SUPPLY CHAIN CHALLENGES CONSTRAINING HORTICULTURAL ENTERPRISES IN TANZANIA TO ACHIEVE INTERNATIONAL MARKET RELIABILITY

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Abstract

The general objective of this study is to examine the supply chain challenges constraining horticultural enterprises in Tanzania in achieving international market reliability (in terms of quality and quantity of the produce, delivery time and frequency, etc.). Desk research was conducted, where various literatures focusing on horticulture business in Tanzania and Africa was extensively reviewed and discussed. Evidence from the literature revealed that, common supply chain challenges were poor transportation infrastructure, inadequate and poor storage, packaging technology and processing facilities, unfavorable financing terms, poor marketing system, and poor quality control system. The study recommends that, the revealed supply chain challenges need to be addressed by all actors in this supply chain, both individually and in collaboration, so as to strengthen the competitive position of Tanzanian horticultural export business. The study informs the policy makers and implementers, researchers and academics.

Keywords: *Supply chain challenges, horticulture, supply chain reliability, supply chain risks*

Introduction

Investments in agriculture are essential if we are to achieve meaningful growth and sustain past macro-economic gains as proposed by "Kilimo Kwanza" policy. Following the Tanzania's National Strategy for Economic Growth and Reduction of Poverty (MKUKUTA), if Tanzania is able to sustain high levels of agriculture sector growth, it will lead to a significant reduction in overall poverty (MMA, 2008; MOA, 2008). Contributing more than 50% to the Gross Domestic Product (GDP) and 60% to total export earnings agriculture is considered to be the backbone to the national economy and the basis for further economic development in Tanzania (SIDA, 2007; MMA, 2008). The growth rate of agricultural exports has been higher at around 7% over the past decade than the overall agricultural growth rate of 5% per year, which indicates that export oriented agriculture enjoys increasing attention in the country ((Nyambo and Verschoor, 2005; USAID, 2007).

For a long time the traditional export crops (i.e. coffee, tobacco, tea, cotton and sisal) have been the main source of foreign earnings contributing up to 60% of the total export volume (MOA, 2008). However, the declining performance of these products at the world market which reduced its contribution to the export earnings from 50% in the mid 1990 to a mere 23% in the year 2002, promoted the production of non-traditional crops for export market (Semboja, Mbelwa and Bonaventura, 2000; Amani, 2005). Horticulture has been the fast growing non-traditional crops sub-sector in Tanzania, since late 1990s after

the government advocated the strategy to diversify agricultural export base, producing varieties of fresh fruits, vegetables and flowers for domestic and export market. For Tanzania a program for non-traditional export crop development can be viewed as a means of improving the livelihood of small farmers and creating new employment opportunities (Semboja et al, 2000; TAHA, 2010).

Other reasons contributing to the growth of production and exportation of horticultural products in Tanzania can be attributed to the large and growing global consumer demand, especially Europe, for fresh fruits, flowers and vegetables. MMA (2008) reported that global demand has been growing by more than 7% per year, where by in Asian countries like China, India and the Middle East, demand is growing faster. In addition, Tanzania agricultural export sector has been and is enjoying the existence of various preferential accesses into certain countries and trade blocks within the World Trade Organization (WTO) framework. Moreover, in the past two decades, Tanzanian government has engaged in privatization of the government enterprises, enacting less restrictive business laws, and providing incentives for the non-traditional export (Semboja et al, 2000).

Given the existing potential market for horticultural products and other factors mentioned above, as well as the presence of various frameworks in place such as New Partnership for Africa's Development (NEPAD), Southern African Development Community (SADC), and the East African Community (EAC) it is obvious that agriculture sector has a potential to continue contributing large share of the GDP hence impact positively on poverty reduction (Amani, 2005). Due to this fact, the promotion of horticultural crops production remains the only practical and viable option not only for enhancing the country's foreign exchange earnings but also for enhancing the fight against rural poverty.

Problem of the Research

One of the most significant changes in the paradigm of modern business management is that, individual businesses no longer compete as solely autonomous entities, but rather as supply chains (Lambert, Cooper and Pagh, 1998; Lambert, 2008). According to the supply chain management concept, business management has entered the era of inter-network competition whereby the ultimate success of a single business will depend on the total business process excellence and the management's ability to managing relationships with other members of the supply chain(Lambert and Cooper, 2000; Lambert, 2008).

