



**A GLOBAL VALUE CHAIN PERSPECTIVE TO UNDERSTANDING
AND UNPACKING THE DEVELOPMENT TRAJECTORY OF THE
HORTICULTURAL INDUSTRY IN ZAMBIA: THE CASE OF SMALL-
SCALE FARMERS BASED IN LUSAKA**

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Dedication

In loving memory of my dad

My late father, prince Henry Mulonga Kazekula, to whom I dedicate this dissertation had a natural love for horticulture until his death. Dad, your love and faith in me has always inspired me to achieve greater heights. I owe to you an eternal appreciation for teaching me Christian virtues. Dad, I would have given up as it has not been easy sailing! (*Mukamanisha tate; hinga mutabwa mema a Kawa, 'You will complete sonny, but I dare you, never to settle for less'*). From this, I learned that all things are possible with perseverance. Rest in peace – you lived and died waiting for this work (*Mu Lyabwa limo bana ba bambai batandalilemo ami bami ba tamwinemo!?*). Your death regrettably left a void in me, but your life was a legacy worth commemorating.

I undertook these studies at great costs. The lingering pain of losing John and Joshua! Florence and Henry, wouldn't also wait for me to complete my dissertation. I wish you could both be alive to accompany me in life pursuits; but only God has the reasons for taking you. To the rest of my siblings and entire family, I cannot tell what you have endured waiting for me to finish my studies.

This thesis is for my mother, princess Christine Kazekula, the living legend of my life. Mummy, you straddled the gap and solitude left by my dad despite enduring alot, I know. Thanks for carrying the burdens of family and also for tearfully and frequently crying to God about me. Mum and all the heroes and heroins who supported me, I love you so very dearly.

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To my daughter, Christine, you make me feel wealthy!

Abstract

The Global Value Chains (GVCs) have become an important constellation around which global trade is evolving. This dissertation argues that the GVC framework is an important means for conceptualising horticulture in Zambia, highlighting the need to grasp how it operates in order to understand the linkages between buyers and small-scale horticulture growers. Evidence suggests that as quality, timely delivery, and other post-harvest handling requirements by supermarkets and other well-informed consumers are ever on the rise, it is likely influencing the structure of value chains. This is profoundly impacting small-scale horticulture producers, who are conceptualised to be ill-prepared for these changes.

This study explored respondents' perceptions of their perceived performance relative to customer requirements in order to understand the farmers' performance gaps, aimed at strengthening the horticulture value chains and also help the small-scale farmers' competitiveness. This dissertation hopes to contribute to available research on the ability of small-scale farmers to espouse corresponding critical success factors (CSFs) in the value chains aimed at securing their livelihoods.

Accordingly, a questionnaire was used that developed CSFs to identify how the farmers actually undertake market analysis, and how these are used to inform the type of activities they undertake. For the purpose of analysis, the study divided the respondents into four categories: farmers supplying open markets, local consumers, marketeers and retailers to determine the extent to which the farmers benefit from the interactions at each stage of these chains. Several results were revealed. One is that specific chains influence turn-over; the type of assets owned that result into farmers' competitiveness. This suggests that GVC can be touted as a panacea to profitability, asset development, including better incomes that are pro-poor.¹ However, the study shows that this finding only holds if the farmers properly integrate by igniting market fundamentals to their favour. Secondly, the findings reveal that most of these farmers are locked in low-value chains, where they are experiencing erosion to their profit margins. Overallly, none of the

¹ Kakwani and Pernia (2000) define pro-poor as one that makes the poor able to actively participate in economic activity and benefits from it.

farmers except those who serve the retail trajectory realize better returns to boast of asset accumulation and optimal poverty reduction.

Thirdly, it was found that the retail value chain govern the domestic value chains by placing emphasis on delivery speed, product innovation, and delivery reliability among other things. This produces two effects on small-scale farmers: (1) limited bargaining power in the industry, and they face some limits to upgrade their ethical and environmental practices implying lack in extension services, and (2) Many are unable to fully participate in rewards that high-value chain offers in terms of better terms and prices. This finding implicitly means they are failing to properly integrate as the new governors in the chains are influencing who or who should not be their supplier. Therefore, emanating from the results and drawing on the theory's implications, is the importance of a policy intervention as a result of insights of high entry barriers in rewarding markets, or it can be ignored at industry and farmers' peril.

