between the buyers and marketers was not strong. It is noted that marketers were price takers as buyers had the bargaining power with the marketers. Although, supermarkets had

bargaining power, they appeared to be in a better relationship with the marketers than the other buyers.

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Customer satisfaction is crucial for a sustainable business relationship. Marketers in this study were not completely satisfied with most buyers, except the supermarkets.

Chapter 5

Results: Smallholder–Marketer Dyad

5.1 Introduction

This chapter presents results for the smallholder-marketer dyad. Section 5.2 presents results on marketers' procurement relationships with smallholders. Section 5.3 then focuses on perceived quality of product procured from smallholders. Section 5.4 discusses consistency of supply from smallholders while Section 5.5 focuses on marketers' relationships with suppliers. Section 5.6 then looks more specifically at the smallholders and their activities while Section 5.7 focusses on procurement arrangements between smallholders and marketers from the smallholders' perspective. Section 5.8 then looks at perceived causes of changes in procurement arrangements from the smallholders' point of view. Section 5.9 considers perceived quality of product supplied to key buyers. Section 5.10 looks at continuity of supply to key buyers, and Section 5.11 deals with smallholders' relationships with key buyers. Finally, the results are summarised with a conclusion in Section 5.12.

5.2 Procurement arrangements with marketers

Production from marketers' farms was not enough to sustain the order requests from their buyers. As a result, marketers noted that they had to procure from smallholders in order to supply the volume buyers wanted. The marketers reported that failing to meet buyer requirements would result in buyers leaving them for other marketers. Therefore, marketers procured from smallholders to fill the gap and sustain their business relationships with their buyer.

Figure 5.1 Types of procurement arrangements

Marketers' Procurement Arrangements with Suppliers
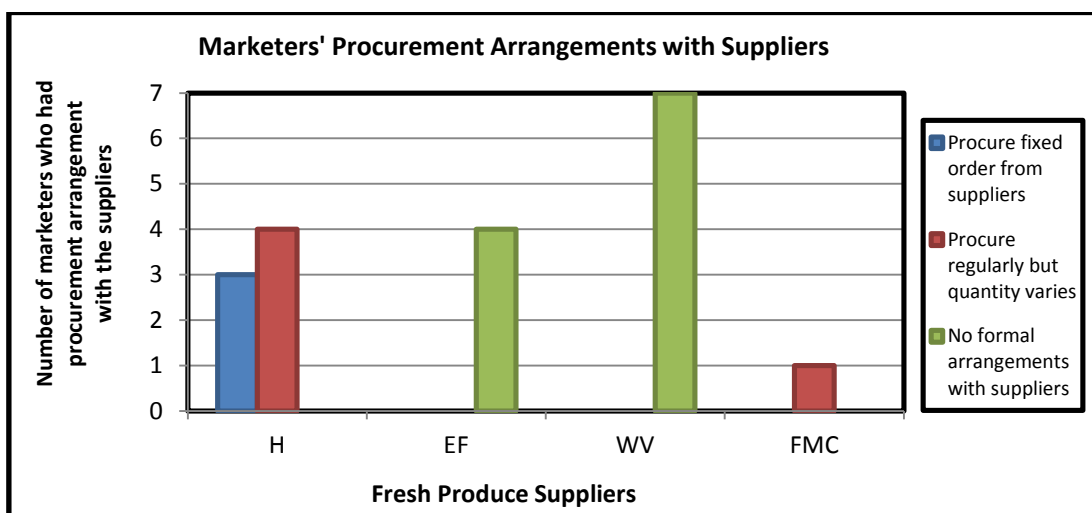
H = Household, EF = Extended families, WV = Whole village, FMC = Farmer marketing cooperatives.

As noted previously, marketers grew between 40% to 90% of their produce sold and procured the rest from their suppliers. Figure 5.1 reflects the procurement arrangements with these suppliers. The first group of marketers procured from the households, having fixed orders with their household suppliers. The marketers had initially established contacts with these suppliers, having assessed the household suppliers' ability to produce and supply quality produce. They also procured from the household suppliers' extended family members if the supply procured from the household suppliers was not enough to meet buyer requirements. These three advanced marketers had no formal arrangements with other suppliers they procured from.

The other four less advanced marketers also initiated contact with credible household suppliers. These marketers were not as competitive as the first three marketers. They did not have fixed supply orders with their smallholders suppliers as their orders from their own buyers were also not fixed. Therefore, they procured regularly from the smallholders but quantity and type of produce varied a lot. Most of this second group of marketers procured from the whole village supplier group. They noted that most of the people in the village grew

fresh produce so they were able to procure enough to supply their buyers when their household suppliers could not meet their requirements.

Figure 5.2 Initial contacts with trading partners
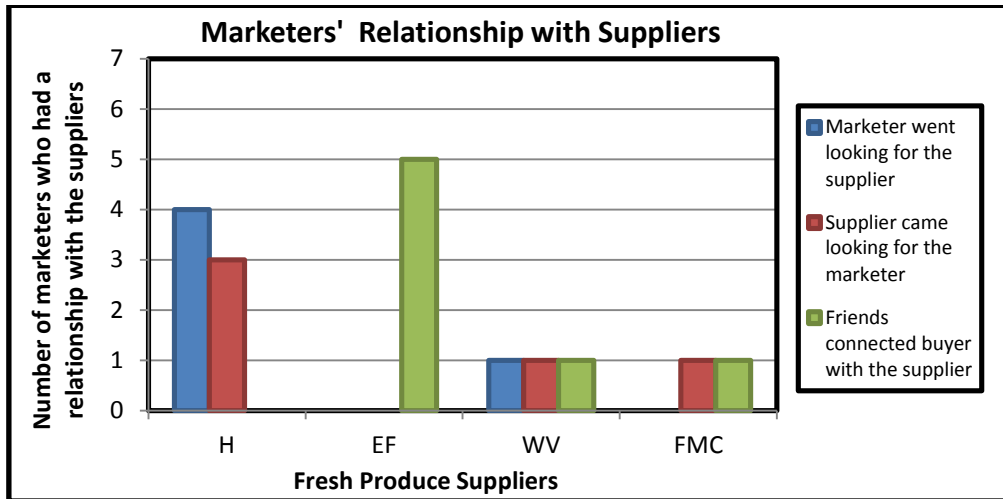
H = Household, EF = Extended families, WV = Whole village, FMC = Farmer marketing cooperatives.

Figure 5.2 shows who initiated the relationship between the marketers and the suppliers. Five marketers revealed that they actually went looking for suppliers to supply fresh produce to them. Four of these marketers approached the household group to supply them, while one approached a village so that anyone in that village could sell produce to him. The five marketers who approached the suppliers did so because these suppliers produced relatively more volume and were selling better quality produce compared to other suppliers in the area.

However, suppliers also went looking for marketers to sell their produce. There were also instances were friends connected the supplier and the marketer. Most of these relationships were initiated by household suppliers, who connected their extended family members to the marketers.

5.3 Perceived quality of product procured from smallholders

Marketers were asked to assess their suppliers' ability to meet their quality requirements.

Figure 5.3 Perceived quality of produce – All marketers' suppliers
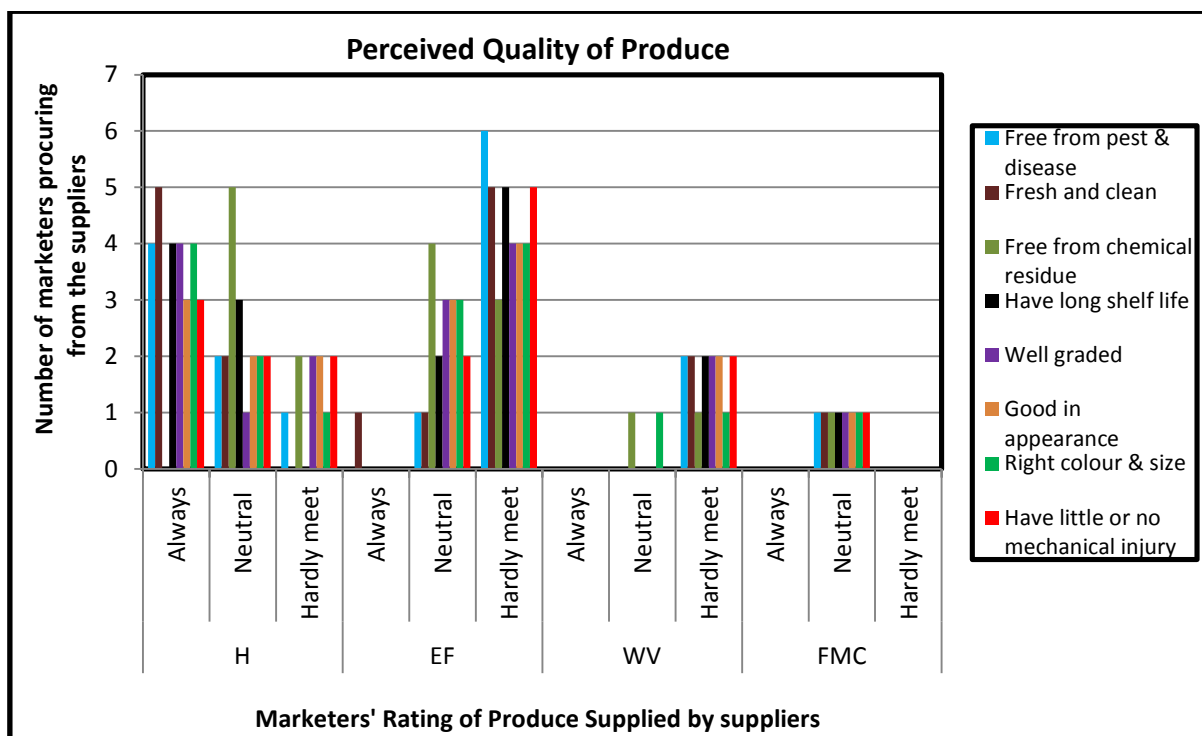
H = Household, EF = Extended families, WV = Whole village, FMC = Farmer marketing cooperatives.

Apart from growing their own crops, marketers procured from a number of smallholder suppliers to sell to their buyers. These suppliers are shown on Figure 5.3 and they are households, extended families, the whole village and farmer marketing cooperatives. Most marketers were procuring more produce from the first two suppliers than the last two suppliers.

Household suppliers comprised the whole family unit farming and supplying fresh produce to the marketers. Results indicated that in general, the household suppliers were able to meet customers' quality requirements, such as produce being free from pest and disease, products that were fresh and clean, products that had long shelf life, products that were well graded,

products that were good in appearance, products that had the right colour and size, and products that had little or no mechanical injury. However, some households had problems meeting products free from chemical residue supplying produce that had long shelf life.

The extended families did much more poorly in meeting quality requirements. Marketers stated that they were neutral or that extended families of household suppliers failed to meet these quality attributes. A few marketers procured from the whole village suppliers but it was noted they failed to meet the perceived quality requirements of products. It was noted that one marketer procured from the farmers marketing cooperative suppliers and was neutral about their ability to meet quality requirements.

5.4 Consistency of supply from Smallholders

Given the perishable nature of the produce and the volatility in the supply of produce, marketers want suppliers to be reliable and continue to continue supply them. In turn, the marketers' ability to supply their buyers consistently is dependent on what they can procure from their suppliers. Marketers were asked to determine if suppliers met the product consistency requirements.

Figure 5.4 Consistency of supply – Marketers' Suppliers
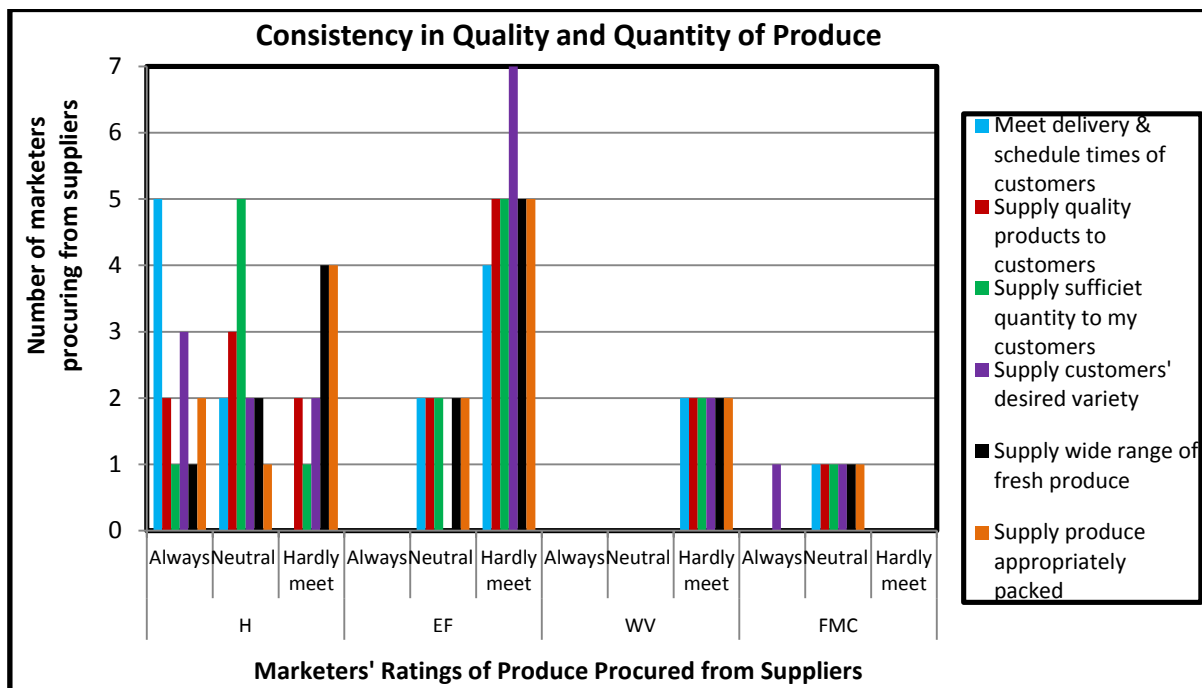
H = Household, EF = Extended families, Whole village, FMC = Farmer marketing cooperatives.

Figure 5.4 shows results of the marketers' assessments of how different suppliers met the consistency requirements of the marketers. Once again, most marketers reported that household suppliers were able to meet delivery and schedule times of marketers, supply quality products, and were able to supply customers' desired variety. However, some were neutral with respect to supplying customers' desired variety and supplying sufficient quantity. Supplying a wide range of fresh produce and supplying produce appropriately packed was problematic. This was because household suppliers could only produce little and produce harvested were normally taken to the marketer's buying spot for sorting, grading and packing.

All seven marketers also procured from the extended family suppliers. Marketers noted that they procured from their regular household suppliers, but when they could not meet the required volume, they would procure from the extended families of the regular suppliers. It was reported that in general, extended family suppliers hardly met most of the marketers' consistency requirements. Marketers noted that the extended family suppliers do not care

what they sell to them as their relationship is not that strong. They only procure from them if the household suppliers that they regularly procure from cannot supply what they need.

The whole village suppliers also did not do well in meeting marketers' requirements. As noted from Figure 5.4, the two marketers that sought produce among the villagers reported that none could meet the consistency requirements. The marketer that procured from the farmer marketing cooperatives was neutral with respect to procurement from that source.

5.5   Marketers' Relationships with Smallholders

Marketers were asked to evaluate their relationships with their smallholder suppliers.