The competition for horticultural exports to the international market from African has increased as more African countries enter the marketplace. This is because a number of African countries have taken advantage of the increasing demand in fresh fruits, vegetables and flowers by the international market especially the European countries as an opportunity to diversify their agriculture into production of horticultural products (Singh, 2002). In addition, many of the African countries view this as a means of improving the livelihood of small farmers and creating new employment opportunities. Moreover, trade liberalization policy adopted by the European Union (EU) has brought more countries from outside Africa into competition after 2008 (Stevens and Kennan, 2010). It is evident from this light that, the international market is getting crowded and

competition is becoming fierce without much prospects of significant increases in total trade volume. It is also expected that countries already in fresh produce export business will use their first arrival advantage and put up stiff resistance to anyone trying to enter this market (Singh, 2002).

Despite, the enormous capacity and better climatic conditions to produce horticultural products that suit demand from neighbouring and overseas markets, Tanzania has not been able to gain a competitive position at the international market to date (MMA, 2011). Previous studies (Amani, 2005; Neven, 2007; MMA, 2008; Nyambo and Verschoor, 2005) have been able to highlight various challenges to the growth of the horticultural sector in Tanzania; however none has been able to relate them to the supply chain management concept. Most of what has been documented informs the challenges in relations to specific link of the horticultural supply chain rather than analyzing the supply chain as a whole. In order to explain why Tanzania's position is weak at the international market we need to understand the structure and dynamics that constitute horticultural supply chain in the country and find out the possibilities or ways in which the enterprises can attain international market reliability. In other words, to be competent at the international market for horticultural export business in Tanzania, there is a need to give a critical look at the factors that act as a stumbling block to the performance of this business in each stage of the supply chain and for the supply chain as a whole.

Research Focus

To satisfy the international customer especially when the product in question is perishable, market reliability in terms of quality and quantity of the produce, consistent supply, delivery speed, time and frequency, is highly valued. Given the current state of competition among suppliers from different countries, the consumer will increasingly look for products with quality characteristics such as more fresh appearance, eating quality, little waste and positive health effects. For Tanzania to achieve this, the horticultural supply chain actors have to work together in making sure that there is a smooth flow of fresh produce from the farm level. In addition, to gain more access to the international market and obtain a competitive position, horticultural firms in Tanzania have to compete as a network and not as individual businesses. Therefore this paper will focus on the intensive review and discussion of the supply chain challenges constraining horticultural enterprises in Tanzania to achieve international market reliability.

Literature Review

This section reviews the relevant literatures for this study that assisted the researcher in highlighting and discussing the challenges to the horticultural supply chain in Tanzania with regards to market reliability.

Supply Chain Flexibility

For the past few years, supply chain flexibility has been a central debate on supply chain management literatures (Lummus, Duclos and Vokurka, 2003; Reichhart and Holweg, 2007). Most researchers agree that there is still more to be explored as flexibility is the major determinant of market reliability. Koste and Malhotra (1999) argued that reliability should be assessed based on the absence or presence of flexibility in the supply chain.

Flexibility is perceived with respect to chain actors' capabilities to promptness and the degree to which they can adjust to speed, destination and volumes (Lummus et al, 2003). Thus flexibility becomes the means through which the supply chain is able to withstand and counteracts disruption risks (Rao and Wadhwa, 2002). Given the transportation of fresh products, such disruptions could be in the form of heavy rain falls, political instability, labour strikes and bankruptcy among others. Fisher (1997) pointed out that the nature of a product's demand should determine the way of devising an effective supply chain strategy. Thus for horticultural products (like fresh flowers, fruits and vegetables) with very short product life cycle, it is necessary to have a flexible supply chain, which will be market responsive and reliable. In addition, the time critical nature of fresh produce necessitates the adoption of Stevenson and Spring's (2007) suggestion of viewing flexibility beyond the individual members, to viewing flexibility from the supply chain perspective as a whole i.e. internal and external supply chain flexibility.

Internal flexibility reflects an organization's ability to effectively adapt and/or respond to changes or cope with environmental uncertainties that add value in the customer's eyes (Ndubisi; Jantan; Hing; and Ayub, 2005). It concentrates on flexibility within a single firm and it is recognised as a component of marketing and R&D strategies as well as one element of business strategy, with certain dimensions impacting growth and financial performance of an enterprise. To increase internal flexibility, every enterprise should periodically redesign its supply chain based on its objectives and changes in the business environment (Garber and Sarkar, 2007). In addition, Fassoula (2006) suggests that, firms must re-invent themselves in a way that can allow them to continuously adapt to different market requirements and compete successfully. Garber and Sarkar (2007) advised that, enterprises should create more flexible supplier relationships to assure changes in production capacity in case a new product sells faster or slower than expected. For instance, capacity increases to accommodate peak-season build-ups.