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First and foremost, Glory to God Ebenezer for seeing me through to completion.

In any worth accomplishments, the importance of others cannot be underestimated and this certainly is no exception. My heartily thanks go to Dr. Mvuselelo Ngcoya, who encouraged me to shape and narrow my focus. However, I owe a personal debt of gratitude for the supervision of Professor Justin Barnes without whom I cannot imagine completing this thesis. Prof I gratefully acknowledge the working relationship I had with you and also for your generous financial support that enabled me to find my feet for field work research in Zambia. Further, your specialisation in GVCs and CSFs, combined with your meticulous attention to detail gave me a priceless experience. Thanks for aiding my baby steps. No doubt, I almost always borrowed your intellectual bird's air view in this dissertation. However, unresolved problems in this dissertation's content and all opinions expressed are my responsibility no matter how controversial.

Further, I started this degree when my parents, were both alive, but only one remains - my mother! One way I have honoured my late dad is to complete this dissertation. Thank you for your prayers, love, support and faith in me, dad and mummy.

It is surprising that my family, siblings and friends can still be talking to me; I had lost touch with many of you. I however thank you for all the support and encouragements. Abe Kalyapu, I appreciate all your prayers and cheering words; you have been wind beneath my stretched wings that lifted me up in times of self-doubt. Not forgetting Elizabeth Mbewe! Thanks for standing with me and being there for me.

The Fabian Mumbas, I appreciate you for sharing my journey, witnessing my ups and downs, losses and gains during my studies. It has taught me more than words can express in this limited page. God bless you.

Last but not the least, the small-scale farmers who took efforts to explain their experiences to me, without which this work would have been a flop. You may be still trapped in subsistence, there is still hope for you in this industry.

Harold Katete Kazekula, 2014

Declaration

I, **Harold Katete Kazekula** (S/No. 207514131), do hereby declare that this dissertation titled: *A Global Value Chain Perspective to Understanding and Unpacking the Development Trajectory of the Horticultural Industry in Zambia: The Case of Small-Scale Farmers Based in Lusaka*, is to the best of my knowledge my own work. I declare that, except where otherwise indicated, this thesis is entirely the works of my own hands, and that none of it has been submitted anywhere else to meet any other degree or professional qualifications. I take responsibility of all errors and omissions contained herein. Furthermore, I declare that any one and all sources that I have used or quoted have been dully cited and acknowledged, as such, by means of complete references following the Harvard Style for Referencing and Bibliography.

Signature student

I have read and recommend that the dissertation be submitted for fulfilling the requirements for the Degree of Master of Development Studies:

Signature of dissertation Supervisor)

Abbreviations and List of Acronyms

AfDB	African Development Bank
AfT	Aid for Trade
AGOA	African Growth and Opportunity Act
BWIs	Bretton Wood Institutions
CSFs	Critical Success Factors
CSO	Central Statistical Office
COMESA	Common Market for Eastern, Southern Africa
CUTS	Consumer Unity and Trust Society
FAO	Food and Agriculture Organisation
FDI	Foreign Direct Investment
FRA	Food Reserve Agency
FREPEGA	Fresh Produce Export Growers Association
FSPs	Fertilizer Support Programs
FVs	Fresh Vegetables
GDP	Gross Domestic Product
GAPs	Good Agricultural Practices
GOMD	Growth Oriented Microenterprise Development
GRZ	Government of the Republic of Zambia
GVC	Global Value Chain
HIPC	Heavily Indebted Poor Countries
HFP	Horticulture fresh produce
HVA	High Value Agriculture
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
IMF	International Monetary Fund
ISI	Import Substituting Industrialisation

ITC	International Trade Centre
JIT	Just-in-Time
MDGs	Millenium Development Goals
NEPAD	New Partnership for Africa’s Development
NAMBOARD	National Agriculture Marketing Boards
NTEs	Non-traditional exports
OBMs	Original Brand Manufacturers
ODMs	Original Design Manufacturers
OECD	Organisation for Economic Co-operation and Development
OEMs	Original Equipment Manufacturers
PF	Patriotic Front
PVoC	Pre-Export Verification of Conformity Program
R&D	Research and development
SADC	Southern African Development Community
SAP	Structural Adjustment Programme
SFAC	Small Farmers Agribusiness Consortium
SMEs	Small-to-medium enterprises
TQM	Total Quality Management
UNCTAD	United Nations Conference on Trade and Development
USAID	United States Agency for International Development
UA	Urban Agriculture
US \$	United States Dollars
VC	Value Chain
WB	World Bank
ZABS	Zambia Bureau of Standards
ZEGA	Zambian Export Growers’ Association
ZKW	Zambian Kwacha