Figure 5.5 Marketers' relationships with the household suppliers
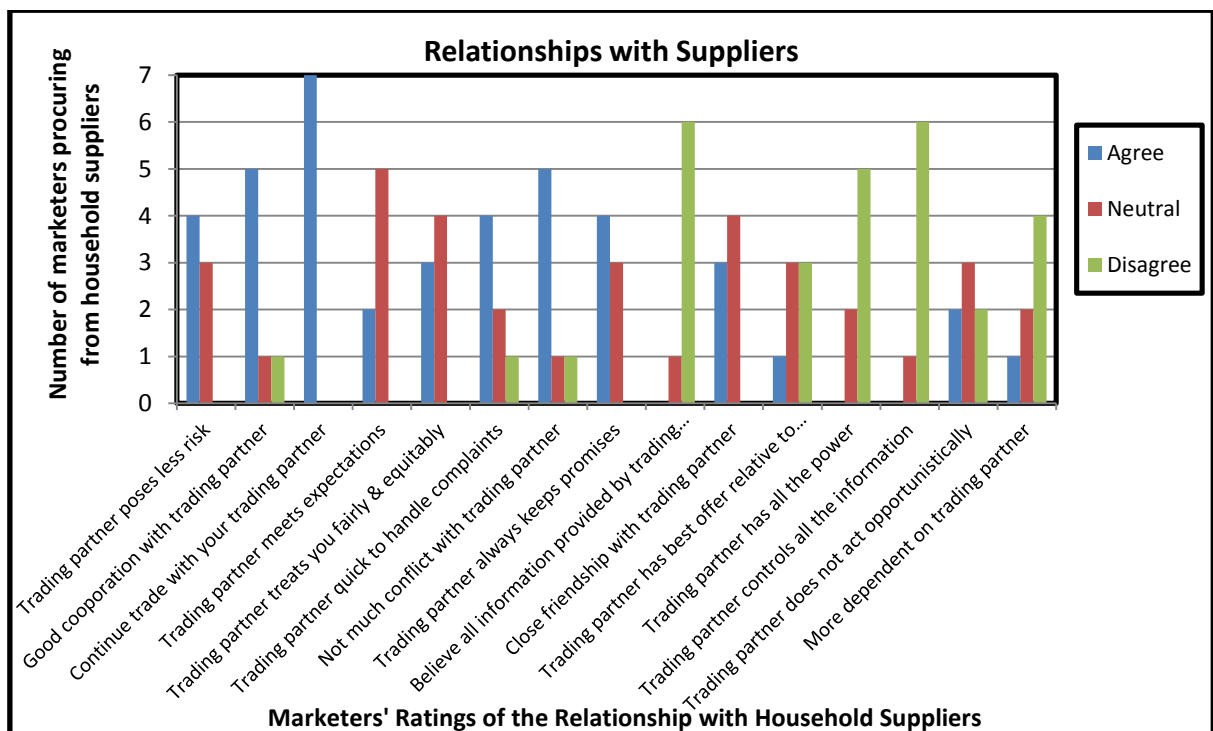
Figure 5.5 shows marketers' responses on the type of relationships with household suppliers. Generally, marketers had the bargaining power in this relationship and that household

suppliers did not have all the power in that relationship. Marketers noted household suppliers did not control the information and they noted that they were not dependent on their trading partners. The notion that they were not dependent on their suppliers is interesting. When asked why, they reported that there are more who can supply if they fail to meet their requirements. However, marketers were cooperative with their suppliers and were willing to continue to trade with them. As there are only a few marketers in the wards, this gives them the bargaining power in that relationship.

Figure 5.6 Marketers' relationships with the extended family suppliers
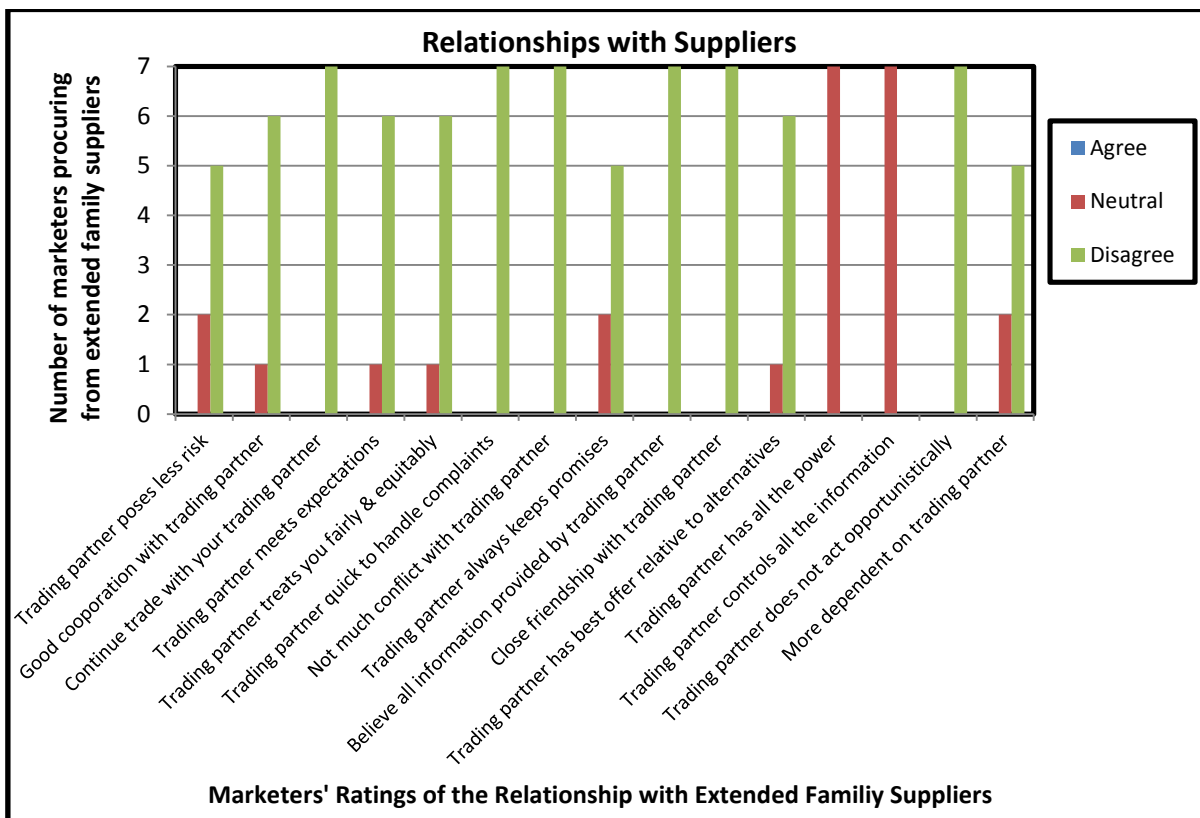
Figure 5.6 shows relationships with extended family suppliers that marketers procured produce from. This group of suppliers did not have a good relationship with the marketers. Marketers noted that these suppliers were actually extended family members of their regular household suppliers. It was noted that these suppliers were acting opportunistically, had a lot of conflict and were posing a risk to the marketers business as they were very unreliable. As a

result of this poor relationship, marketers reported that they did not have any interest of continuing to do business with them.

The two marketers who procured from the whole village suppliers and one marketer who procured from the farmer marketing cooperatives noted that their relationship were no different to the extended family suppliers. They reported that they did not have a good relationship with these suppliers due to the small number of interactions they had with them. These suppliers only come into the picture when the regular suppliers could not supply their requirements. As a result of that, the suppliers cared less about what happened to their relationships with the marketers as they knew that they were probably the second choice in the marketers' business.

Marketers were asked to determine how satisfied they were with their relationship with the fresh produce suppliers.

Figure 5.7 Satisfaction in the relationship with trading partners
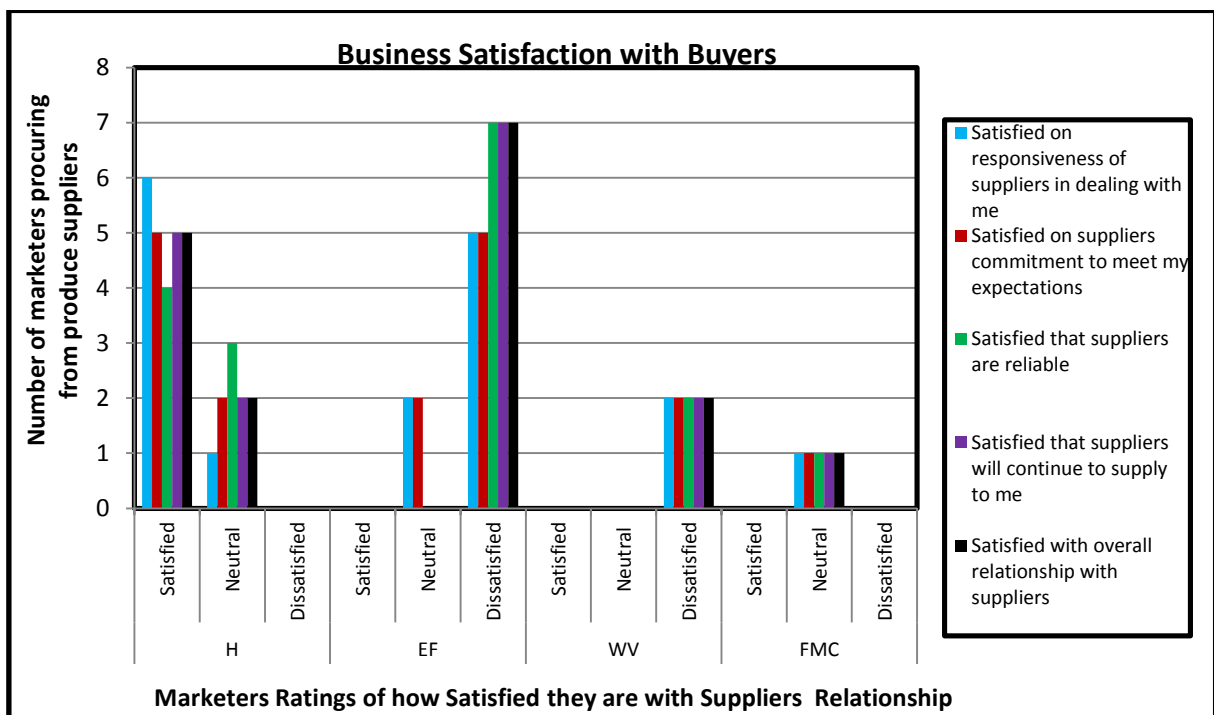
H = Household, EF = Extended families, Whole village, FMC = Farmer marketing cooperatives.

Figure 5.7 shows results of marketers' relationships with different suppliers and how satisfied they were with the relationship they had with each supplier. It was noted that marketers were generally satisfied with their relationship with the household suppliers although a few were more neutral. In general, with the household suppliers, marketers noted that they were satisfied with the responsiveness of suppliers in dealing with them, they were satisfied that suppliers were committed to meet their expectations, they were satisfied that household suppliers were reliable, and that suppliers would continue to supply to them.

The relationship with the other three suppliers was not so positive. Marketers were dissatisfied with the general relationship with the extended family suppliers and the whole village suppliers, while the marketer that procured from the farmer marketing cooperative suppliers was neither satisfied nor dissatisfied with the relationship with them.

5.6   The Smallholders and their Activities

Previous sections on the Chapters focussed on the engagement between marketers and their smallholder suppliers from the marketers' perspective. To get a fuller appreciation of the interactions within this dyad, it is necessary to focus on smallholders, their operations, and their perception of their engagement with marketers and other market outlets.

5.6.1   Smallholders Operations

Analysis of the demographic data showed the smallholders were middle-aged, mostly 35 to 45 years of age, had on average five household members, and most had year six level education. Their decision to engage in fresh produce production is mainly for household consumption and food for domesticated livestock while other productions for sale. Example, see Table 5.2.

All smallholders' production was in small quantities. None were able to engage in large scale production because they were using simple hand-help farming tools and labour was limited to the household members which in many cases, was the husband and wife. Even access to arable land was limited.

Smallholders noted in the interview that fresh produce production was by far becoming an important alternative to the traditional cash crops such as coffee to earning an income. In fact, they said, it gives more returns than the cash crops.

Table 5.1 Most common produce grown by the smallholders

Produce Grown	Proportion of smallholders (%)
Kaukau	100
English cabbage	85.7
Potato	80.8
Carrot	75.2
Broccoli	60.5
Spring onion	50.4
Chinese cabbage	49.8
Tomato	40.7

Table 5.1 shows the most common food crops grown by smallholders. Most of the smallholders grew produce that was less perishable. For example, kaukau (or sweet potatoes) were grown by all smallholders. English cabbages, potatoes, and carrots were grown by 75% or more. On the other hand, more perishable temperate vegetables, such as, broccoli, spring onions and Chinese cabbages were grown by a smaller population (50%) of smallholders. Fewer smallholders grew highly perishable vegetables such as tomatoes.

With the exception of a few crops that required fertilizer and other inputs to grow well, most vegetables grown required little work, and seeds were sometimes produced from within the farms or easily accessible. The smallholders noted that these were the underlying reasons for growing these cash crops.

Table 5.2 Sale of produce.

Produce sold	N=60	Proportion of smallholders (%)
Sell all produce intended for sale	0	n/a
Sell only some of it	60	100
Produce unsold		
Donated to others	60	100
Thrown away	0	n/a

Table 5.2 shows that all smallholders reported that not all produce taken to the markets was sold. They noted that they manage to sell most of it when the supply to markets is low. The uncertainty of selling all produce grown is a major problem for the smallholders.

Smallholders reported that if they are unable to completely sell all the produce taken to the markets, the unsold produce is donated to others, especially friends. Smallholders noted that they try to sell all of it, even at very cheap prices, just to get rid of the produce before heading back home. All smallholders however, claimed that they have, at times, given away produce they just could not sell.

Table 5.3 Top five sales problems

Sales vary due to
1. Logistical problems
2. More suppliers and fewer markets
3. Financial/Credit constraints
4. Fluctuation in demand of produce
5. Low supply

1 = Biggest problem, 2 = Second biggest problem...5 = Fifth biggest problem

Table 5.3 shows the top five major problems smallholders faced in descending order with the first on the list as being the biggest problem to last on the list as lower in comparison to the ones above them. Smallholders noted that logistical problems were a major issue affecting their sales. They noted that to get the perishable produce to the nearest market is difficult as getting access to available public transport is not easy. Even if they can access transport, fees are high for the transportation of their produce in addition to their own fares.

The second biggest problem smallholders reported affecting their sales was not having enough fresh produce markets. Smallholders reported that they operate in isolation and have no coordination among themselves. As a result, they often find themselves competing among other smallholders trying to sell to a few markets that buy from them. The buyers only have limited requirements and can only buy what they need. Smallholders reported that when supply is low, they are able to sell most of their produce. However, when there is a glut in the supply of fresh produce in the markets, they make losses.

Smallholders also noted that finance and credit constraints, third ranked, is a problem. Most smallholders have little cash and it is often difficult for them to get a loan from any person or organisation.

5.6.2 Market Outlets

Although most smallholders sold to the marketers in the survey wards, they also sold produce to a range of other buyers. The reason for doing this was because they could not sell all their production to the marketers. With respect to formal market outlets, smallholders reported accessing hotels, supermarkets, wholesalers, and kai bars. However, a few smallholders reported being able to sell regularly to these formal markets.

Smallholders noted that selling regularly to some of these formal markets was often difficult as most formal markets could access many suppliers. They claimed that the formal markets only procured produce from them when they did not get enough or ran out of stock. For smallholders to sell to these markets, they had to make arrangements at least two days before taking the produce to the buyers. Making such arrangements used to be a problem before the introduction of cell phones. However, with cell phones access, it is much easier.

Table 5.4 Regular markets where produce is sold.

Markets	Smallholders (60)	Smallholders (%)
Marketers	50	83.3
Wholesalers	6	10
Institutions	0	n/a
Hotels	15	25
Supermarkets	10	16.7
Kai bars	5	8.3
Town open markets	60	100
Village markets	20	33.3
Roadside markets	6	10

Although the smallholders sold to all markets listed in Table 5.4, the figures only represent the market outlets that the smallholders regularly supplied with produce. The two key outlets were marketers and the town open markets. Smallholders could not sell all they produced to their regular buyers, the marketers in their wards and open markets where the most popular outlet for this access produce. The smallholders noted that town open market provided a good avenue for them as they could sell in smaller units and bargain for higher prices, and so good returns.

Table 5.5 Market ranking by quality and price in general

Quality preference of buyers
1.Supermarkets
2. Hotels
3. Wholesalers
4. Marketers
5. Town open markets
6. Kai bars

Price offered by buyers
1. Supermarkets
2. Hotels
3. Town open markets
4. Wholesalers
5. Marketers
6. Kai bars

1 = High to 6 = Low with reference to quality and price.

Table 5.5 shows the combined results of the smallholders' assessments of their buyers according to price paid for produce and the level of produce quality demanded by these buyers. Generally, supermarkets were regarded by smallholders as high paying markets with the strictest quality standards, followed by hotels. Kai bars ranked lowest on both price and quality standards.

Quality preference of marketers was relatively low, and the price offered was the lowest except for kai bars. Also, the town open markets had the second lowest quality preference, but the third highest price. This was so because prices offered by marketers were lower than the formal markets, except kai bars, as smallholders only sold to those other formal markets when supply was scarce thus prices were higher whereas marketers take their produce all the time.

Smallholders claimed that quality preferences for town open markets were the lowest among the buyers except for kai bars. However, smallholders ranked price offered by buyers in town open markets higher than those offered by wholesalers and marketers, who are normally regarded as high paying customers. The reason for this ranking is attributed to the way produce is sold. Often formal markets have a set price list of products they procure, whereas with the town open markets, prices are decided upon by suppliers when assessing the supply situation at the time they sell their produce. Most often smallholders sell in units and get higher prices than what they would get if the produce was sold to the formal markets in bulk. This was the reason why prices were ranked higher in the town open markets.