External flexibility is the flexibility of the entire supply chain resulting from the flexible components at each node of the supply chain and their interrelationships (Lau and Lee, 2000). Since it is difficult for a company to survive in isolation of its business partners in the network of value chain, analysis of external flexibility is very important for this study as proposed by Lummus et al (2003). This proposition has been supported by Reichhart and Holweg (2007), stating that, flexibility will differ at different nodes in the chain, however, when taken together should contribute to the entire supply chain's market reliability to achieve competitive advantage, such as speed of delivery.

For the purpose of this study, supply chain flexibility will be assessed in a wide range of areas mainly based on transport modes/infrastructure, storage facilities, quality, capacity, ports and customs flexibilities (Rao and Wadhwa, 2002; Tsay, 1999) and responsiveness to the target market as well as collaboration issues among horticultural supply chain members.

Supply Chain Risks

Manuj and Mentzer (2008) define risk to be 'a chance of danger, damage, loss, injury or any other undesired consequence that might have a negative impact on market reliability of a supply chain. No matter how sophisticated a supply chain is, it cannot be said to be risk-proof and therefore should adequately be prepared to handle unexpected

risks and disruptions when they occur. Based on this study, the time critical nature of fresh produce which has to meet the international market's standards, demand that risks and disruptions are taken into consideration if a supply chain is to be market reliable. The sources of supply chain risks are many, as different links of a supply chain are exposed to different types of risks (Faisal, Banwet and Shankar, 2006). Understanding risk sources, as argued by (Husdal, 2008; Sandvik, 2008), helps actors to determine various types of supply chain risks that organizations and entire supply networks are exposed to and strategies for the better performance of the supply chain. Ritchie and Brindley (2007) contend that, there are supply chain risks which are internal (e.g. lack of formal procedure) and external (e.g. disruption of supplies) to an enterprise; while others are internal (e.g. failure or breakdown of operations) and external to the supply chain (e.g. economic shifts). Manuj and Mentzer (2008) argue that, it is better to understand various types of supply chain risks because most of these risks are overlapping and do not exist in isolation. Moreover they differently affect the strategic decision making level and performance of the channel member as well as the entire supply chain.

Risks cannot be avoided therefore, it is important to plan ahead for the situations where harmful risks are likely to occur. Risk management strategies include information sharing, collaborative relationships and trust, joint training and development programs, joint pro-active assessment and planning exercises; developing risk management awareness, knowledge and skills as well as alignment of incentives and proper revenue sharing arrangement such that, the value and benefits generated are maximized and shared fairly among supply chain members (Miller, 1992; Saad and Kleindorfer, 2005; Cucchilla and Gastaldi, 2005; Faisal, Banwet and Shankar, 2006). Since risks affect supply chain market reliability, it is important to identify those risks to which a supply chain is more vulnerable for proper attention to be given to such risks as suggested by Manuj and Mentzer (2008). For horticultural supply chain to the international market, certain types of risks are more likely to be prominent. Some of those risks are product rejection risks, driver shortage, power curtailment, information flow disruptions, trust, natural disasters, government policies, oil price increase, criminal acts like thefts and opportunism.

Power and Dependency

Power and dependency are generally considered to be important concepts in understanding buyer-seller relationship (Emerson, 1962) and its relation to the supply chain performance. In light of this view, Maloni and Benton (2000) postulated that, the significance and expansive effects of power and dependence on inter-firm relationships hold direct implications for the supply chain market reliability. A high level of interdependence is an indicator for a strong, cooperative long-term relationship characterized by mutual trust and mutual commitment (Kumar, Scheer and Steenkamp, 1995). A close and lasting cooperation between supplier and buyer will lead to improvements in quality, speed and regular delivery reliability, lead times and cost reduction. While on one hand a strong buyer-seller relationship leads to high performance of the entire supply chain, in the form of high level of commitment, cooperation, trust and conflict resolution; on the other hand, buyer-seller relationships that are characterized by asymmetric interdependence lead to unproductive partnerships resulting to negative supply chain performance which is a barrier towards achieving market reliability (Caniels and Gelderman, 2007).