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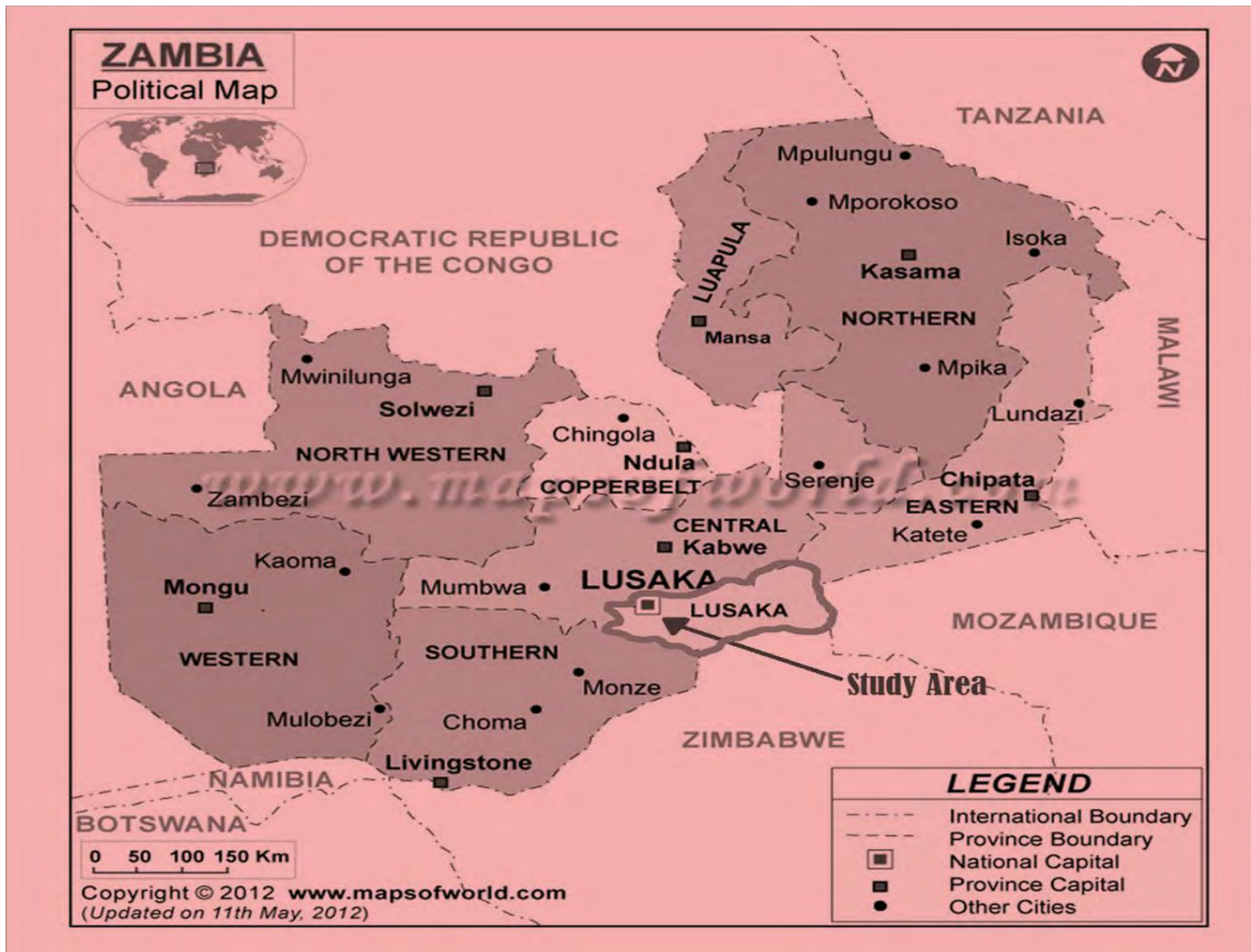