5.7 Procurement Arrangements between Smallholders, Marketers and other Outlets.

Smallholders supplied fresh produce to a number of buyers. A few smallholders had formal procurement arrangements with buyers, but most did not. Those that had formal arrangements

with buyers were the ones that were able to produce and supply buyers' requirements consistently. Although they supplied regularly to a few formal markets, they were unable to sell fixed volume of produce to these markets. The majority of the smallholders sold regularly to the marketers in the ward. Some smallholders were able to supply fixed orders to the marketers, but for other smallholders, supplies varied depending on marketers' requests.

5.7.1 Procurement arrangements with marketers and other buyers

Figure 5.8 Types of procurement arrangements
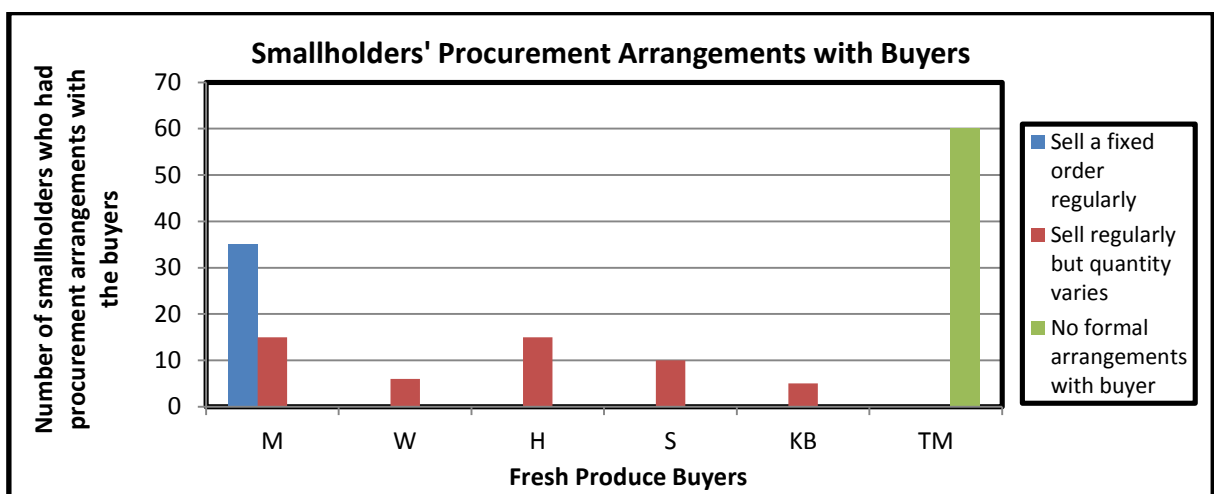
M = Marketer, W = Wholesalers, H = Hotels, S = Supermarkets, Kai bars = KB, TM = Town open markets.

Figure 5.8 shows the procurement arrangements smallholders had with buyers. Marketers played an important role at the ward level. Most smallholders were able to sell produce to them given that other formal markets were pretty hard to access. The smallholders reported that marketers were conveniently located in their wards and cut most of the marketing costs that would have been incurred if they had to take the produce to other formal markets or the town open markets.

Of the fifty smallholders supplying the ten marketers at the wards, 70% of them sold a fixed volume of a range of produce to the three advanced marketers operating in the two wards. Those that supplied fixed orders to marketers noted that they specialised in at least two or

three crops at the most. They noted that though the volume produced was not very large, they grew these vegetables in sequence to manage the risk of supply shortage. These smallholders noted that, because of their production constraints, they get their extended family members to grow some of these vegetables, which they then supply, the marketers under their names. They noted that this arrangement helps them in managing volume inconsistency issues.

The rest of the smallholders noted selling regularly to marketers but the volume and variety procured by marketers varied a lot. They noted that marketers would call them on cell phones to ensure that they had the produce to meet the marketers' requirements. This occurred two days in advance. If they could not supply the marketers' requirements, the marketers then had a day to source product from other farmers in the village to cover shortfalls in customer

Town open markets were also an important marketing avenue for the smallholders. Given that smallholders had limited access to formal markets, their next best option apart from marketers was the town open markets. There were no formal marketing arrangements with buyers in the town open markets, but most smallholders reported preferring town open markets to other markets. This was so because they preferred selling in units and they enjoyed setting their own selling prices than taking price for their produce as when selling to the other buyers.

Most smallholders did not have access to the formal markets. Results show that only a small number of formal markets procured from the smallholders regularly. Despite these regular purchases from the formal markets, the volume and variety procured varied a lot. The smallholders indicated that if they had arrangements to supply fixed orders of produce to supply formal market outlets, they would increase their production. However, they were not prepared to increase production as there were only a small number of markets procuring from them and requirements of these markets fluctuated.

Figure 5.9 Initial contacts with trading partner

Smallholders' Relationships with Buyers
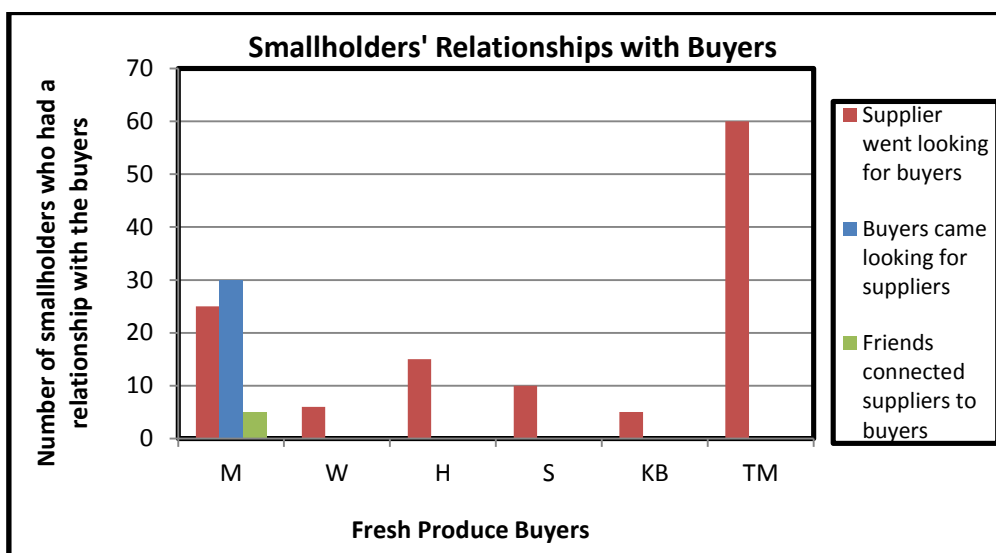
M = Marketers, W = Wholesalers, H = Hotels, S = Supermarkets, KB = Kai bars, TM = Town open markets.

Figure 5.9 gives further detail on the relationship between smallholders and buyers. It indicates that most smallholders supplying regularly to the buyers approached buyers to sell their produce. Just note that for the formal markets and kai bars, suppliers had to look for buyers; in informal markets (town open markets), the same situation prevailed, but that the situation varied with marketers.

Thirty smallholders reported that marketers operating in the wards came looking for them to supply produce to them. It was noted that most of the smallholders that reported buyers came looking for them were, in fact, approached by the three advanced marketers described in Chapter Four. The smallholders reported that these buyers had fixed procurement arrangements with their own buyers so they came to them to plant some of the produce as they could not grow all the produce themselves. Marketers noted that, although volume supplied each time is small, the total volume supplied over a year is much bigger.

Of the fifty smallholders that reported selling to the marketers in the wards, 25 smallholders claimed they took the initiative to approach the marketers to sell produce to them. They noted that, although they sell regularly to these marketers, their supply to the marketers often varies

as opposed to the smallholders that marketers approached to supply to them. Also, note that a small number of smallholders noted that friends connected them to the marketers. This small group of suppliers were some extended family members of the smallholders that supplied fixed others to the marketers.

5.7.2   Changes in Procurement Arrangements with Marketers and other Buyers

Smallholders noted that there were a lot of changes happening in the fresh produce marketing system. They noted that the usual spot marketing approach they were used to was no longer a good one in the long run. Most smallholders reported that formal markets wanted to procure from suppliers who met their requirements. This became a problem for them as some of the markets they used to supply did not want to buy from them as they were procuring from other suppliers they said were meeting the requirements. The smallholders noted some of these requirements were difficult to meet. They noted that as a result, they may miss out and may not be able to supply the formal markets.

Figure 5.10 Changes in the procurement systems – Smallholders' Context.
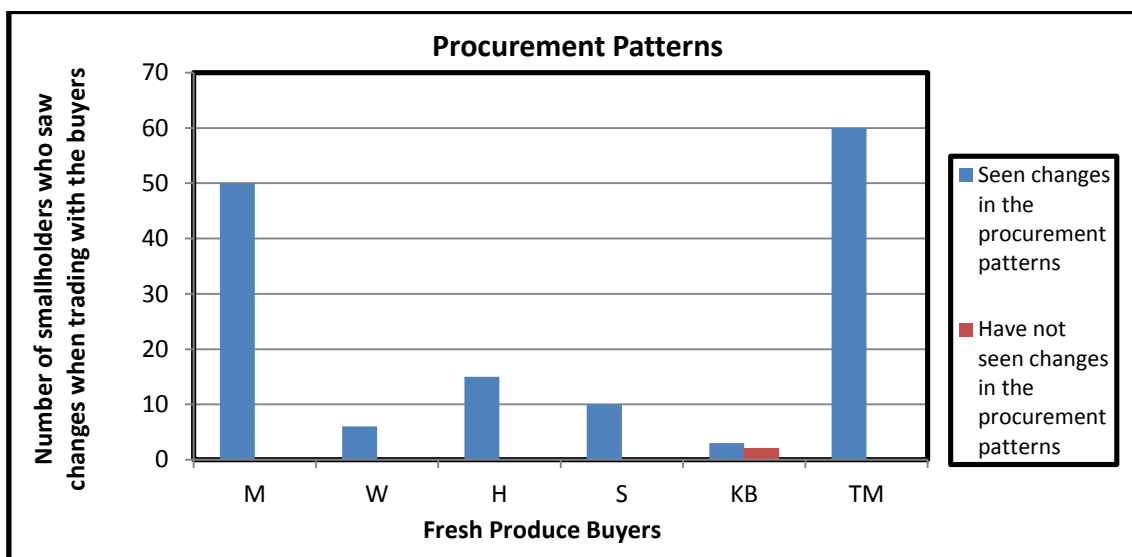
M = Marketers, W = Wholesalers, H = Hotels, S = Supermarkets, KB =Kai bars, TM = Town open markets.

Smallholders reported seeing changes in the procurement systems with the marketers in the wards. They reported that most marketers preferred relationship marketing to spot marketing. This was having an effect on most of the smallholder farmers as their usual practice of produce and cash exchanges on the spot was replaced. Most smallholders that sold fixed orders to the marketers stated that they get their money a few days later and were happy with the arrangement. However, other smallholders stated that they still prefer spot transactions, but because there were not many marketers who could do that, they continue to sell to these marketers.

Procurement patterns also changed in the town open markets. Previously, smallholders (producers) were the only sellers in the town open markets selling produce. However, these days, there are specialised buyers operating within the markets; buying produce in bulk and then reselling the produce in the markets or in other smaller markets on the fringes of the town. Smallholders said they have the option to sell the produce to these middle buyers in the town open markets or to sell the produce themselves in the markets.

Unlike the marketers and other formal markets that buy in bulk preferring relationship marketing, these middle buyers (black marketers) prefer spot marketing. Smallholders noted that a lot of bargaining goes on in this transaction and is very opportunistic. Most smallholders said that town open markets will still remain an important marketing avenue simply because they find it difficult to access formal markets, and marketers can only get little from them per purchase period.

Other smallholders who managed to sell to a few formal markets noted that, like marketers, formal markets also prefer relationship marketing over spot marketing. Given that many formal markets demand requirements smallholders have to meet to keep this relationship

going, it becomes so hard at times simply because smallholders just do not have the resources and the capacity to meet these requirements. Smallholders noted that previously, they used to just go with their produce and sell to these formal markets, but procurement systems have changed a lot. Many formal markets tell them that they buy produce from a few suppliers and so cannot buy theirs. When these formal markets really run low on volume requirements and regular suppliers cannot meet the shortfalls, they buy from other smallholders.

5.8 Perceived Causes of Changes in Smallholder Procurement Arrangements

Smallholders confirmed that the major causes of changes in the procurement systems were the same as those indicated by the marketers. These factors are the quality of produce, continuity of supply of the same produce regularly when needed, fluctuation of volume produced, and loyalty to their trading partners.

It was interesting to observe that smallholders had a good understanding of the wider procurement system. For example, they understood that customers want quality produce. However, they observed that it is very difficult to maintain quality of produce from farm to a buyer because a lot of handling occurs along the chain, and this can destroy the quality of produce. Consequently, the required quality may not be supplied to customers. Therefore, it can be difficult to gain and to maintain good business relationships with buyers. They noted that some of these issues are beyond their control as smallholder-growers.

Figure 5.11 Perceived causes of changes in procurement systems
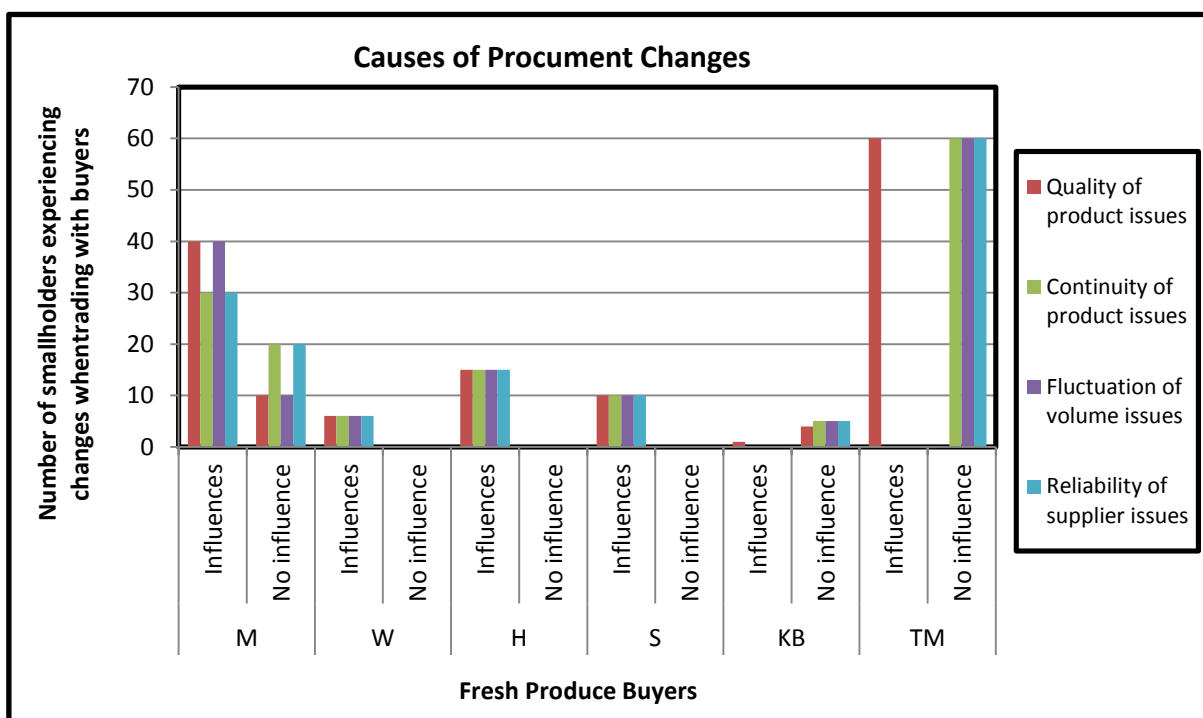
M = Marketers, W = Wholesalers, H = Hotels, S = Supermarkets, KB = Kai bars, TM = Town open markets

Figure 5.11 shows a breakdown of the major causes of changes in procurement systems. The operations of the marketers were influenced by all the factors that caused the changes in the procurement systems. When marketers procured from the smallholders, they stressed the need for smallholders to meet these requirements such as the quality of products, continuity in the supply of products supplied, the ability to manage fluctuation of produce supplied, and the reliability of suppliers to meet marketers' requirements. Marketers had to take heed of these requirements simply because these were what the marketers' buyers want from them. Given that marketers relied on smallholders for the vegetables, they had to apply the same requirements to the smallholders to meet. In doing so, marketers were able to meet their buyers' requirements.