Several ways in which the consequences associated with asymmetric interdependence can be mitigated have been proposed. The firm enjoying a power advantage may choose to share control with the less powerful firm in a more or less equitable manner to foster a democratic relationship; for a strong buyer facing a large number of small suppliers, relational norms can serve as a governance mechanism against opportunistic behavior especially when transaction-specific assets are involved; relatively dependent firms should work to increase their partner's dependence by increasing their value to the partners or by reducing the partner's alternatives (Diamantopoulos, 1987; Heide and John, 1992; Joshi, 1998; Kumar, Scheer and Steenkamp, 1995).

However, according to Heide and John (1988), firms in symmetric relationship should not relax; instead they should continuously take necessary initiatives to maintain that balanced relationship.

Given that power is the major means available to achieve coordination and cooperation among channel members (Berthon, Pitt, Ewing and Bakkeland 2003), it is critically important to examine the power and dependence positions of buyers and sellers for the chain stakeholders to be able to establish various favorable supply chain strategies. Since power indirectly influences supply chain performance especially market reliability, those power holders that create more effective, integrated supply chain will be able to position the chain better and subsequently benefit both themselves and their partners (Maloni and Benton, 2000).

Therefore, for the purpose of this study it is necessary to assess Power- Dependency relationships between horticultural supply chain partners (farmers, intermediaries and exporters), in order to find out how power distribution in this supply chain influences competitive position of Tanzania in horticultural export business at the international market.

Methodology of Research

General Background of Research

The main methodology that has been employed by this study is the desk research that involved extensive review of secondary data from previous studies and documented sources. These sources of data consisted of mainly the scholarly journals, thesis, books, documents and reports from World Bank, Ministry Agriculture in Tanzania, Bank of Tanzania, National Bureau of Statistics, CIA Fact book, newspapers and other website sources. The literature reviewed focused on agriculture particularly horticulture business in Tanzania and Africa in general.

Data Analysis

From this review of literature, the researcher tried to conduct the analysis and discussion of the current situation and context based on the previous research works done up to 2011. The study employed a qualitative data analysis and interpretation to bring order and understanding of the research topic. The information was coded, conceptualized and ordered by identifying the major themes or patterns and organized into coherent categories. After categorization, patterns and connections within and between categories were identified.

Results of Research

Exportation of fresh horticultural products from developing countries to the international markets are characterized by high uncertainty situations because the produce is highly perishable; quality standard are very specific while supplies show a seasonal variability; products need to be placed in shade immediately after harvest, transported in refrigerated trucks to packing facilities, cooled, washed with chlorinated water, graded, and packed under controlled humidity and temperature. Therefore, this section highlights the major supply chain constraints that hold back horticultural sector's growth and competitiveness in Tanzania and make some further analysis based on the reviewed issues from the literature for some actions to be taken by supply chain actors, policy makers and implementers. Moreover this section will identify strategies and opportunities that could be used to redress the situation.

Supply Chain Challenges Connected With Supply Chain Flexibility

Fresh fruits, vegetables and flowers are highly perishable commodities. The freshness of the produce on the international retail shelf depends to a great extent on how it is handled after harvest. At this point in time flexibility in transportation infrastructure, storage facilities, customs and documentation at the ports; and reliability of quality and capacity of the produce are essential for the international market retailers' operations to provide the highest service to the international customer. Therefore supply chain challenges stemming from compliance of this situation are categorized as follows:

Transportation Infrastructure Flexibility: Considering the perishability nature of the horticultural products in question, transport infrastructure and cooling facilities are indispensable as far as a robust export business is concerned. Poor transport infrastructure for export business is the main problem in Tanzania. Transport infrastructure from farm level to the international ports (Dar Airport, Dar Seaport and Kilimanjaro Airport) is characterised by narrow, rough feeder and main roads causing delays, losses and accidents which in turn cause serious post-harvest losses in all agricultural production businesses. Unnecessary weighing and checkpoints along roads imposed by TANROADS (Tanzania Roads Agency) cause major bottlenecks and logistics delays and encourage high corruption. In addition few trucks that are used to transport these products do not have cooling facilities the situation that harms the quality of the produce. There two railway lines operating in the country. One is the central line which runs from Dar es Salaam to Lake Tanganyika and the other is TAZARA connecting Tanzania with Malawi, Zambia and Mozambique. Though these two lines pass through some areas producing horticultural crops (i.e. southern highlands and Morogoro, Dodoma, Mwanza), they are poor in condition and outdated while having no cooling facilities for fresh products (TPSF, 2009). Tanzania also lack sufficient internal airports that could be used to connect areas producing horticultural crops and the international ports in Dar-es Salaam. The few that are available in Mbeya, Mwanza and Arusha do not have sufficient space, storage and cooling system especially for the large cargo meant for international shipment. Mbeya is currently under major rehabilitation and therefore provide limited service. Apart from that, the country lacks enough airlines that call to these areas and currently relies heavily on Precision airline whose capacity in terms of space and cooling facilities cannot accommodate both internal and external shipments to the international ports.