Figure 1: Map showing the location of study area

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CHAPTER ONE: INTRODUCTION

1.0 Background and problem context

Zambia's participation in the global economy has for a long time been based on the export of raw commodities. Decades after gaining independence, Zambia still exports low value added commodities (minerals and agriculture) mirroring huge forgone income through lack of value addition. Scholars posit that lack of value addition orientation can be detrimental to competitive development and entrenches poverty levels (see McBain, 2007 for example). In a globalized world, unskilled and inefficient producers are less competitive against demands for production efficiency (Bova, 2012:70). While agriculture is a critical sector of the Zambian economy contributing roughly 20% to Gross Domestic Product (GDP), yet small-scale producers find themselves at a weak end of a complex global economic system. Despite being touted as the backbone of the food system and agricultural development, constantly seeking exports, small-scale producers are feared to lack innovation and efficiency to break into global markets (Stanton & Burkink, 2008). This participation could result into economic rent that could be a socio-economic stimulus.

In addition, the Zambian economy's dependence on copper has undermined its growth (Xu, 2008). This type of economy has also led to high levels of urbanization as well as a dualistic system of agriculture, with large-scale commercial farmers serving urban demand and the export market and leaving a large and poor population of smallholders desperately unable to compete in profitable domestic and export markets. One of the most frequently cited success of Zambia is economic growth, which resulted into being graded to a nascent middle income status. Yet, the country appears to be engaged in a race-to-the-bottom with Human Development Index (HDI) scoring badly on the global scale at 164 out of 187 countries (UNDP, 2008: 27). Accordingly, some analysts argue that Zambia may be suffering from a trajectory of immiserizing growth in which there is increase in its traditional exports (i.e., mining), but real incomes and employment are struggling (Shafaeddin, 2006). This has provided insights on the trade implications for a country that has not yet attained market power on the global scale hinting at an economy that is trapped. Global Value Chains (GVC) scholars (Gereffi *et al.*, 2001; Gibbon, 2000) – as will be demonstrated in Chapter 3, have highlighted the need for mastering the nodes in chains as

competition lies in satisfying high price-paying customers. This is particularly important for horticulture where the chains are tightly controlled by lead firms in the name of retailers.

The East-Asian model provided a good illustration of promoting small-scale economic enterprises within GVCs. While the importance of small-to-medium sized enterprises (SMEs) in promoting and creating growth has been widely debated in developing countries (Cook & Nixon, 2000), their importance cannot be ignored. Taiwan provides a good example of government helping promising small-to-medium enterprises to seize new opportunities in value chains by upgrading. In 2006, that Asian country rolled out a \$61 million value chain “branding” to orient small entities to become global in scope (EE Times Asia, 2006). Although this was not particularly for horticulture, the program was implemented to encourage SMEs.

This study investigates the extent to which small-scale horticulture farmers are competing in the high value markets in their quest to make their lives sustainable. It analyses strategies of transforming production lines of small horticulture farmers to compete within the increasingly globalised world market. More specifically, the study looks at how small-scale farmers in Lusaka, Zambia could secure livelihoods from horticulture in a country having high concentration of supermarkets (Jansen, 1977; Jayne *et al.*, 2007). There is a general understanding that the sustainability of these farmers lays in discovering competitive value chains with optimum welfare effects rather than on maize, for example (Govereh *et al.*, 2006). For the maize value chain is political, and the nature of government supply-side interventions is political too. The failure of both the Fertilizer Support Program and the Food Security Pack implemented since the 2000s, by the Zambian government are self evident. Their focus was on improving food security rather than helping small-scale farmers to be sustainable (Kodamaya, 2011). Maize being Zambia’s staple food, the government tries to keep farm prices as low as possible, thus undermining small farmers’ profitability while at the same time pressing down the purchase price of food purchased by the poor (Bwalya *et al.*, 2013; Kirsten & Van Zyl, 1998:558). The maize price is also subject to fluctuations that make small-scale farmers difficult to manage (Sitko & Kuteya, 2013; Chiwele *et al.*, 1996). This somehow provides the reasons for scepticism in participating in this value chain. Nevertheless, small-scale horticulture farming has more significance than most people realise. However, Zambia may not have an accurate statistical picture of small-scale horticulture farming, as the farming activities of this category are

unquantified in government statistics. An investigation into horticulture value chain reveals the importance of horticulture on farmers (particularly given its income potential); but in practice, small-scale farmers may find it difficult to know the standards needed to participate in modern and profitably rewarding value chains.