Town open markets also experienced changes in the procurement systems. Smallholders noted that quality of produce was the major cause of change that influenced the procurement systems in the markets. This was so because most buyers in the town open markets were

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working class people who demanded higher quality produce from the suppliers. As a result, smallholders and other suppliers selling in town open markets had to make sure what they sold were of high quality standards. The other factors that caused changes in the procurement systems did not have any effect on suppliers in the town open markets as they were more to do with a relationship marketing arrangement. It is imperative to note that town open markets operate purely on spot market principles so these factors did not have any influence in the town open market suppliers.

Results show that formal markets such as the supermarkets, hotels, and wholesalers' procurement systems were influenced by factors such as the quality of produce supplied, the continuity of supplying the produce, the ability of suppliers to manage fluctuation of volumes, and smallholders' reliability to meet these requirements. Smallholders who supplied these formal markets noted that failing to meet these basic requirements meant losing buyers. The formal markets were quite strict on suppliers meeting these requirements as they were middle suppliers who were supplying others who demanded higher quality produce on consistent basis. Therefore, these factors influenced much of the formal buyers' procurement decisions.

Smallholders supplying kai bars indicated that factors that influence procurement systems in the formal markets had no influence on the kai bars. Many smallholders did not sell to these buyers as they did not pay good price for the produce and often they procured less and from family members only.

5.9   Perceived Quality of Product Supplied by Smallholders to Key Buyers

A key factor that influenced changes in the procurement systems was quality of products. Individual buyers have different product quality requirements because they operate in different market segments.

Smallholders rated themselves on their ability to meet a range of quality attributes. For generic produce quality, eight perceived quality attributes are used to ascertain the quality of a product. These quality attributes are (1) products free from pest and disease, (2) products that are fresh and clean, (3) products that are free from chemical residue, (4) products that have long shelf life, (5) products that are well graded, (6) products that look good in appearance, (7) products with right colour and size, (8) products that have little or no mechanical injury. For fresh produce in general, smallholders were asked to determine what attributes have been met and what have not been met for each market they supplied. Their responses are reported in-depth for the two key market outlets – marketers and town open markets – and briefly summarised for the remaining markets.

Figure 5.12 Perceived quality of produce - Marketers
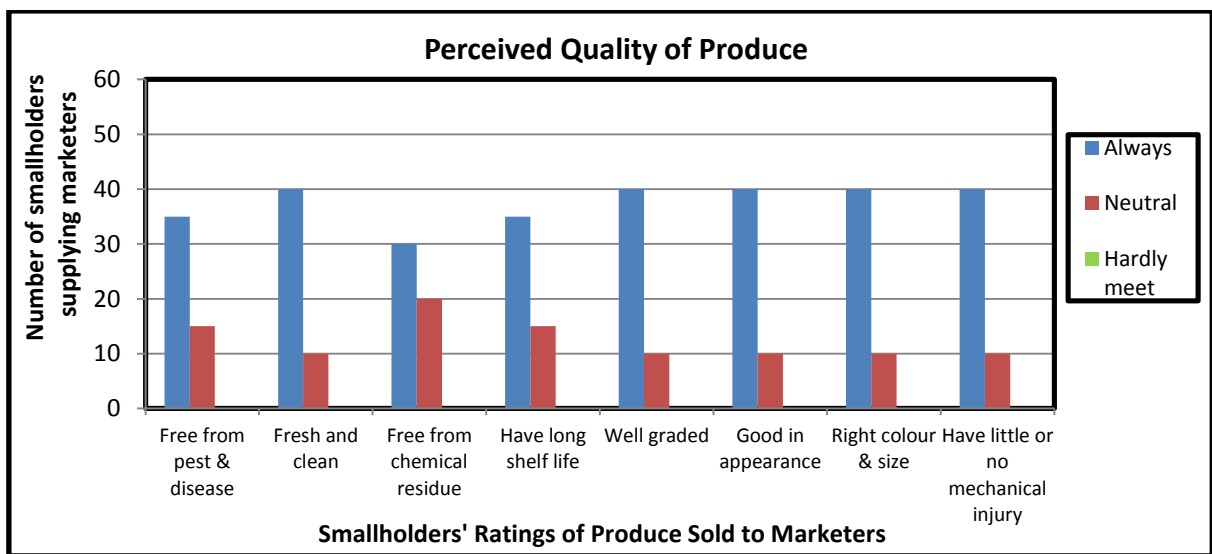
Figure 5.12 shows results for the 50 smallholders that supplied fresh produce regularly to the marketers in the wards. The results show that most smallholders judged that they were able to meet the quality attributes of fresh produce supplied to the marketers, with more than half of the smallholders reporting that they met all the quality attributes. However, between 10 to 15 smallholders noted that they did not meet quality attributes such as being free from pest and diseases and being free from chemical residue requirements and selling produce with long

shelf life. For each of the quality attributes, a small proportion of the smallholders reported that they did not meet the attribute required.

Figure 5.13 Perceived quality of produce – Town Open Markets
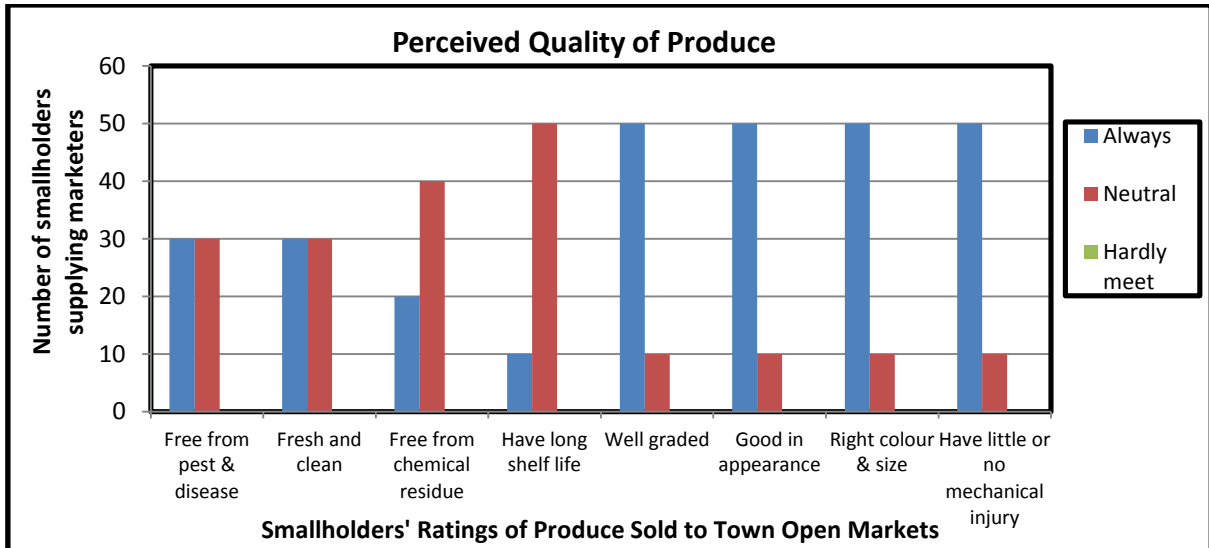
Figure 5.13 shows results of what fifty smallholders supplied to the other key market outlets and town open markets. Quality standards in the town open markets have increased over time. Consequently, smallholders noted that they had to supply quality products in order to sell quickly. Note that all smallholders reported always meeting quality attributes or were neutral, with none saying they hardly met them. A large proportion of smallholders always supplied well graded produce that were good in appearance, had the right colour and size, and had no mechanical injuries. In addition to that, a few others were also able to supply produce that were fresh and clean and were free from pest and diseases while the same number of smallholders also stated being neutral about meeting those requirements. Most of the smallholders were also more neutral in supplying produce that had long shelf life and products that were free from chemical residue.

Most of the formal markets smallholders supplied to had higher quality preferences. Supermarkets had strict quality requirements followed by hotels and wholesalers. The quality

attributes that stood out among these buyers were, produce that were well graded, looked good in appearance, had the right colour and size, had little or no mechanical injuries and were fresh and clean. These were basic attributes smallholders had to meet in order to sell to the formal markets.

5.10   Continuity of Supply to Key Buyers

One of the factors that influenced change in the procurement systems was the ability smallholders to manage the fluctuation in the supply of product demanded by buyers. The smallholders' ability to meet this requirement was measured through six items and they are (1) meeting delivery and schedule times of customers, (2) supply quality products to customers, (3) supply sufficient quantity to customers, (4) supply customer's desired variety, (5) supply wide range of fresh produce, and (6) supply produce appropriately packed. Most fresh produce buyers buy to sell or feed others and are not in the business of growing it. Therefore, most buyers want suppliers who are able to supply consistently their requirements.

Figure 5.14 Consistency of supply
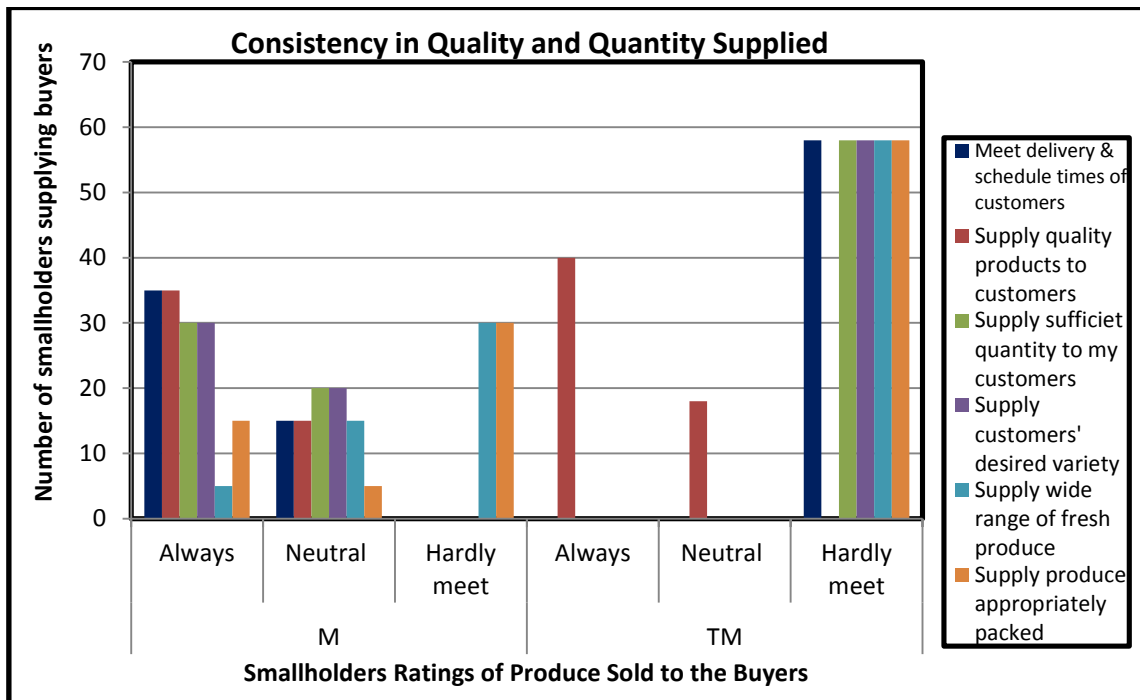
M = Marketers, TM = Town open markets.

Figure 5.14 shows results of how the smallholders were able to meet consistency requirements of the various buyers. Most of the fifty smallholders who supplied the marketers at the wards always met most consistency requirements, such as meeting delivery and schedule times of customers, supplying quality products, supplying sufficient quantity, and supplying customers' desired variety. However, the respondents did not fare so well in meeting other requirements, such as supplying a wide range of produce and supplying produce appropriately that was packed. It was noted that a few other smallholders also reported being neutral in meeting these consistency requirements. Note that none said they hardly met any of these attributes.

Fifty eight smallholders supplied regularly to the town open markets. Smallholders reported that they did poorly in meeting the consistency requirements for the town open markets. All smallholders reported that they hardly met five of the six consistency attributes. These included the delivery and schedule times of customers, which for obvious reasons occurs because they have no formal customer. They did not meet attributes such as supplying a wide

range of produce, supplying sufficient products and produce appropriately packed. These are spot transactions and very informal and sometimes opportunistic in nature, so they cared less about the outcome. However, they all stated that they either supply quality products, or were neutral on this attribute.

For the other formal markets that a few smallholders had access to, it was noted that smallholders were able to meet consistency attributes such as meeting delivery and schedule times, supplying quality produce, supplying sufficient quantity, and supplying customers' desired variety. Smallholders that supplied kai bars however, did not meet these consistency attributes.

5.11 Relationships between Smallholders, Marketers and Other Key Buyers

Relationships issues are also a major factor in the changes in the procurement systems. Smallholders' relationships with their trading partners were measured using fifteen items. These are (1) trading partner poses less risk, (2) good cooperation with trading partner, (3) to continue trading with trading partner, (4) trading partner meets your expectations, (5) trading partner treats you fairly & equitably, (6) trading partner is quick to handle complaints, (7) not much conflict with trading partner, (8) trading partner always keeps promises, (9) believe all information provided by trading partner, (10) close friendship with trading partner, (11) trading partner has best offer relative to alternatives, (12) trading partner has all the power, (13) trading partner controls all the information, (14) trading partner does not act opportunistically, and (15) more dependent on trading partner.

Figure 5.15 Smallholders' relationships with the marketers
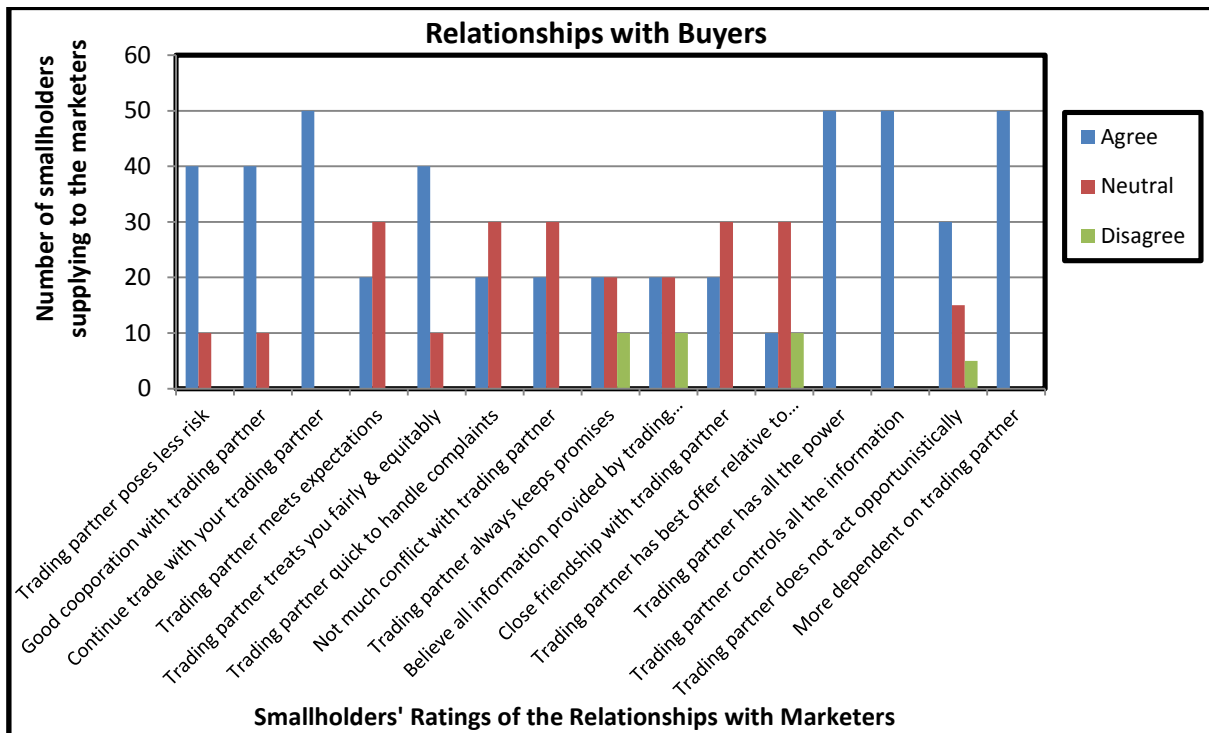
Figure 5.15 shows results for the fifty smallholders who traded regularly with the marketers. Results show that smallholders had good cooperation with marketers, that marketers treated them fairly and equitably, and posed less risk. However, they noted that marketers had power in the relationship, control the information, and that they were more dependent on the marketers. Thirty of them argued that marketers did not act opportunistically, although a further 15 were neutral with respect to this point.