Unfortunately, there is no any waterway connecting Dar es Salaam or Kilimanjaro and areas producing horticultural crops (MMA, 2011; Ranja, 2003). The transport infrastructure situation in Tanzania has led to over-reliance on road transportation which usually takes from 2 to 12 hours (depending on the location) to transport the products from horticultural production area to the international ports (Ruteri and Xu, 2009). Over reliance on road whose quality is poor implies that there is no chance of intermodility hence severe inflexibility with respects to choice of mode. However, to promote internal and external trade in the country, the TANTRADE (Tanzania Trade Development Authority) can collaborates with the Ministry of Industry, Trade and Marketing and Ministry of Transport and Communication to come up with practical solutions in relation to condition of internal transport infrastructure and try to construct feeder roads into areas where these crops are cultivated.

Transport infrastructure at the international ports is also characterized by insufficient facilities and cooling system. While other countries shifted from air to sea for the transport of horticultural products to overseas, Tanzania due to lack of seaport facilities still depends heavily on the less competitive air transport. According Ranja (2003), 75% of horticultural exporters use air, 12.5% use ocean and 12.5% use both ocean and air. This situation has also resulted from lack of refrigerated ships up to 2003 and in this current period only few ships have cooling systems for perishables and sometimes getting cargo space is not guaranteed. To help reduce the inflexibility level of this supply chain, Tanzania Horticultural Association (TAHA) which is a well-developed private sector association, has been able to attract new MK airline which service two flights per week to Europe with horticulture exports abroad (TSPF, 2009).

Storage Facilities Flexibility: Horticultural products must often be kept at certain temperature in transit from farm, on the truck, to the airport or seaport all the way to the international market. Tanzania lacks an established vibrant distribution system that can deal with post-harvest handling, packaging and processing prior to export. Most farmers' produce is wasted due to poor post-harvest handling and storage and when it comes to horticultural products, excess production beyond local market consumption capacity is wasted. These wastes account for as high as 50% of total harvest (Africa average) whereas in other developing countries (Asia average) the waste is as low as 25% (Tshirley, 2010). Facilities for post-harvest handling including cold storage chambers require considerable investment. Not many growers have capital or expertise to undertake post harvesting processing. In addition, lack of enough cold facilities at key points, airports, and seaport hinders attainment of international market reliability of fresh produce exported. This is because; this situation does reduce the value or spoil the product quality entirely. Several trucking companies offer refrigerated trucking services but at a very expensive rate that majority of horticultural enterprises cannot afford.

Flexibility at the International Ports and Customs: The major sea port in Tanzania is Dar es Salaam seaport which handles more than 90% of the imports and exports by Indian Ocean others like Tanga and Mtwara are minor (USAID,2009). This seaport has been reported to be slow and costly creating severe congestion. Processing can take up to months to clear shipment due to short capacity in terms of space, equipment and human resources. Lack of electronic interface that facilitate electronic transmission of information between port official and shippers has resulted to slow system and been a source of

bureaucracy. Due to this situation most fresh produce in the country is shipped via air to ensure fast and reliable delivery. Tanzania customs has an automated system that is not up to the level of other customs services' systems for import or export transactions. According to TPSF (2009), delays in clearance of goods at customs in Namanga can last 24 hours for fresh products destined for Nairobi airport. USAID (2009) suggested that, if Tanzanian ports, especially the overburdened Dar es Salaam port, improve their operations, growth in transit movement would be exponential.