1.1 Problem statement

Zambia's commodity-driven economy is partly to blame for the country's slow development and rural-urban migration (Fessehaie, 2011). On paper, Zambia's development policy emphasizes poverty alleviation through agriculture, which contributes about 20 percent of GDP (Seshamani, 1998:546). In practical terms, the economy seems speculative and less certain how it supports the potential of small-scale farming in this process. The increase in horticulture demand could be a window of opportunity to earn a living. To this effect, a self-diagnosis of what influences customers' purchasing decisions has implications to the farmers.

Further, noting that although mining controls Zambia's GDP growth and other macroeconomic indicators, as illustrated by "75 percent of exports, [the fundamental problem is] it provides only 1 percent of direct employment overall" (Bell & Newitt, 2010:42). In the light of this experience, it is safe to say there is a mismatch between the ever-increasing poor and formal job opportunities that the economy is able to create. Development analysts recognise the need to get the right balance by exploiting value chains in other sectors and empowering self-employed entrepreneurs, such as those in horticulture to reduce the prevalent unemployment and poverty levels in the country. However, Zambia's poorly developed agro-industry could inhibit small-scale farmers to compete in the GVC, and exhibit uncertainties to poverty alleviation.

1.2 The purpose of the study and key research questions

The main purpose of this study is to determine the extent to which agriculture in general and horticulture in particular can be an avenue of inclusive growth that eradicates poverty among small-scale farmers in Lusaka Zambia. Against this backdrop, this study sought to answer the following questions:

- What are the main critical success factors (CSFs) of small-scale horticulture producers?

- How is the horticultural industry segmented?
- How are the small-scale farmers participating in value chains and how are these activities helping them market their produce?
- Under what value chain conditions does the horticultural sector generate income and improve the livelihoods of small-scale farmers?

1.3 Objectives of the research

This study investigates the nature of horticulture value chains impacting on small-scale farmers in Lusaka. Horticulture is a high-value crop that can integrate domestically, regionally - and increasingly internationally hence the use of GVCs to examine their impact on small-scale farmers. This study's overall objective is to assess the degree to which the horticulture sector in Zambia generates income and improves livelihood. The following are the objectives of this study:

- To examine the contribution of the horticultural industry to the welfare of small-scale farmers by way of generating gainful incomes;
- To evaluate the extent to which diversification from maize agriculture to high value horticulture could induce pro-poor outcomes; and
- To assess the main constraints that small-scale horticulture farmers face when attempting to compete in GVCs.

1.4 Rationale for the study

The rationale for the research study emanates from the nature of Zambia's economy, which is patterned after an all-eggs-in-one basket approach with a mining-based development agenda. Horticulture can be an effective tool of poverty reduction much more so proportionally than other agricultural sectors. While there is wide recognition of the effects of horticulture on poverty reduction, there are no studies on how the small farmers are gaining competitive advantage through meeting customer expectations by delivering on CSFs. A market based analysis examining the extent to which the farmers meet or surpass the perceived demands of their customers and/ or how they participate in GVCs in a competitive environment, has rarely been used. This researcher hypothesises that horticulture is best placed to fight poverty among

small-scale farmers depending on the extent to which they meet CSFs factors in markets. This study seeks to determine whether the policy prescriptions aimed at agricultural diversification towards horticulture are benefitting small-scale farmers to boast of affecting their livelihoods.

Further, I posit that despite trade liberalization shaping the current *Zambian* economy, it has imposed a heavier burden on small-scale farmers to be able to share in the gains of this policy regime, and this is disenfranchising to most of them (Chiwele *et al.*,1998). International evidence has shown that small-scale producers are generally at the bottom of the economic pyramid and are suffering increasing marginalization due to the emergence of global retail food systems (Raworth, 2004; Dolan & Humphrey, 2001). So far there is scant knowledge in *Zambia* in terms of exploring horticulture CSFs and the disincentives that small-scale farmers suffer, if any in GVC. A critical step is underlined by the following statement from the World Bank: “Without renewed attention to sustained agricultural productivity growth, most small farms in *Africa* will become increasingly unviable economic and social units” (Jayne *et al.*, 2010:1384).

1.5 Concepts and definition of important terms

The following terms will be used frequently in this dissertation so it is essential that their meanings be explained to avoid ambiguity. This is fundamental to the investigation at hand.