Thirty smallholders noted that they were neutral with respect to marketers' relationship attributes such as; marketers being able to meet their expectations, marketers were quick to handle complaints, did not have much complaint with marketers, and had close friendship with the marketers. However, twenty smallholders reported that marketers were able to meet their expectations and were quick to handle complaints and had close friendship with the marketers. Another twenty smallholders reported that they were neutral with respect to marketers offering best offer relative to others. However, ten smallholders reported that

marketers do offer the best offer relative to other while another ten smallholders disagreed. Despite all these, all smallholders said that they were prepared to continue trading with the marketers. This was so because smallholders had few marketing avenues to sell their produce.

Figure 5.16 Smallholders' relationships with the Town Open Markets
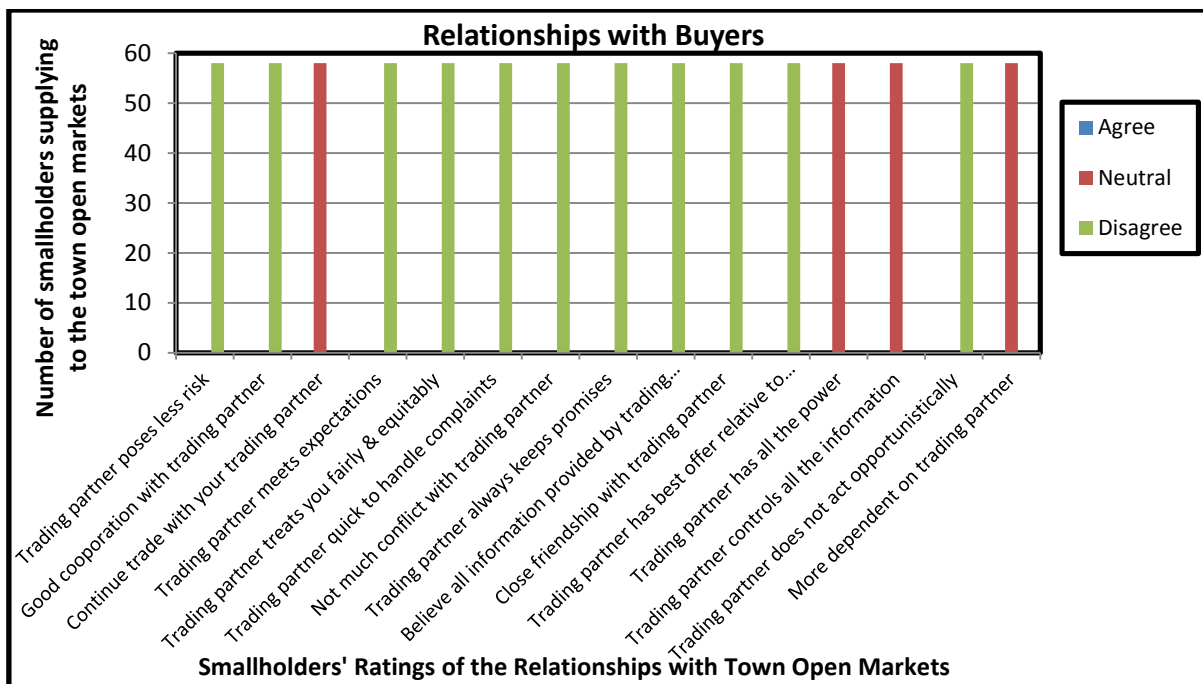
Figure 5.16 shows relationships between smallholders and the town open market buyers. It is important to note that smallholders had no regular trading partners in the town open markets. Although there were people, referred to as "black marketers" operating in the town open markets, they did not sell to these people. However, they reported that competition they faced from these "black market people" was intense. Smallholders noted that they did not have a good relationship with buyers in the town open markets. Smallholders noted that buyers in the town open markets very opportunistic. They had no close relationship with the buyers and there was conflict with the buyers.

However, smallholders were neutral with regards to relationship attributes such as, trading partner controlling all information, having all the power in that relationship, and that they

were more dependent on them. This was so because in the town open markets, both buyers and sellers are both opportunistic in their relationship. The seller and the buyer both try to get maximum benefit out of the other so really, no one would be in a position to be comparatively advantaged over the other. That was the reason why smallholders stated being neutral with reference to the power, information and dependency relationship attributes. However, they all stated that they would continue selling in the town open markets.

Smallholders noted that relationship with the formal markets tend to be in favour of the formal buyers. In most cases, smallholders reported that buyers had all the power in their relationships. Buyers often controlled market information in their relationships and smallholders noted being more dependent on the buyers. Among the formal markets that smallholders had access to, supermarkets were rated better in terms of their relationships with them. The kai bars were the worst in terms of marketing relationships with the smallholders.

Customer satisfaction is an important underlying factor in a relationship. If any relationship between trading partners is to continue, both trading partners have to be satisfied each other's ways of doing business. In this survey, smallholders were asked to determine how satisfied they were with their trading partners.

Figure 5.17 Satisfaction in the relationship with key trading partners
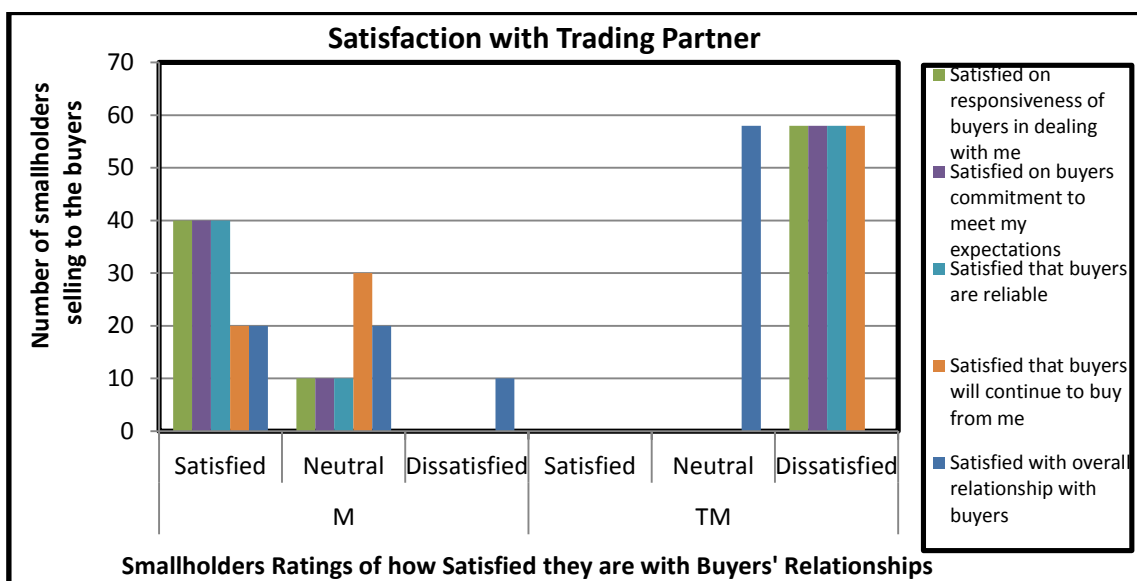
M = Marketers, TM = Town Open Markets

Figure 5.17 shows the relationship between smallholders and their key trading partners and how satisfied were with these relationships. The results show that most smallholders' were satisfied or neutral with respect to marketers. They were satisfied with the responsiveness of buyers in dealing with them. Buyers were also noted to be committed to meeting their expectations and were reliable. However, they were less certain that marketers would continue buying from them, and with their overall relationship. This insecurity arises because many suppliers would like to get the marketers to buy their produce.

Most smallholders supplying produce in the town open markets were dissatisfied with four of the five relationship attributes, and were neutral with respect to the overall satisfaction. Despite this, they noted that they would continue to sell in the town open markets because that was the only market they had access to any time. Unlike other markets they had to seek to sell their produce, the town open markets were readily available.

It was interesting to note that smallholders were dissatisfied with the overall relationship with the other formal markets they had access to selling their produce. Their reason for that was

their insecurity in their relationships. They felt that finally they would be eliminated from selling to these formal markets because most formal markets demanded requirements they found it difficult to meet. Some smallholders even claimed that these buyers even pay them less compared to what they can make from the town open markets. These were some of the underlying reasons for the dissatisfactions in their relationships with the formal markets.

5.12   Conclusion

The smallholder-marketer dyad results illustrate procurement relationships between the smallholders, their marketers, and other markets that smallholders had access to selling their produce. Major buyers of smallholders in the study sites were the marketers who operated in those wards. Smallholders though very entrepreneurial, had limited access to formal markets due to logistical issues so their major buyers were marketers in the wards.

Smallholders were important to the marketers as most marketers grew between 40% to 90% of their produce sold and procured the rest from their smallholder. Marketers preferred householders suppliers to other suppliers as the householder suppliers were committed and supplied their requirements on consistent basis. Of the seven marketers operating in the wards who were interviewed, three were more advanced than the others. These marketers initiated the relationships with the smallholders and also procured fixed orders from the household suppliers. When they could not get enough from the householders they preferred to then they engaged with extended family suppliers. The whole village and marketing cooperative suppliers were the suppliers that marketers least transacted with. Marketers had the key bargaining power in this relationship with the smallholder suppliers. Marketers were generally satisfied with the relationships with the suppliers.

Most smallholders were middle-aged, 35 to 45 years of age, had on average five household members, and had year six level education. Their decision to engage in fresh produce production was for household consumption, food for domesticated livestock, and production for sale. Productions by smallholders were on a small scale.

Most common produce grown were kaukau, English cabbage, Potato and carrot while a few other temperate vegetables like broccoli, spring onion, Chinese cabbage and tomato were some of these vegetables grown for sale. It was noted that smallholders only manage to sell some of this produce. The top five major sales problems smallholders listed as their biggest problems were logistical problems, more suppliers and fewer markets, credit and financial constraints, fluctuation in demand of produce and low supply issues.

In addition to the marketers who took the bulk of their produce, smallholders had some access to other markets, such as wholesalers, institutions, hotels, supermarkets, kai bars, town open markets, village markets, and roadside markets. Of these alternative markets, town open markets were the most popular. Of these markets, quality preferences of these markets, ranked from high to low in order, are supermarkets, hotels, wholesalers, marketers, town open markets, and kai bars, while prices offered by markets, ranked from high to low in order, are supermarkets, hotels, town open markets, wholesalers, marketers, and kai bars.

Smallholders supplied fresh produce to a number of buyers and only a few of them had formal procurement arrangements with buyers. Those that had formal arrangements with buyers were the ones that were able to produce and supply buyers' requirements consistently. A few smallholders reported selling a fixed order to the marketers, while supplies to other markets varied a lot. Most smallholders reported seeing changes in the procurement systems with the buyers. The major causes of changes were the quality of produce, continuity of supply of the

same produce regularly when needed, fluctuation of volume produced, and loyalty to their trading partners.

Chapter Six

Discussion

6.1   Introduction

This chapter discusses the results presented in chapters 4 and 5. The chapter is divided into six sections, including this Introduction (6.1). Section 6.2 presents the discussion on procurement and relationship strategies. Section 6.3 discusses the perception of current and future market requirements for fresh produce, and Section 6.4 discusses customer satisfaction issues. Section 6.5 addresses the policy implications of the research. In each of the three key sections (6.2 to 6.4), key results are reiterated and then discussed in the context of the research questions posed in Chapter 1 and the literature in Chapter 2.

6.2   Procurement and Relationship Marketing Strategies

This section focuses on the procurement and marketing relationship strategies that were used by buyers to meet the current requirements of their own customers. It addresses the second Research Question which is focused on this issue.

Marketers played an important role in the marketing of fresh produce. In addition to buying and selling produce, they also grew variable proportions of the vegetables they sold to their buyers. The proportions of grown to purchased vegetables varied among marketers. This difference may be related to the degree of commercialisation of marketers, with some more advanced in their operations than others. Procurement arrangements with groups of marketers were found to be varied. Marketers that were advanced in their operations grew less and procured more, while less advanced marketers grew more and procured less. It was noted that

all marketers grew a majority of the high revenue crops themselves while procuring more of the lower revenue crops from smallholders.

Of the produce that is procured, marketers have a range of suppliers they procure from. Their regular suppliers are household suppliers, followed by extended families of the household suppliers, then anyone from the village, and other marketing groups. Most marketers initiated the relationships with the household suppliers because these suppliers have been growing and selling produce on their own for some time. As such, the household suppliers are reliable and so marketers can have confidence that they will supply what they cannot produce from their own farms.

Marketers make arrangements with these suppliers to supply them a range of produce on a consistent basis. When marketers get the orders from their buyers, they then check their household suppliers first to see if they can supply the products. In the event that the household suppliers, for some reasons, cannot supply the produce, the household suppliers then arrange with the extended family suppliers to fill their gap. Quite often, sourcing of fresh produce ends with the extended family suppliers. However, if the extended family suppliers cannot come up with the produce, marketers have to source it from anyone in the village as a last resort.

It is important for marketers to procure from others and grow some produce themselves. They have to grow some produce themselves to ensure they did not run out of produce, while at the same time procuring from others provided an incentive for smallholders to grow. Marketers gave first preference to their household suppliers' produce over their supplies. These smallholders give them the security to meet volumes and variety requirements they cannot meet from their own production. Some marketers expressed the opinion that they preferred

buying and selling only, but the fear of smallholders stopping growing and supplying them forces these marketers to grow some of the produce themselves. Having a wider and varied supply base was safer for marketers than just partnering with a handful of smallholders, as this might prove risky if they decide not to supply them for some reason.

Although smallholders can sell to other markets, the two key outlets they sell their produce to are marketers and town open markets. Most marketers arrange with reliable smallholders to provide a regular supply of a variety of produce consistently. However, the volume required per order by marketers is very small compared to what smallholders are able to produce and market. Because smallholders can sell as much as the marketers require, any extra they have is sold in other markets, most often in the town open markets. Unlike the fixed volume of produce that smallholders are required to sell to the marketers, town open markets provide an unlimited outlet for them to sell their vegetables.

Smallholders also set their own prices in these open markets, depending on the supply situation on the day in the town open markets. This is quite opposite to their procurement arrangements with marketers where price is fixed regardless of the supply situation. For smallholders, bargaining is the norm in town open market sales. There is opportunistic behaviour in the town open markets, while in contrast, bargaining and opportunistic behaviour between smallholder and marketer is very low and rarely happens. Marketers provide a stable marketing outlet for the smallholders, while the open markets provide an outlet for all excess produce. Therefore, these two very different market outlets combine to benefit the smallholders.

Unlike smallholders, marketers sell to a range of markets. Most of the marketers sold regularly to supermarkets, institutions, hotels, wholesalers and town open markets. As noted

above, marketers have to procure smallholders' produce as an incentive to keep them producing even when they have their own produce. As a result, they may now have more than their regular buyers need. Consequently, they seek out other buyers to sell any extra produce that they have. In addition, not all household suppliers consistently supply the right quality produce. At times, factors beyond the smallholders' control affect their ability to supply the right quality products. Having many outlets with differing quality requirements allows marketers to manage this variable quality that they receive from smallholders while retaining their smallholder suppliers.

Generally, marketers have low bargaining power in their relationships with buyers. This is so because of the high competition among marketers trying to sell to a few formal markets. Marketers fear that their buyers may stop buying from them if they fail to meet their buyers' requirements, so strive to keep their market share with these buyers.

Although marketers sold most of their produce to the formal markets, what could not be absorbed in the formal markets was finally taken to the open markets. Given the town open markets are perfect spot markets, a lot of bargaining takes place here between the buyers and the sellers. This market is often characterised by opportunistic behaviours from the buyers and sellers. Marketers noted there are two types of buyers in the town open markets they mostly sell to. The most obvious one is the general public, while the other influential buyer operating within the market area (often called "black marketers"), buy in bulk and resell in the market. Marketers prefer selling to the "black marketers" in bulk than having to sell themselves in small quantities. Because town open markets are spot markets, marketers sometimes make more, and at other times make less. As such, urban markets are unpredictable outlets for marketers, but a very useful outlet for absorbing excess produce.

With reference to relationships between marketers and their trading partners, there is no relationship with buyers in the town open markets that procure from the marketers. Marketers do their best to foster relationships with formal markets because of their importance. The relationship established between the marketers and formal trading partners were initiated by the marketers. Given that formal markets have access to many marketers, there was no need for the buyers to go out looking for suppliers. This gives buyers bargaining power in their relationship with these marketer suppliers. As a result, the relationship between marketers and their buyers is not characterised by a very high degree of trust. This is because buyers have access to many marketers that can supply vegetables to them. Despite these relationship issues with the buyers, marketers were prepared to continue trading with them.