Quality Flexibility: Small-scale farmers practising traditional methods of growing fruits and vegetables account for a large share of the produce (Ranja, 2003). Standards at the world market keep changing and expanding where by retailers overseas develop their own standards beyond these industry-wide standards (Neven, 2007). Most of these farmers are however not commercial oriented and cannot meet the quality required for export hence leading to great quality inflexibility. However, horticultural exporters mainly source their planting materials from abroad which are controlled by Tropical Pesticides Research Institute (TPRI) in Arusha (Nyambo and Verschoor, 2005).

Capacity flexibility: Overdependence on rain fed agriculture has been a major constraint to sustainable increase in crop production and therefore quantity (Amani, 2005). As the result of this situation, the lower volume of cargo at the Tanzanian international ports does not make it attractive for dedicated shipping and air lines to dedicate special cargo flights or ships to call at the ports. Some exporting companies have taken the initiatives to operate their own farms and sometimes to involve small scale farmers as a way to increase their export volume and live up to export orders. However to address this constraint, the Dutch government, USAID, Business Strengthening in Tanzania-Advocacy Component (BEST-AC) in collaboration with TAHA are currently supporting exporters and small scale farmers financially and in terms of support services such as training to achieve desired volume of cargo and access to the dedicated cargo flight (Ihucha, 2008).

Supply Chain Challenges Connected With Supply Chain Risks/Disruptions

Supply chain disruptions faced by exporters: Insufficient infrastructure is a serious bottleneck in horticulture export business resulting in debilitating high transport costs for the business. In Tanzania transport costs constitute 46% of the total value of export consignment while in Zambia they are just 17% (Semberya, 2010). There is no dedicated cargo flight from Tanzania (USAID, 2009; TAHA, 2010) and this negatively impacts the sector in terms of ability to portray itself positively. With limited number of flights at present many exporters have problems accessing freight out of Tanzania and this creates trucking to Nairobi which is an extra cost. Nairobi flights are expensive particularly for the exporter who has low volumes of produce (Nkwame, 2008). Stringent market conditions in the importing countries are a strain on the exporter. Evolution of multiple standards resulting to increased compliance costs has been a stumbling block for many exporters in accessing new markets (SIDA, 2007; TAHA, 2010).

For the period between September 2008 to October 2009, horticultural exporters were badly hit by the global economic recession. The prices were reported to drop at a very low level (by 30-50 percent) compared to previous years that some exporters found it unnecessary to ship because the prices offered did not cover freight charges (Simbeye,

2009). However, the situation now is coming back to normal. The tax regime (referring to levels and multiplicity of taxes) has been identified as a constraint to the exporters. Local taxes which are being enforced rather arbitrarily are not harmonized with national level taxes (Amani, 2005). This situation in one way or another does constrain exporters to achieve the level of profit margin they planned and therefore limit them to expand their operations. Bureaucracy in export procedures and documentation is another challenge facing exporters as a result of using existing manual system at the customs (USAID, 2009). This situation has been a source of soliciting and receiving small bribes by custom officials for facilitation of the service.

Supply chain risks faced by farmers: Unfavourable financing terms. Access to bank loans is very difficult since most banks consider the horticultural sector as a high risk sector so there is general unwillingness to advance loans to the farmers. In addition, interest rates are high even though world interest rates and Tanzania inflation are low. Agriculture requires long terms to repay finance approximately 7 to 10 years, unfortunately long term loans are not available (TAHA, 2010). Many farmers are used to borrow money from their friend and relatives or use their personal savings to deal with this risk. Poor supply and high costs of input locally is a major problem making the sector less competitive. Bureaucratic procedures and high costs involved in registering products in the country demotivate manufacturers to register a wide range of effective products. It is very difficult to get land for farming especially for local famers. Illegal squatting is rampant. Land and security authorities rarely exercise their authority to sort out land problems and reference to the courts is very time consuming.

Changing weather patterns make it critical to rain beneficiaries (especially small scale farmers) on how to deal with the effects of drought. The low rainfall since November 2008 has created many challenges due to increased irrigation needs and lower yields (USAID, 2009). Therefore, it will be better for farmers to cooperate and invest in modern technology for irrigation that will assist them to reduce the impact of drought. In 2009, it was reported that horticultural farmers are losing up to USD 500,000 a year due to spider mites that feed on flower and vegetables. This situation had an impact on quality and quantity of produce. However, the government has assisted the farmers by giving them a permit to import the 'phytoseilus persimilis' insects, a natural predator to spider mites, from the Netherlands (Simbeye, 2009) indigenous farmers are not professional and therefore lack information on foreign trade issues, including foreign exchange management and how to tackle uncertainty surrounding trade (Ranja, 2003). Being this the case, it is very easy for them to be exploited by exporters and commercial farmers when it comes to price fixing and other terms of trade.