1.5.1 Small-scale farmers

As in other developing countries, defining small-scale farmers in *Zambia* is not clear-cut. What constitutes small-scale farmers differ markedly. The Ministry of Agriculture and Co-operatives (*Zambia*) defines small-scale farmers on the basis of the physical size of land: “small-scale farmers (85% of farmer population), [are those who] cultivate land area that is less than 5 hectares” (as quoted by Chomba, 2004:1). But defining smallness on the parameters described above is erroneous. According to Onumah, *et al.* (2007:3):

A small-scale farmer derives their livelihood from a holding of < 2-5ha (usually < 2ha)... Small-scale farmers may practice a mix of commercial and subsistence production (in crops or livestock) or either, where family provides the majority of labour and the farm provides the principle source of income. Many small-scale farmers who fit the above description actually possess little land ...

Thus, what is more compelling in literature is that small-scale is a socially constructed and problematic term, carrying with it a range of connotations, such as constrained capital, a poor asset base, limited access to technology, and other external environmental factors that substantially constrain their lucrative market barriers (Delgado, 1999). Politically, these are disenfranchised rendering them powerless by policy changes and therefore unable to change the situation they have found themselves in. From the Food Justice Movements' viewpoint, smallscale represents the bulwark of resistance against lack of empowerment for poor small-scale farmers to compete with well-established corporate food world (Wekerle, 2004; Wittman 2011). However, while definitions are diverse, small-scale is no longer a fixed term, but is a fundamentally relational concept that is associated with limiting factors that renders the farmers inefficient in the value chains thus elicit particular responses from concerned parties.

1.5.2 Horticulture

Generally speaking, “horticulture has several components/sub-sections amongst which are fruits, vegetables, ornamental/cut flowers, tree nuts, spices and herbs” (Kachule & Franzel, 2009:9). According to Jaffee (1995), horticulture can be defined as, “the art of growing fruits, vegetables, flowers and ornamentals”. Horticulture in Zambia is widespread, and captures traditional vegetables associated with vegetarian diets, such as Cassava leaves (*Shombo*), pumpkin leaves (traditionally called *Chibwabwa*), sweet potato leaves (*Kanzembwila*), and so on. This researcher's definition includes some higher value products, such as green peas, cauliflower, lentils, green beans, eggplants, green pepper, baby sweet corn, chickpeas and carrots. The selection of these vegetables was based on their strong linkages to high value markets and regional and international export markets.

1.5.3 Poverty

The word “poverty” has traditionally been defined from the single dimension of disposable income (Dessalien, 2000). This approach is fraughty as it leaves out other worthwhile dimensions of poverty. The researcher therefore suggests the need for poverty to be understood from a multidimensional angle by including dimensions of social and economic capital among other things as suggested by Ravallion (2011) and Sen's (1985) “capability approach”. This, it is hoped, will reflect the experiences of the farmers.

1.5.4 Household

A household is a group of persons who live as a unit and provide themselves with food and/or other essentials for living, or a single person who lives alone. In referring to household head, this dissertation means the main decision-maker or the breadwinner of the family, or the person who owns the farm which is a source of livelihood for the family.

1.6 Dissertation organisation

This dissertation consists of seven chapters.

Chapter 1 (this chapter) presents the platform upon which this thesis has been laid and its composition. **Chapter 2** maps out the conceptual aspects and reviews the evidence on the broader discourse around horticulture in Zambia in terms of an enterprise, noting its social and economical importance to the economy, and as a model for poverty alleviation. This chapter casts light on the theoretical context of the research.

Chapter 3 considers the study's theoretical framework. It focuses on the Global Value Chain (GVC) approach; it showcases how this theory can be a useful tool for examining how small-scale farmers can be integrated into profitable value chains. It also examines the forces of globalization and trade liberalization and the opportunities and threats they create for small-scale farmers. **Chapter 4** introduces the research area for this study which is Lusaka and positions the socioeconomic context of the Lusaka horticulture sector. **Chapter 5** introduces the research methodologies employed for the study, including the approaches used to collect and analyse data. **Chapter 6** presents the field work research findings. It presents the results of the study by discussing various aspects of small-scale production activities as identified from the fieldwork research. **Chapter 7** concludes the study. Here, the emerging findings from the field research are synthesized in relation to the general critiques emanating from previous chapters of this dissertation. It also presents a set of recommendations on supporting the development of the Lusaka horticulture small-scale farmers.