Supermarkets were the only formal market that marketers thought were treating them fairly in their relationships. Marketers reported that supermarket buyers were not opportunistic, and there was little relationship threat with the supermarkets. When the marketers did have issues, the supermarkets were quick to handle these complaints. Of all the formal markets that marketers sold produce to, supermarkets appeared to be the most preferred outlet.

Turning to the implications of these findings with respect to the literature, from a theoretical perspective, smallholders are product oriented. Smallholders think that producing a good product is enough for it to sell itself. Given this context, plant their choice of vegetables and ensure that they get the best harvest. Smallholders hope that if they produce the best vegetables, buyers would buy them. Kotler and Zaltman (1971) classify this type of business practice as product oriented. In product orientation, businesses emphasise that a good product will sell itself so the producers' job is to produce the best among competing products, then look for customers to buy them. Such strategies can be very limiting and run into problems

when they do not measure up to the markets' prevailing demands. This provides an explanation as to why the role of the marketer is crucial in linking smallholders.

As opposed to the smallholders' approach to producing and marketing fresh produce, marketers, on the other hand, are market-oriented. They determined what their customers' wants and needs were and endeavoured to supply them accordingly. Marketers initiated contacts with their buyers, found out what produce they needed and how this produce was to be delivered to them. After acquiring key information of their customers' requirements, marketers then went back to plan their production and marketing activities to deliver these customers' requirements. This illustrates how market-oriented marketers are in conducting their business.

Many smallholders are in a similar situation in other developing economies. As domestic trade of fresh produce increases, traditional spot market transactions are being replaced by vertically coordinated markets. These new requirements alter the traditional marketing relationships between the smallholder farmers and the buyers (Reardon and Barrett, 2000; Peterson et al., 2001). When this happens, smallholders are affected in their operations. This is so because smallholder farmers are used to "producing first and then looking for markets", whereas theory and good practice suggests they should seek out markets first, make the contractual arrangements and then produce what the market wants (Boehlje, 1996; Fairbairn, 2003).

Most smallholders in this study have a product-oriented production approach. However, failing to produce and deliver according to the markets' requirements results in some smallholders not being able to sell their produce to the formal markets. Consequently, some

smallholders end up selling some of their produce in the informal spot markets while others sold to marketers in the wards who were much more market oriented.

Marketers, on the other hand, established relationships with their potential trading partners, found out what their product and relationships requirements were and then derived strategies on how best to deliver the needs and wants of the customers in each market segment. Marketers were therefore able to sell to stable markets, with fixed to regular volume of known products, sold at fixed prices that are often (but not always) higher then informal market prices, and work with reasonably cooperative customers who work together with marketers to improve their relationships. This is the result of market-oriented marketing. All activities, from planting to procuring were based on their customers' choice and preference. This resulted in them being able to secure markets with the formal buyers. In marketing, Armstrong and Kotler (2005) and Pride et al (2007) described this type of business practice as market-oriented.

The procurement and marketing strategies applied by marketers seen in this study mirrors a system-wide change that is happening internationally in fresh produce marketing, with these changes mostly driven by formal markets. Reardon et al (2004) noted that such changes in developing countries are often driven by supermarkets. Though supermarkets have yet to make an overwhelming impact in the PNG fresh produce marketing system, their influence is increasing. They are playing a significant role in setting quality standards and procurement procedures that other buyers often adopt. Globally, such changes are having an impact on the traditional marketing system in developing countries (Reardon et al., 2004; Trail, 2006; Humphery, 2007).

6.3   Perceptions of the Current and Future Market Requirements

This section addresses the first and third research questions. These research questions are focussed on determining the buyers' perceptions of the current and future market needs of their own customers and the smallholders' perceptions of the current and future market requirements of their buyers.

There is a general rise in the demand for fresh produce, both in the local and distant markets in PNG. More and more people appear to be turning to eating more introduced fresh produce as opposed to the strictly traditional food. As a result, the demand for fresh produce has increased significantly. However, customer requirements have posed challenges for the suppliers of fresh produce. Marketers, as key suppliers of fresh produce, have to make greater efforts to meet customer requirements.

The increasing demand by customers for higher quality products has, in turn, prompted retailers and major buyers of fresh produce to demand higher quality produce from their own suppliers. As a result, retailers and major consumers of fresh produce prefer trading with suppliers who they think would be able to continue supplying them quality produce. As a result, marketers face a key task as they are key players in meeting the increasing demand for quality fresh produce in the country. Given their own production and marketing constraints, and in addition, the problem of procuring from atomistic and sometimes opportunistic smallholders, this is a big challenge for the marketers. Because of these constraints, marketers have to be very resilient and flexible in order to meet customers' requirements.

Marketers and buyers generally base the quality preference on product attributes such as products being fresh and clean, well graded, good in appearance, having the right colour and

size, and products having little or no mechanical injury. These are common product features used by marketers and their buyers in determining whether a product meets the quality standard. It is possible that, over time, these quality attributes will change and tighten.

Most marketers are based in their villages working with their own extended family members and friends. This aspect of their strategy addresses the potential unreliability and opportunism that could prevail among smallholders. As most marketers and their smallholder suppliers have close working and social working relationships, customer requirements and the importance of meeting these requirements can be addressed at the farm level by the individual smallholders. The marketers' strategy of supplying to a number of markets further addresses issues in meeting market requirements. The smallholder (household) suppliers aim to supply products that have the standard quality product attributes mentioned above. Marketers, after consolidating procured products with their own, do the final sorting, grading and packing of the produce according to various buyer requirements. The products are then supplied to those various buyers, with the higher quality products supplied to the top-end markets and moderate quality to the low-end markets. This system is likely to change and evolve over time as quality attributes in the markets change.

Smallholders also play an important role in servicing the informal and urban market segments, where a large proportion of lower income consumers buy. Although there is strong focus on formal markets, and how they might be serviced, most people in the country are in the lower income bracket. Despite their low incomes, an increasing preference for quality is seen in these informal markets, as evidenced by the display of produce in these urban and other informal markets. Smallholders know that having quality products gives them the basis to negotiate for better prices.

If the economy continues to grow as forecasted, more consumers will increase their standard of living, and will demand higher quality products. It is already a problem moving quality produce from production areas to major consuming areas such as mining sites and major towns in PNG (McGregor et al., 2003; Spriggs and Chambers, 2007; Wilson, 2008). This will become an even bigger problem if the current state of the fresh produce marketing system in the country is not upgraded (Spriggs and Chambers, 2007).

The importance of supplying customer requirements has been addressed by many scholars. Suppliers of fresh produce realise that finding out customer requirements and supplying them accordingly keeps them in business. This is the essence of the marketing concept. Kotler and Zaltman (1971) and Pride et al (2007), noted that marketers need to identify the needs and wants of customers and strive to deliver the right product to the right consumer at the right time at a profit. Thus, the marketing approach implies increased efficiency over traditional spot marketing.

In fresh produce marketing, it is imperative for suppliers to make sure that the produce arrives at its destination with its attributes intact, since fresh produce, unlike other products, can change form, colour, taste and even go bad when in transit. Produce that could tick all the quality attributes at the farm level may not be the same product when it reaches the buyer. Therefore, marketers and smallholders supplying produce to their customers have to determine how best the produce can be delivered to them in the most convenient way possible and at a profit, which is the essence of the marketing approach (Armstrong and Kotler, 2005; Pride et al., 2007).

As customers' preference for quality fresh produce increases, market-oriented suppliers will be in a better position to supply these markets and still remain in business. In this study,

marketers are seen to be customer-oriented, and so are able to sell to bigger markets. They are likely to become important players as the economy grows and demand for quality produce increases.

6.4   Customer Satisfaction Issues

This section addresses the fourth research question. This research question addresses how satisfied fresh produce buyers are in meeting the requirements of their own customers.

In a business relationship, customer satisfaction sustains the bond between the trading partners. Without continued customer satisfaction, the chance of a relationship continuing is highly unlikely. Therefore, to ensure customer satisfaction, trading partners must make sure that the products and services supplied and the way it is delivered meet or surpass customer expectation. Customer satisfaction was broadly looked at in two areas in this study. It was based on the relationship aspects of trading partners as well as how the trading partners met the product requirements of their customers.

With respect to relationship aspects, smallholders themselves have difficulty accessing and establishing sustainable relationships with the formal markets. However, they are able to supply produce to the marketers who operate in the wards. The smallholders needed the marketers to buy their produce, but the marketers also needed the smallholders to supply them produce they could not grow themselves. Given that marketers can only produce a limited amount of vegetables due to their own production constraints, smallholders' production fills the missing volume. This works well for both the smallholders and the marketers. Smallholders who find it difficult to access formal markets can sell to the marketers, and marketers who have problems meeting buyers' product requirements get the missing volume

and different types of produce from the smallholders. This partnership, which has key strategic elements on both sides works well this context, and enables both parties to deliver customers their product requirements.

In a relationship context, therefore, smallholders and marketers work well together. Marketers are satisfied with their relationships with their (household) smallholders because they depend on them to meet their buyers' product requirements and household suppliers are satisfied trading with the marketers because marketers are conveniently located and are willing to procure from them regularly. Therefore, as long as every trading partner along the chain is satisfied, the chances that the final consumer receives what they want is highly likely.

However, most marketers were not entirely satisfied with their overall relationships with most of the formal markets. This was so because formal markets have access to many marketers who try to sell to them. In the current marketing environment, formal market buyers have bargaining power in this relationship. Because of this situation, even though buyers may not meet their expectations, marketers are prepared to continue trading with them.

Supermarkets are the only formal market that marketers concluded treated them fairly in their relationships. Supermarkets are not opportunistic and when marketers have some issues, the supermarkets are quick to handle these complaints. Of all the formal markets that marketers sell produce to, supermarkets provided a better choice for marketers among the formal markets. Because supermarkets need a consistent supply of quality fresh produce to sell to their customers, they built good customer relationships with their suppliers. The suppliers being satisfied in their relationship with the supermarkets then made it their business to supply supermarkets quality produce consistently.

Product requirements generally were met by the suppliers. Although there were variations in the perceived quality of produce supplied by each supplier, quality checks were done before products were supplied to the next level customer. This had to be done as their relationship was dependent on them supplying quality products to their own buyers. Having a number of markets with differing quality requirements is an effective way to deal with variable quality. Other relationship issues were built around making the quality product available to the customer at the time they want it. Hence, from a general perspective, customers' product requirements were met.

Meeting perceived quality of products leads to customer satisfaction. Anderson et al (1994) reported that there is a direct relationship between quality, customer satisfaction and economic returns. Smallholders and marketers producing and marketing fresh produce for a living have come to realise the importance of forming what might be termed as a loose strategic alliance. Although, relationships are slowly becoming closer, this may be a way to coordinate production and marketing in the future. Because smallholders cannot easily access formal markets, a robust strategy for them is to supply quality produce to the marketers, who then can sell to the formal markets. This is so because retailers demand higher quality and fresher vegetables, as it plays a key role in sustaining consumer demand and also contributes to being competitive in retail market (Damianos and Demoussis, 1992; Shukor et al., 2001; Nicola and Fontana, 2010).

6.5   Policy Implications

This section addresses the fifth research question which was to provide recommendations for policy makers on improving the procurement of fresh produce to meet current and future market requirements.

Production and marketing of fresh produce offers potential for economic growth and poverty alleviation in developing countries. However, it is argued that access to markets by smallholders has been undermined by the increasing complexity of value chains in agribusiness (Humphrey, 2006). Increasing vertical coordination in the fresh produce supply chain also imposes new requirements on smallholders. These often deter smallholders from participating meaningfully in such chains in developing countries. Policies aimed at encouraging smallholder farmers to be active participants need to be realistic and exhibit an understanding of their situation, and the situation of their trading partners and those further along the chain. This study contributes to that understanding by suggesting that to improve the production and marketing of fresh produce to meet increasing quality demands, a holistic view of the supply chain must be addressed.

Studies conducted in PNG on improving the livelihoods of the rural population show that 85% of the population in PNG relies on the informal sector (National Agriculture Department of Livestock, 2007; Spriggs and Chambers, 2007; Bourke and Harwood, 2009), and of that population, more than 90% relies on fresh produce farming (Allen et al., 2009). Given this situation, one can conclude that policy attention needs to be given to the rural informal sector. Hence, it is imperative that the government and its development partners should aim at improving the fresh produce sector in PNG. Much has been recommended by internal and external research consultants on improving the rural agriculture sector (National Agriculture Department of Livestock, 2007; Spriggs and Chambers, 2007; Allen et al., 2009; Bourke and Harwood, 2009), but as in many other developing countries, difficulties with implementation can occur. This study supports the need for a focus on this sector.

Studies (McGregor et al., 2003; Martin and Jagadish, 2006; Spriggs and Chambers, 2007; Wilson, 2008) show that demand for quality produce has increased significantly. That is,

retailers and large customers demand quality produce from their suppliers so they can then supply quality products to their own customers. It was highlighted in this study that smallholders need to improve the quality of their products if they are to become better linked to the formal markets. Hence, a key policy outcome of this study is that a focus on quality improvement by smallholder farmers will be very beneficial, particularly as the PNG economy continues to grow and the demand for quality fresh produce increases.

Chapter Seven

Conclusion

In the concluding chapter, the study is summarised (Section 7.1). Limitations of the study are then identified (Section 7.2) and recommendations for further research made (Section 7.3). Finally, some concluding remarks are made (Section 7.4).

7.1   Summary

The focus of this study was to to identify desired requirements of buyers of fresh produce in the PNG Highlands, and to evaluate how prepared those supplying and procuring fresh produce for the current PNG markets are to meet likely future trends. Five research questions were formulated to address this issue. These were (1) to determine buyers' perceptions of the current and future market needs of their own customers, (2) to identify what procurement and marketing relationship strategies are used by buyers to meet the current requirements of their own customers, (3) to determine smallholders' perceptions of the current and future market requirements of their buyers, (4) to determine how satisfied fresh produce buyers are in meeting the requirements of their own customers, and (5) to provide recommendations for policy makers on improving the procurement of fresh produce to meet current and future market requirements.

With respect to the study context, production of fresh produce plays an important part in the informal sector in PNG. More than 90% of the population in the informal sector are involved in the production and marketing of fresh produce to derive their incomes. The PNG Highlands in particular, is the key area for the production and marketing of fresh produce and is characterised by the entrepreneurial drive of the producers and the favourable climate and

high soil fertility of the region. It is believed that there could be sufficient fresh produce grown in the highlands to meet PNG's domestic fresh produce needs and even supply offshore markets. However, it is argued that this fails to occur due to the declining and insufficient marketing infrastructure. Despite these constraints, marketers of fresh produce have been involved in the marketing of fresh produce, both locally and to the distant markets in PNG for some time.

Demand for fresh produce has been growing rapidly in the country due to rapid growth in the population. This population drives growth in the demand for food, including fresh produce, and is compounded by steady economic growth in the country. With the increasing population and rapid economic growth, the situation now is one of increasing demand for fresh fruits and vegetables of higher quality that domestic supply will find a challenge to meet.

This study used a mixed method approach. A purposive sampling technique was used as there was no sampling frame to sample from. Sixty smallholders and seven marketers from wards one and two in the Daulo District were interviewed, using questionnaires based on a framework of customer satisfaction derived from the marketing literature. Results were analysed descriptively using frequency and cross tabulations were possible.

The results confirmed that buyers in the formal markets are shifting towards more relationship type marketing arrangements with suppliers, where buyers expect suppliers to meet their requirements. Most formal markets prefer procuring fresh produce from marketers, rather than smallholders, because they are able to meet their requirements. The marketers are able to meet their customers' requirements because they plant and procure enough produce, especially vegetables that buyers want and sell to them consistently.

Not only do marketers provide a reliable supply source for the retailers and large buyers, they also play an important role in providing a stable market for smallholders in the wards they operate from. Formal markets require a constant supply of produce from the marketers, but marketers are unable to grow all produce required by their buyers. Therefore, they rely on smallholders. In doing so, they prefer to build relationships with individual household suppliers, but if these suppliers cannot produce enough, they turn to the extended family suppliers to supply shortfalls in produce. Hence marketers' role in the marketing of fresh produce is becoming important to both the smallholders and formal markets in the country.