The level of organization in the agricultural sector is very low compared to neighbouring countries. The formation of cooperatives, associations and farmers group seems to suffer from negative connotation which is only slowly disappearing (Nyambo and Verschoor, 2005). More training is needed for small-scale farmers on how these organizations could increase their bargaining power when negotiating for the better terms of trade with other supply chain members. Large scale farmers who also do the exporting activities complained about unreliability of electricity and water supply leading to product spoilage. During power rationing these farmers opt to use generators which result into high production costs and in turn reduce their profit margin (TPSF, 2009; Ruteri and Xu, 2009).

Supply Chain Risks Faced By Intermediaries

Financial institutions/Commercial Banking: Horticultural business has very limited access to finance (Amani, 2005). Very few of the commercial banks finance agricultural activities. This is because most banks in Tanzania do not accept the farms as enough collateral security. Only few horticultural supply chain actors have access to loans by using their personal properties, such as houses or land and at inordinately high lending rates. To expand long term financing and investment for agribusiness the government is collaborating with Tanzania Investment Bank (TIB) to advance loan to businesses dealing with agriculture. TIB is being used as a vehicle to build up portfolio for an Agricultural Development Bank (Nkwame, 2008; TAHA, 2010).

Insurance Companies: Insurance companies in Tanzania do not insure the farm's produce because they perceive it to be very risky (TPSF, 2009). They are only willing to insure the farming equipment and other assets of the farmers but not the farm or produce (Nkwame, 2008).

Transporting agencies: Most exporters do not have their own trucks and vans to cart the produce from the farms to the ports so they engage the services of private transport operators**.** The arrangement varies from spot hiring to long term contracting (Amani, 2005; Nyambo and Verschoor, 2005; MMA, 2011). The exporter assumes ownership of goods on the farm. However, the transport company is responsible for the goods in the process of transporting from the farm to the port. Poor quality of the feeder and main roads is the major challenge facing these companies resulting to higher maintenance and repair costs the situation that reduce their profit level.

Supply chain challenges connected with power distribution among actors

Small scale farmers do not have control over the price of their produce and find themselves at the mercy of the middlemen who control the market. This has been so because: small scale farmers lack information about the international consumer demand requirement; during the time of peak season supply is higher than the quantity demanded by exporters, and therefore to make sure farmers sell everything they have harvested they agree to any price rate offered; and contract farming which could improve this situation is difficult because small scale farmers have hard time keeping to the contract terms (TPSF, 2009).

Bad road conditions empower transporters during peak and rainy seasons when the road becomes difficult to travel. This is because only few transport operators will be willing to convey produce; as a result they charge high rates to cover maintenance services. Within this period they have high negotiation power to determine transport rates as there are no alternative to road transport (trucks) from the farm to the ports.

Unlike small scale farmers, exporters and large scale exporting farmers by dealing directly with the retailers and importers overseas possess more information about various variables in the supply chain. These variables could be prices, quality, volume and preferences demanded by the international consumer. The information asymmetry then be

comes a powerful tool to which they use to their advantage by exploiting the small scale farmers, especially during price fixing for the product. This tends to confirm Berthon et al's (2003) argument about how possession of a resource (information in this case) in a relationship can be a source of power.

SWOT Analysis

The SWOT analysis is employed here to present a summary of the results. It offers in-depth insights as to whether the attainment of market reliability at the international market by Tanzania is feasible by focusing on the elements below:

Strengths: Tanzania has enormous capacity to produce horticultural products to suit the demand in the world market (Ranja, 2003; SIDA, 2007; Semberya, 2010). The country has better climatic conditions and greater potential for the flower, vegetable and fruits than Kenya, Uganda or Zimbabwe (USAID, 2009). Relatively low labour costs (Amani, 2005; Zoss, 2009; TAHA, 2010). Political stability and peaceful people favourable for further developments in the sector (TAHA, 2010). No particularly negative perceptions of Tanzanian produce in the EU market (Neven, 2007).