CHAPTER TWO: CONTEXTUALISING THE IMPORTANCE OF HORTICULTURE DEVELOPMENT TO THE ZAMBIAN ECONOMY

2.0 Introduction

This chapter attempts to showcase the importance of horticulture to economic development in Zambia, and as an inclusive growth that could boost the economy further. The chapter is organized as follows: Section 2.1 considers the state of knowledge on small-scale farmers arguing that they can be better understood from historical precedence. Section 2.2 reviews the current evidence on the performance of the horticultural industry in Zambia, especially among small-scale farmers. Section 2.3 contributes to the growing body of literature on the importance of fresh-produce as a pro-poor model. Section 2.4 unpacks the structure of the horticulture market and considers the opportunities and challenges in the industry. With the concomitant rise in urban market prices, commercial small-scale horticulture could develop and spur great changes if it was not for the various barriers to entry (argued in section 2.5). A developed horticulture ought to foster a trickle-down of technology through forward and backward linkages, as argued in section 2.6. Section 2.7 and 2.8 take the discourse further by demonstrating the challenges inherent to small-scale farmers. These farmers also exhibit fewer innovations as unpacked in Section 2.9, with section 2.10 concluding the chapter.

2.1 Understanding the geographical and historical context

2.1.1 Geographical context

Zambia is landlocked, bordered by Malawi, Democratic Republic of Congo, Tanzania, Angola, Botswana, Zimbabwe, Namibia, and Mozambique. Her position as a least developed country (LDC) and landlocked should not constitute an anti-export bias, but be a potential recipe for increased regional trade and export earnings (UNCTAD, 2006). Geographically, the country lies between 15° 00' S and 30° 00' E comprising a total landscape of 752,614 km² out of which 740,724 km² constitutes land and 11,890 km² is water (The World Factbook, 2006). Of this landscape, 58 percent has been classified as arable, of which only about 14 percent is under agricultural cultivation (World Bank, 2009:2; ZDA, 2011). The country has abundant rainfall which could potentially be used for agriculture. Water, a scarce resource in many

countries of the world, is one of Zambia's comparative advantages as it contains about 40 percent of Central and Southern Africa's water resources, a fundamental resource for irrigation and productivity in fresh produce. Zambia's topography of good rainfall patterns and suitable microclimate are also ideal for horticulture production.

2.1.2 Historical backdrop

2.1.2.1 *The colonial era*

The discovery of copper in the 1920s had a negative impact on Zambian families through enacting policies aimed at scooping what can be termed docile labour into mines and commercial farms (Ferguson, 2006; Reed, 2001). Literature has shown that what became highly mechanized commercial farms, in Zambia during colonialism, started off with experimentation at Chilanga Botanical Gardens (Roseboom & Pardey, 1995). This era chronicled the demise of small-scale farms. Three cases illustrate this point.

Firstly, colonialism divided the country into dual agricultural development, comprising small black farmers and large-scale commercial farming controlled by white settlers. Policies worked to their favour as they were fully supported by the state through off-farm infrastructure, including the extensive development of irrigation water supply. (Dodge, 1977; Craig, 1999; Roseboom & Pardey, 1995; Kodamaya, 2011). Subsequently, "large capitalist agriculture" grew leading to the evolution of large productive assets (capital) in the hands of only a few and supplied on the basis of demand from competitive markets (Mingione & Pugliese 1994:55; Dietz *et al.*, 2008:63; van der Hoeven, 1982). Consequently, small-scale farming became less desirable, outmoded and less viable.

Secondly, the colonial state privileged large-scale commercial farming along the railway corridor to ensure ease of transport while small-scale farmers were relegated further away from the rail or main road network where they were insufficiently supported (Burdette, 1977:475). The large farming entities managed to capture rent not available to the smaller geographically isolated and dispersed small-scale farmers. This means that the small-scale farmers suffered from a chronic development deficit, resulting from inability to compete appropriately and develop at an equal pace with the rest of the country. Thirdly, colonialism

imposed a tax on the poor which spurred a rural-urban migration to offer labour in the mines and in commercial farms (Posner, 2003). In fact, agricultural activities and production during this phase is best understood against the backdrop of space and history, and was wrapped in ideas that reflected competing interests of the colonial regime and not to improve African welfare. (Burdette, 1977; Freidberg, 2003:100).