The changes happening in the procurement systems are driven by customer requirements. There is a general rise in the demand for quality fresh produce in the country. More and more people appear are turning to eating more introduced fresh produce than traditional food. In this study, two broad areas were identified to address customer requirements. They are product requirements and relationship requirements. Product requirements relates to the quality attributes of the product that customers want and relationship issues relate to the way suppliers are able to meet their buyer's needs.

The general product quality requirements buyers look for in a product were fresh and clean, well graded, good in appearance, right colour and size, and having little or no mechanical injury. These are common fresh produce attributes used by marketers and their buyers in deciding whether a product meets the quality standard. It is likely that, over time, these quality attributes will change and tighten.

Though marketers tried their best to ensure customers' requirements were met, they were not entirely satisfied with their overall relationships with most of them. This was because formal markets have access to many marketers. Because of their accessibility to a wide range of

marketers, the formal markets do not have an incentive to invest heavily in their relationship with marketers. Supermarkets on the other hand treat them fairly in their relationships and were a preferred choice for marketers than the formal markets.

A major result of the changes in the procurement systems is the increasing vertical coordination in the fresh produce supply chain. This imposes new requirements from smallholders. This study suggests that to improve the production and marketing of fresh produce to meet increasing quality demands, a holistic view of the supply chain is required.

7.2   Limitations of this Research

Results of this study are limited to the smallholder-marketer dyad of the fresh produce chain and are restricted to two wards in Daulo district. This was because of security and funding and time constraint issues for the researcher. Because only seven marketers in one area were able to be interviewed, the results must be considered fragile. Therefore, care must be exercised in generalising from these results, even though they seem theoretically plausible. It is also important to note that results of the marketer-buyer dyad are from the marketers' side only and represent their views and not those of the buyers. It is possible that buyers have differing perceptions to those reported for the marketers.

7.3   Recommendations for Future research

The findings of this study only relate to the smallholders and marketers in a limited region, and customer requirements of retailers and large buyers of fresh produce may differ from the marketers' views that were expressed. Therefore, it is recommended that future studies should consider a whole chain approach and focus as well on the buyer part of the marketer-buyer

dyad. Also, future studies should interview a larger number of marketers and smallholders from a large number of areas in order to gain a more representative understanding of the issues addressed in this study.

7.4   Concluding Remarks

This study contributes to the pool of literature on the production and marketing of fresh produce in PNG. The study highlights the importance of meeting customer requirements. Results showed that marketers aim to meet product requirements of buyers and tend to have reasonably good working relationship with their buyers.

Smallholders form an important part of the supply base for these marketers. Marketers who are closer to the many atomistic smallholder suppliers procure and consolidate produce to sell to their buyers. Retailers and large buyers rely on reliable marketers to procure produce from them. This relationship between each trading partners works well in sustaining the marketing of fresh produce.

To conclude, this study suggests that policies aimed at actively engaging smallholders to participate in fresh produce chains need to be genuine, and to show an understanding of the smallholders' situation, as well as the situation of their buyers, and those further along the chain. This research contributes to that understanding by its focus on the smallholder-marketer dyad, though it is acknowledged that a comprehensive view of the supply chain must be addressed to gain a more complete understanding. It also suggests that a focus on quality improvements by smallholders would be beneficial, given the PNG economy continues to grow and demand for quality produce increases.

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Appendix: Questionnaire

A: Marketer-buyer questionnaire

Fresh Produce Marketers' Questionnaire

DATE: _____   INTERVIEWEE No: _____

Hello, I am John Lark. I am conducting this survey for a Masters degree at Lincoln University, New Zealand. I am investigating the way we sell and distribute fresh produce here in the highlands. The information I collect will also help FPDAs work on addressing fresh produce supply chain issues. Your help is very much appreciated. Your participation in this research is voluntary. You will not be identified, and will remain anonymous in the actual report I write. You can withdraw from participating at any time.

Section A

1. Demographic Information

    a. Marketer's gender   **Male** or **Female**

    b. What is your marital status?   _____

    c. Is the marketer also the household head?   Circle **Yes/No**

    d. How long have you lived this district?   Years _____

    e. How many years did you receive any formal education?   Years_____

    f. How many live in your household?   _____

2. Resources

    ➢ Production resources

    a. How much land do you own (in pieces)? _____

    b. If you own a number of small plots of land, fit the number of each into from the list below?

        I. Small sizes (approx. less than 0.25 ha)_____

        II. Medium sizes(approx. 0.25 ha to 0.5 ha)_____

        III. Large sizes(approx. 0.5ha to 0.75 ha)_____

IV.   Very large (more than 0.75 ha)_____

c.   Do you have enough land to grow the produce you would like to sell? Circle **Yes/No**

d.   If you don't have enough land, would you hire land or purchase more if the opportunity arises? Tick where appropriate.

    I.   Yes, hire_____

    II.   Yes, purchase_____

    III.   Yes, hire and purchase

    IV.   No, stay the same_____

e.   What tools do you own and use on your farm?

_____

f.   Are these tools adequate for your operations, or do you need more? Tick.

    I.   Adequate_____

    II.   Need more_____

    III.   What tools would you like to buy?

    _____

    g.   Do you employ people to work your farm for wages or other payments? **Circle Yes/No**
    If Yes, how many?

      Fulltime_____ Parttime_____Seasonal_____

➢   Marketing resources

a.   Do you have a storage facility? **Circle Yes/No**

b.   If yes, do you own it or are you renting? **Circle Rent/Own**

c.   Do you have a chill container to store fresh produce? **Circle Yes/No**

d.   Do you have water connected to the storage facility? **Circle Yes/No**

e.   Do you access electricity to your property? **Circle Yes/No**

f.   Do you have a phone (landline/mobile)? Tick where appropriate

    I.   Mobile_____

II.   Landline_____

III. Both_____

IV.   None at all_____

g. Do you own a truck for work? **Circle Yes/No**

h. Do you employ others for wages and other forms of payments to assist you do your marketing? **Circle Yes/No**

i. If Yes, how many?

I.   Fulltime_____ Parttime_____Seasonal_____

3. Business Operations

a. Do you grow as well as buy from others to sell? Tick where appropriate.

I.   Grow as well as buy to sell_____

II. Just buy to sell_____

b. If you grow as well as buy from others, what proportion of the quantity is growing and what proportion of the quantity is buying from others?

I.   Growing (%) _____

II. Buying from others (%) _____

c. What crops do you grow for sale and what is the proportion of the quantity of each crop grown?

	Food crops grown	Quantity of each crop grown (%)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

d. What crops do you buy from others and what is the proportion of the quantity of each crop bought?

	Food crops purchased from others	Quantity of each crop (%)
1		
2		
3		
4		
5		
6		
7		
8		
9		

e. List the crops that you make most revenue from in order with the highest at the top of the list?

	All food crops sold(both grown and bought)

1	
2	
3	
4	
5	
6	
7	
8	
9	

f. Do you grow all the top revenue earning crops all by yourself? **Circle Yes/No**

g. What are the reasons for not growing them yourself? Tick where possible

    I.   Seeds and input shortages_____

    II.   Land shortage_____

    III.   Labour shortage_____

    IV.   Capital (including equipment and finance)shortage_____

    V.   Crops do not grow well on my land_____

    VI.   Crops do not grow well in my local area_____

    VII.   Others_____

h. Do you sell all the produce you have (grown and bought) when doing your marketing? **Circle Yes/No**

i. If your sales vary over the year, rank in order of importance at least three major causes of this.

    I.   _____

    II.   _____

    III.   _____

j. What happens to any produce not sold?

    I.   Taken back for household use **Circle Yes/No**

    II.   Given to others. **Circle Yes/No**

III. Thrown into waste bins. **Circle Yes/No**

k. List the markets you sell to and what quantity (%) of your produce is sold there?

No.	Types of markets	Yes/No	% sold there
1	Wholesalers **(W)**		
2	Institutions(Universities, hospitals, colleges etc.) **(I)**		
3	Hotels **(H)**		
4	Supermarkets **(S)**		
5	Mining sites **(M)**		
6	Fast food restaurants and Restaurants **(F)**		
7	Town open markets **(T)**		
8	Village markets **(V)**		
9	Roadside markets **(R)**		
10	Others **(O)**		

l. In terms of price, list the markets in order of prices paid, with the highest as No.1.

1		6	
2		7	
3		8	
4		9	
5		10	

W=W/salers, **I=**Institutional buyers, **H=**Hotels**, S=**Supermarkets, **M=**Mines, **F=**Fast food & Restaurants,

T=Town open markets

m. In terms of quality, list the markets in order of quality required, with the highest as No.1.

1		6	
2		7	
3		8	
4		9	
5		10	

W=W/salers, **I=**Institutional buyers, **H=**Hotels**, S=**Supermarkets, **M=**Mines, **F=**Fast food & Restaurants,

T=Town open markets

n. Do you sell regularly to these markets listed above? **Circle Yes/No**

o. List the markets you sell regularly to:

1	6
2	7
3	8
4	9
5	10

W=W/salers, **I=**Institutional buyers, **H=**Hotels**, S=**Supermarkets, **M=**Mines, **F=**Fast food & Restaurants,

T=Town open markets

p. What is the procurement arrangement with your buyers that you sell to on a regular basis?

   Tick where appropriate.

Markets you sell regularly to:	W	I	H	S	M	F
1.I have a fixed order of a variety of produce where I supply regularly						
2.I sell to from them regularly but quantity and variety of produce depends on their needs						
3.I sell to them what they need and if I don't have it they go elsewhere						
4. What other arrangements you have? List.						

W=W/salers, **I=**Institutional buyers, **H=**Hotels**, S=**Supermarkets, **M=**Mines, **F=**Fast food & Restaurants

q. How did you come to find out about these markets that you sell regularly to? **Tick** where appropriate.

Markets you sell regularly to:	W	I	H	S	M	F
I went looking for the buyers						
2. Buyers came looking for me						
3. Friends connected me to the buyers						
4. Through farmers marketing cooperatives						
5. Assistance from government agencies(e.g. FPDA)						

If others, name them below						
6.						
7.						

W=W/salers, **I**=Institutional buyers, **H**=Hotels**, S**=Supermarkets, **M**=Mines, **F**=Fast food & Restaurants

Section B:

Procurement patterns with the buyers (If they do sell to formal markets).

    a. Have procurement arrangements with your buyers changed over the years you have been selling to these formal markets? **Tick if Yes**

W	I	H	S	M	F

W=W/salers, **I**=Institutional buyers, **H**=Hotels**, S**=Supermarkets, **M**=Mines, **F**=Fast food & Restaurants.

    b. If yes, list four major factors that have caused the changes to happen?

1.
2.
3.
4.

    c. Are the changes in the procurement systems of benefit to you? **Circle Yes/No**

    d. If Yes, give reasons how you benefit

    _____

    e. If No, give reasons why you don't benefit.

    _____

Section C:

Procurement patterns with the buyers (If they sell to informal markets).

    a. Have procurement arrangements in the informal markets with your buyers changed over the years you have been selling? **Tick if Yes**

T	V	R

T=Town open markets, **V**=Village markets, **R**=Roadside

b. If yes, what are the factors that have caused the changes to happen?

Factors that have caused the changes to happen		T	V	R
1	Quality of product issues have caused the changes			
2	Continuity of supply issues have caused the changes			
3	Fluctuation of volume supplied issues have caused the changes			
4	Reliability of supplier issues have caused this to happen			
	Others List below:			
5				

T=Town open markets, **V**=Village markets, **R**=Roadside

c. Are the changes in the procurement systems of benefit to you? **Circle Yes/No**

d. If Yes, give reasons how you benefit

_____

e. If No, give reasons why you don't benefit.

_____

Section D:

Product Issues

List all important markets that you sell to and rate them accordingly.

Scale: 1 = Always   2 = Neutral   3 = Hardly Meet It

a. Perceived quality of produce supplied to markets

		Markets you sell to:						
Perceived quality of produce supplied								
1	Have always been able to supply products free from pests and disease							

2	Have you always been able to supply products that are fresh and clean							
3	Have you always been able to supply products that are free from chemical residue							
4	Have you always been able to supply products that have long shelf life							
5	Have you always been able to supply products that are well graded							
6	Have you always been able to supply products good in appearance							
7	Have you always been able to supply products have the right colour and size							
8	Have you always been able to supply products have no or little mechanical injury							

W=W/salers, **I=**Institutional buyers, **H=**Hotels**, S=**Supermarkets, **M=**Mines, **F=**Fast food & Restaurants.

Scale: 1 = Always   2 = Neutral   3 = Hardly Meet It

b. Consistency in quantity and quality of produce

		Markets you sell to:						
Consistency in quantity and quality of produce								
1	Have you always been able to meet delivery and schedule times of your customers							
2	Have you always been able to supply quality products to my customers							
3	Have you always been able to supply sufficient quantity to my customers							
4	Have you always been able to supply customers desired variety							
5	Have you always been able to supply a wide range of fresh produce							
6	Have you always been able to supply fresh produce appropriately packed							

W=W/salers, **I=**Institutional buyers, **H=**Hotels**, S=**Supermarkets, **M=**Mines, **F=**Fast food & Restaurants.

Section E:

a. Relationships with buyers

On a scale of 1 to 3, rate your relationship with your preferred trading partner where;

1= Agree **(A)**   2= Neither agree nor disagree **(N)**   3= Disagree **(D)**

		Markets you sell to:						
Relationships with buyers								
1	Your preferred trading partner poses less risk							
2	There is good cooperation with preferred trading partner							
3	You expect to continue to trade with your trading partner							

4	Your preferred trading partner meets expectations							
5	Your trading partner treats you fairly and equitably							
6	Your trading partner is quick to handle your complaints							
7	You don't have much conflict with preferred trading partner							
8	Your trading partner always keeps promises							
9	Believe information provided by trading partner							
10	Close personal friendship with trading partner							
11	Trading partner has best offer relative to alternatives							
12	Trading partner has all the power							
13	Trading partner controls all the information							
14	Trading partner often acts opportunistically							
15	More dependent on trading partner							

W=W/salers, **I**=Institutional buyers, **H**=Hotels**, S**=Supermarkets, **M**=Mines, **F**=Fast food & Restaurants.

b. What do you (marketer) see as the (1) current and (2) future requirements of your buyers?

(1) Current market requirement requirements

_____

(2) Future market requirements

_____

On a scale of 1 to 3, rate your satisfaction where;

1= Satisfied **(S) 2**= Neither satisfied nor dissatisfied **(N)** 3= Dissatisfied **(D)**

1. Supplier Satisfaction (how satisfied are you with your buyers' ability to meet your needs?)

	Rate your satisfaction	Markets you sell regularly to:					
1	I am satisfied with the responsiveness of the buyers in dealing with me						
2	I am satisfied with their commitment to meet my expectations						
3	I am satisfied that the buyers are reliable						
4	I am satisfied that buyers will continue to buy from me						

5	I am satisfied with the overall relationship with my buyers						

A=Agents/Traders, **W=**W/salers, **I=**Institutional buyers, **H=**Hotels, **S=**Supermarkets, **M=**Mines, **F=**Fast

food & Restaurants, **O=**Town open markets

*Customer Loyalty. 1= Satisfied **(S)**   2= Neither satisfied nor dissatisfied **(N)** 3= Dissatisfied **(D)**

Customer Loyalty	Markets you sell regularly to:				
1	I am satisfied and likely to do repeat business with my buyers				
2	I am satisfied and unlikely to seek out other buyers				
3	I am satisfied and likely to tell others people about my buyers				

A=Agents/Traders, **W=**W/salers, **I=**Institutional buyers, **H=**Hotels, **S=**Supermarkets, **M=**Mines, **F=**Fast

food & Restaurants, **O=**Town open markets

Section F:

Relationship with Suppliers.

   a.   Do you have different groups of suppliers? **Circle Yes/No.**

   b.   If so, tick the supplier who supplies you.

Different types of suppliers	
1. Individual Farmer(Just wife or husband) **(I)**	
2. Household (wife, husband and children) **(H)**	
3. Extended Family(Extended families growing separately but for the same markets) **(E)**	
4. The whole village or community(All people in that village) **(W)**	
5. Farmer cooperatives(One or two communities combined to grow for a market) **(F)**	

I=Individual farmer, **H=**Household, **E=**Extended family, **W=**Whole village or community, **F=**Farmer

cooperatives.

c. Do you have any formal arrangement with your suppliers? **Circle Yes/No**

d. If yes, what is the arrangement with your suppliers? **Tick** where appropriate.