Weaknesses: Water resources available are underutilized and inefficiently managed, creating competition for water. Where the law is fairly clear the management and application of the law is lacking (Zoss, 2009). Poor access to market especially with rough road infrastructure (Zoss, 2009). Infrastructure costs i.e. power, water, telecommunication are very high and some are not reliable (Amani, 2005). Advertisement of Tanzania horticultural products are non-existent (Ranja, 2003). Although the horticulture sector is mentioned in many policy documents and national strategy papers, there is no clear policy framework for the development of the sector as a whole and the export horticulture in particular (SIDA, 2007).

Opportunities: An international airport will be soon constructed in Mbeya town to make freight of horticultural products feasible in about two to five years to come (TPSF, 2009). The market is open in most European and neighbouring countries for Tanzania's horticultural products through various agreements like EBA (Everything But Arms) and regional integrations such as EAC and SADC (Amani, 2005 Nyambo and Verschoor, 2005). The growing demand for fresh horticultural products in the Gulf states which has not been fully utilized (Nevenp, 2007). Several institutions, ASA (TOSCI), AMAGRO and various NGOs have started initiatives to increase regulations and certification systems (MMA, 2011).

Threats: Competition from other neighbouring countries at the world horticultural market (USAID, 2007). The production and export of cut flower from Tanzania is often seen as part of Kenya's floriculture, as the sector is geographically close and institutionally well connected to Kenya(at least 50% of all cut-flower are exported via Nairobi) (Nyambo and Verschoor, 2005). Transport charges of airfreight are higher in Tanzania compared to Kenya, Uganda and Ethiopia which threaten horticultural exporters in the country (SIDA, 2007). The sector has not been able to reach economies of scale over the past years (SIDA, 2007). Favourable enabling environment in competing countries. (Amani, 2005)

From the SWOT Analysis it is clear that Tanzania has the potential to benefit from horticultural export business. However to achieve market reliability at the international market most of the threats and weaknesses need to be addressed. This can be done so if there is strong policy support from the government, sub-sector stakeholders act in unison and sound strategies are followed based on the realities of the market as suggested by Neven (2007), Semberya (2010) and MMA (2011).

Discussion

Although the external market opportunities for horticultural products in the neighbouring and overseas countries like the Middle East and Europe have increased in recent years, the need of Tanzania to tackle the constraints and stringent demands on standards by the European customers should be pressured so as to gain more access to these markets. In other words, since Tanzania has to compete with other world producers whose systems are much more efficient, there is a clear need to actively pursue the change from public managed agricultural development towards enhanced private sector participation and market orientation as it has been earlier suggested by Neven (2007) and MMA (2008).

Based on the results, feeder roads are critical to ensure that the produce makes it to the market on time and undamaged if we are to achieve reliability at the international market. In addition, the management services at the air and sea ports need to be equipped with the appropriate systems and equipment that is suitable for horticulture. This will reduce the prevailing bureaucracy and corruption at the ports and enhance smooth checking flow of these fresh produce when shipped to the international market and therefore help preserve the quality of the produce. Since it is evident that, road is the main transportation mode available in the country connecting the international ports and areas producing horticultural products, this study argues that construction and timely completion of truck roads will enable horticulture to access key markets at lower cost the situation that will benefit most of the small scale farmers.All supply chain members (farmers, intermediaries and exporters) must be linked together, and must be made to understand the market segments and trends so as to ensure that horticultural products meet the required standards demanded by the international consumers.

The result clearly show that farmers are in an information asymmetry situation that put them in a disadvantaged position which is used by other supply chain actors i.e. exporters and transporters, to exploit them. These actors need to be educated that, for the better performance of their individual businesses they need to share information to all members in the chain in order to improve the quality and quantity of the produce. This will assist the chain to get better deals in terms of price at the international market and therefore be competent as suppliers. Singh (2002) also found the same that when supply chain members strive to achieve the overall supply chain objective, in that way their individual objective are also fulfilled.

Since this study is based on intensive literature review, future research area is to conduct a survey to obtain primary data especially after the completion of Mbeya airport and some roads connecting Dar es Salaam and Kilimanjaro ports and areas producing horticultural products.

Conclusions

The sectors competitive position is weak, but there is ample potential and interest to take up actions to improve its competitiveness. A lot of efforts need to be addressed to ensure that horticultural supply chain members benefit from the concept of supply chain management. Majority of small-scale supply chain actors operate individually without any strong relationship with their partners down/upstream apart from sell-buy relationship. Henceforth, this study concludes that instead of each member within the network seeking to optimize individual profit, all members should work together as a network to achieve entire supply chain profit. This will enable Tanzania to be competent at the international market.

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