	Suppliers						
Relationship with Suppliers.							
1.I have a fixed order of a variety of produce where they supply regularly							
2.I buy from them regularly but quantity and variety of produce depends on my needs							
3.I buy from them what I need and if they don't have it I go elsewhere							
4. I buy from them when I can't get produce from my regular suppliers							
5. What other arrangements you have? List.							

I=Individual farmer, **H**=Household, **E**=Extended family, **W**=Whole village or community, **F**=Farmer cooperatives.

e. How did you come to find out about these suppliers?

	Suppliers						
How you connect with them							
2. I went looking for the suppliers							
2. They came looking for me							
3. Through friends							
4. Through farmers marketing cooperatives							
5. Assistance from government agencies(e.g. FPDA)							
6. If others, name them below							

I=Individual farmer, **H**=Household, **E**=Extended family, **W**=Whole village or community, **F**=Farmer cooperatives.

f. Do you grade all the produce yourself?

_____

Section G:

Procurement Patterns with your suppliers

a. Have procurement arrangements with your suppliers changed over the years you have been buying from these suppliers? **Tick.**

Suppliers	I	H	E	W	F
Tick ans.					

I=Individual farmer, **H**=Household, **E**=Extended family, **W**=Whole village or community, **F**=Farmer cooperatives.

b. If yes, what are the factors that have caused the changes to happen? **Tick where appropriate.**

		Suppliers			
Factors that have caused the changes to happen					
1	Quality of product issues have caused the changes				
2	Continuity of supply issues have caused the changes				
3	Fluctuation of volume supplied issues have caused the changes				
4	Reliability of supplier issues have caused this to happen				
5	Others List below:				

I=Individual farmer, **H**=Household, **E**=Extended family, **W**=Whole village or community, **F**=Farmer cooperatives.

c. Are the changes in the procurement systems of benefit to you? **Circle Yes/No**

d. If Yes, give reasons how you benefit

_____

If No, give reasons why you don't benefit

_____

Section H:

Product Issues

a. For each of your supplier group, rate the perceived quality and consistency in quantity and
quality of products supplied by suppliers; on a scale of;

1. Perceived quality of produce

1= Always **(A)**   2= Neutral **(N)**   3= Hardly Meet It **(H)**

		Suppliers			
Perceived quality of produce					
1	Suppliers always supply products that are free from pests and disease				
2	Suppliers always supply products that are fresh and clean				
3	Suppliers always supply products that are free from chemical residue				
4	Suppliers always supply products that can have long shelf life				
5	Suppliers always supply products that are well graded				
6	Suppliers always supply products that are good in appearance				

7	Suppliers always supply products that are right in colour, shape, and weight					
8	Suppliers always supply products that have none or little mechanical injury					

I=Individual farmer, **H**=Household, **E**=Extended family, **W**=Whole village or community, **F**=Farmer cooperatives.

2. Consistency in quantity and quality of produce

1= Always **(A)**   2= Neutral **(N)**   3= Hardly Meet It **(H)**

		Suppliers				
Consistency in quantity and quality of produce						
1	Suppliers always meet delivery and schedule times					
2	Suppliers always supply quality products					
3	Suppliers always supply sufficient quantity					
4	Suppliers always supply my desired variety					
5	Suppliers always supply a wide range of fresh produce					
6	Suppliers always supply fresh produce appropriately packed					

I=Individual farmer, **H**=Household, **E**=Extended family, **W**=Whole village or community, **F**=Farmer cooperatives.

Section I:

a. Relationship variables with suppliers

On a scale of 1 to 3, rate your relationship with your preferred trading partner where;

1= Agree **(A)**   2= Neither agree nor disagree **(N)**   3= Disagree **(D)**

		Suppliers				
Relationship with suppliers						
1	Your preferred trading partner poses less risk					
2	There is good cooperation with preferred trading partner					
3	You expect to continue to trade with your trading partner					
4	Your preferred trading partner meets expectations					
5	Your trading partner treats you fairly and equitably					
6	Your trading partner is quick to handle your complaints					
7	You don't have much conflict with preferred trading partner					
8	Your trading partner always keeps promises					
9	Believe information provided by trading partner					

10	Close personal friendship with trading partner					
11	Trading partner has best offer relative to alternatives					
12	Trading partner has all the power					
13	Trading partner controls all the information					
14	Trading partner often acts opportunistically					
15	More dependent on trading partner					

I=Individual farmer, **H=**Household, **E=**Extended family, **W=**Whole village or community, **F=**Farmer cooperatives.

Section J:

On a scale of 1 to 3, rate your satisfaction where;

1= Satisfied **(S)** 2= Neither satisfied nor dissatisfied **(N)** 3= Dissatisfied **(D)**

		Suppliers				
Rate your satisfaction						
1	Am satisfied with the responsiveness of the suppliers in dealing with me					
2	Am satisfied with their commitment to meet my expectations					
3	Am satisfied that the suppliers are reliable					
4	Am satisfied that suppliers will continue to supply produce to me					
5	Am satisfied with the overall relationship with my suppliers					

I=Individual farmer, **H=**Household, **E=**Extended family, **W=**Whole village or community, **F=**Farmer cooperatives.

*Customer Loyalty. 1= Satisfied **(S)**   2= Neither satisfied nor dissatisfied **(N)** 3= Dissatisfied **(D)**

	Suppliers				
Customer Loyalty					

1	I am satisfied and likely to do repeat business with my suppliers					
2	I am satisfied and unlikely to seek out other suppliers					
3	I am satisfied and likely to tell others people about my suppliers					

I=Individual farmer, **H=**Household, **E=**Extended family, **W=**Whole village or community, **F=**Farmer cooperatives.

Thank you for your time.

B: Smallholder-marketer questionnaire

Fresh Produce Suppliers' Questionnaire

DATE: _____   INTERVIEWEE No: _____

Hello, I am John Lark. I am conducting this survey for a Masters degree at Lincoln University, New Zealand. I am investigating the way we sell and distribute fresh produce here in the highlands. The information I collect will also help FPDAs work on addressing fresh produce supply chain issues. Your help is very much appreciated. Your participation in this research is voluntary. You will not be identified, and will remain anonymous in the actual report I write.   You can withdraw from participating at any time.

<u>Section A</u>

1. Demographic Information

    a. Ward (1 or 2)   _____

    b. Supplier's gender   **Male** or **Female**

    c. What is your marital status?   _____

    d. Is the supplier also the household head?   **Yes** or **No**

    e. How long have you lived here?   Years _____

    f. How many years did you receive any formal education?   Years_____

    g. How many members are there in the household?   _____

<u>2. Resources</u>

    ➢ Production resources

    a. How much land do you own (in pieces)? _____

    b. If you own a number of small plots of land, fit the number of each into from the list below?

    V. Small sizes (approx. less than 0.25 ha)_____

    VI. Medium sizes(approx. 0.25 ha to 0.5 ha)_____

    VII. Large sizes(approx. 0.5ha to 0.75 ha)_____

    VIII. Very large (more than 0.75 ha)_____

c.   Do you have enough land to grow the produce you would like to sell? Circle **Yes/No**

d.   If you don't have enough land, would you hire land or purchase more if the opportunity arises? Tick where appropriate.

    V.   Yes, hire_____

   VI.   Yes, purchase_____

  VII.   Yes, hire and purchase

 VIII.   No, stay the same_____

e.   What is the reason for increasing land size? Tick where appropriate.

    I.   Increase production of all crops grown to sell_____

   II.   To plant other food crops_____

  III.   For other reasons_____

f.   What tools do you own and use on your farm?

_____A

re these tools enough for your operations, or do you need more?

   IV.   Enough_____

    V.   Need more_____

   VI.   What tools would you like to buy?

_____

g.   Do you employ people to work your farm? **Circle Yes/No**

h.   If Yes, how many?

    I.   Fulltime_____ Parttime_____Seasonal_____

➢   Marketing resources

I.   Do you have a storage facility? **Circle Yes/No**

II.   If yes, do you own it or are you renting?

_____

III.   Do you have a chill container to store fresh produce? **Circle Yes/No**

IV.   Do you have water connected to the storage facility? **Circle Yes/No**

V.   Do you access electricity to your property? **Circle Yes/No**

VI.   Do you have a phone (landline/mobile)? Tick where appropriate

    V.   Mobile_____

    VI.   Landline_____

    VII.   Both_____

    VIII.   None at all_____

VII.   Do you own a truck for work? **Circle Yes/No**

VIII.   Do you employ others to assist you do your marketing? **Circle Yes/No**

IX.   If Yes, how many?

    II.   Fulltime_____ Parttime_____Seasonal_____

3. Business Operations

   a.   List all food crops you grow for sale in order from high revenue earner to least revenue earner and in what quantity is each grown

	All food crops grown for sale	Quantity of each of these crops grown (%)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

   b.   Do you encounter any problems growing the crops? **Circle Yes/No**

   c.   If yes, what are the problems? Tick where possible

VIII.   Seeds and input shortages_____

  IX.   Land shortage_____

   X.   Labour shortage_____

  XI.   Capital (including equipment and finance)shortage_____

 XII.   Crops do not grow well on my land_____

XIII.   Others_____

d. Do you sell all the produce when doing your marketing? **Circle Yes/No**

e. If your sales vary over the year, rank in order of importance at least three major causes of this.

  IV.   _____

   V.   _____

  VI.   _____

f. What happens to any produce not sold?

   IV.   Taken back for household use **Circle Yes/No**

    V.   Given to others. **Circle Yes/No**

   VI.   Thrown into waste bins. **Circle Yes/No**

g. List the markets you sell to and what quantity (%) of the produce is sold there?

No.	Types of markets	Yes/No	% sold there

1	Agents/Traders **(A)**		
2	Wholesalers **(W)**		
3	Institutions(Universities, hospitals, colleges etc) **(I)**		
4	Hotels **(H)**		
5	Supermarkets **(S)**		
6	Mining sites **(M)**		
7	Fast food restaurants and Restaurants **(F)**		
8	Town open markets **(T)**		
9	Village markets **(V)**		
10	Roadside markets **(R)**		
11	Others **(O)**		

A=Agents/Traders, **W**=W/salers, **I**=Institutional buyers, **H**=Hotels**, S**=Supermarkets, **M**=Mines, **F**=Fast food & Restaurants, **T**=Town open markets

h. In terms of price, list the markets in order of prices paid, with the highest as No.1.

1		6	
2		7	
3		8	
4		9	
5		10	

A=Agents/Traders, **W**=W/salers, **I**=Institutional buyers, **H**=Hotels**, S**=Supermarkets, **M**=Mines, **F**=Fast food & Restaurants, **O**=Town open markets

i. In terms of quality, list the markets in order of quality demanded, with the highest as No.1.

1		6	
2		7	

3	8
4	9
5	10

j. Do you sell regularly to these markets listed above? **Circle Yes/No**

k. If Yes, List the markets

1	4
2	5
3	6

A=Agents/Traders, **W**=W/salers, **I**=Institutional buyers, **H**=Hotels, **S**=Supermarkets, **M**=Mines, **F**=Fast food & Restaurants, **O**=Town open markets

l. Do you have any formal arrangement with your buyers? **Circle Yes/No**

m. If yes, what is the procurement arrangement with your buyers? **Tick** where appropriate.

	Markets you sell regularly to:					
How you connect with them						
1.I have a fixed order of a variety of produce where I supply regularly						
2.I sell to them regularly but quantity and variety of produce depends on their needs						
3.I sell to them what they need and if I don't have it they go elsewhere						
4. What other arrangements you have? List.						

A=Agents/Traders, **W**=W/salers, **I**=Institutional buyers, **H**=Hotels, **S**=Supermarkets, **M**=Mines, **F**=Fast food & Restaurants, **O**=Town open markets

n. How did you come to find out about these markets that you sell regularly to? **Tick** where appropriate.

How you connect with them	Markets you sell regularly to:						
	A	W	I	H	S	M	F
I went looking for the buyers							

2. Buyers came looking for me								
3. Friends connected me to the buyers								
4. Through farmers marketing cooperatives								
5. Assistance from government agencies(e.g. FPDA)								
If others, name them below								
6.								
7.								

A=Agents/Traders, **W**=W/salers, **I**=Institutional buyers, **H**=Hotels**, S**=Supermarkets, **M**=Mines, **F**=Fast food & Restaurants, **O=**Town open markets

Section B:

Procurement Patterns with your buyers

a. Have procurement arrangements with your buyers changed over the years you have been selling to these buyers? **Tick.**

Suppliers	A	W	I	H	S	M	F
Tick ans.							

A=Agents/Traders, **W**=W/salers, **I**=Institutional buyers, **H**=Hotels**, S**=Supermarkets, **M**=Mines, **F**=Fast food & Restaurants

b. If yes, list four major factors that have caused the changes to happen?

1.
2.
3.
4.

c. Are the changes in the procurement systems of benefit to you? **Circle Yes/No**

1. If Yes, give reasons how you benefit

   _____

2. If No, give reasons why you don't benefit.

   _____

Section C:

Product Issues

List all important markets that you sell to and rate them accordingly.

Scale: 1 = Always   2 = Neutral   3 = Hardly Meet It

a. Perceived quality of produce supplied to markets

Perceived quality of produce		Markets you sell to:			
1	Have always been able to supply products free from pests and disease				
2	Have you always been able to supply products that are fresh and clean				
3	Have you always been able to supply products that are free from chemical residue				
4	Have you always been able to supply products that have long shelf life				
5	Have you always been able to supply products that are well graded				
6	Have you always been able to supply products that are good in appearance				
7	Have you always been able to supply products that have the right colour and size				
8	Have you always been able to supply products that have no or little mechanical injury				

A=Agents/Traders, **W**=W/salers, **I**=Institutional buyers, **H**=Hotels, **S**=Supermarkets, **M**=Mines, **F**=Fast food & Restaurants

Scale: 1 = Always   2 = Neutral   3 = Hardly Meet It

b. Consistency in quantity and quality of produce

Consistency in quantity and quality of produce		Markets you sell to:			
1	Have you always been able to meet delivery and schedule times of your customers				
2	Have you always been able to supply quality products to your customers				
3	Have you always been able to supply sufficient quantity to your customers				
4	Have you always been able to supply customers desired variety				
5	Have you always been able to supply a wide range of fresh produce				
6	Have you always been able to supply fresh produce appropriately packed				

A=Agents/Traders, **W**=W/salers, **I**=Institutional buyers, **H**=Hotels, **S**=Supermarkets, **M**=Mines, **F**=Fast food & Restaurants

Section D:

a. Relationship with buyers

On a scale of 1 to 3, rate your relationship with your preferred trading partner where;

b. 1= Agree **(A)**   2= Neither agree nor disagree **(N)**   3= Disagree **(D)**

Relationship with buyers		Markets you sell to:				
1	Your preferred trading partner poses less risk					

2	There is good cooperation with preferred trading partner						
3	You expect to continue to trade with your trading partner						
4	Your preferred trading partner meets expectations						
5	Your trading partner treats you fairly and equitably						
6	Your trading partner is quick to handle your complaints						
7	You don't have much conflict with preferred trading partner						
8	Your trading partner always keeps promises						
9	Believe information provided by trading partner						
10	Close personal friendship with trading partner						
11	Trading partner has best offer relative to alternatives						
12	Trading partner has all the power						
13	Trading partner controls all the information						
14	Trading partner often acts opportunistically						
15	More dependent on trading partner						

A=Agents/Traders, **W**=W/salers, **I**=Institutional buyers, **H**=Hotels, **S**=Supermarkets, **M**=Mines, **F**=Fast food & Restaurants

Section F:

    a. What do you (supplier) see as the current and future requirements of your own customers?

_____

Section E:

On a scale of 1 to 3, rate your satisfaction where;

1= Satisfied **(S)** 2= Neither satisfied nor dissatisfied **(N)** 3= Dissatisfied **(D)**

    3. Supplier Satisfaction (how satisfied are you with your buyers' ability to meet your needs?)

Rate your satisfaction		Markets you sell regularly to:				
		A	W	I	H	S
1	I am satisfied with the responsiveness of the buyers in dealing with me					
2	I am satisfied with their commitment to meet my expectations					

3	I am satisfied that the buyers are reliable					
4	I am satisfied that buyers will continue to buy from me					
5	I am satisfied with the overall relationship with my buyers					

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*Customer Loyalty. 1= Satisfied **(S)**   **2**= Neither satisfied nor dissatisfied **(N)** 3= Dissatisfied **(D)**

Customer Loyalty		**Markets you sell regularly to:**				
1	I am satisfied and likely to do repeat business with my buyers					
2	I am satisfied and unlikely to seek out other buyers					
3	I am satisfied and likely to tell others people about my buyers					

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Thank you for your time.