2.1.2.2 Independence era

Following the formation of an independent Zambia in 1964, the new rulers under President Kenneth Kaunda pursued widespread nationalization aimed at challenging the capitalist structure and redressing the neglect of small-scale farmers by the colonial model (Saasa, 2003; Jayne *et al.*, 2007; Bigsten & Tengam, 2009; Malambo, 2013). These created enormous pressure for welfarism as Copper fetched high prices on the London Metal Exchange (Gadzala, 2010:42). But copper is a non-renewable resource – meaning it does not last forever and foreign demand fluctuates. Only limited efforts to shift the economy were made, which targeted maize (Burdette, 1977:473-493; The South African Institute of International Affairs, n.d.:4). An economy premised on heavy mineral extraction was not significantly altered. The agricultural credit facilities and technical assistance to small-scale farmers through National Agriculture Marketing Boards (NAMBOARD) only helped to some extent, but did not induce full diversification into non-traditional exports (NTE)² (Howard & Mungoma, 1996; Farrington & Saasa, 2002). In fact, the narrow focus on minerals was exacerbated through a narrow focus on agriculture, namely, cotton, ground nuts and maize (Kodamaya, 2011).

The droughts of the 1980s and 1990s exacerbated the situation. Zambia's growth rates during this period deteriorated rapidly leading to serious distortions in the economy. The food riots of 1986 were a testimony to empty pockets and a reflection of hungry stomachs (Dietz *et al.*, 2008:69). Import substituting industrialisation³ (ISI) policies, which were instrumental in shielding the narrow base of farming and price controls, had to be disbanded on the advice of the Bretton Wood Institutions (BWIs) (i.e., the World Bank and IMF). President Kaunda's

² In Zambia's Vision 2030, "NTEs largely comprise primary products such as cotton lint, cotton yarn, flowers, vegetables, gemstones and tobacco" (Mwanawasa, 2006).

³ This concept is a trade and economic policy in which developing countries seek to break or reduce their dependency on foreign forces through the local production of goods that were formerly imported. (See, Werner Baer, 1972: 95).

attempts to resist cost him his 27 years of popularity as head of state. Some critics (Wichern *et al.*, 1999; Brolén *et al.*, 2007; Mukanga, 2013) have identified Zambia as an exemplar of countries that failed to garner economic rent in non-traditional exports (NTEs) through export diversification, and advice on the need for diversification away from dependence on primary exports to inclusive growth. The results have been galloping unemployment and poverty levels in the country.⁴

2.1.2.3 Structural Adjustment Era 1985–99

The return to a multi-party political system in Zambia gave way to the new development rhetoric of neo-liberal policies (Nair, 2004:7). The role of the state as understood in the immediate post-independence period gave way to market reforms (Delgado & Siamwalla, 1997; Rakner, 2003; Burdette, 1992). Simultaneously, a rather different kind of rhetoric around agriculture, small-scale farmers and the role of markets was evident (Delgado & Siamwalla, 1997; Alwang, 2005: 6; Doward *et al.*, 1998; Jones *et al.*, 2002; Collier & Dercon, 2009). Dietz *et al.*, (2008:71) argue that economic liberalisation was associated with the emergence of South African fast food outlets and supermarkets thus “killing whatever (protected) local industrial and agricultural development [that] had taken place in the years before”.

Nonetheless, the shift to Structural Adjustment Programmes (SAP) helped Zambia in a number of ways (see Nakaponda, 2006; Fessehaie, 2012:2), as the economy experienced a steady growth of between 6 and 7 percent per annum since 2003 to 2007 (AfDB/OECD, 2008). From an agricultural standpoint, the effects of SAP devastated small-scale farmers the most as there were no lending institutions for them (Siegel & Alwang, 2009). Liberalisation cannot be an end in itself. Rodrik (1999) warns that countries ought to engage the world economy on their own terms, not on terms set by global markets or multilateral institutions. Unable to compete in a liberalised trade environment, the competitiveness of small-scale farmers began to disappear, ultimately only those producing maize would survive on subsidies and fertilizer support (Deininger & Olinto, 2000; Govereh, 2009).

⁴ Zambia’s poverty is related to unemployment, which currently is highest at 15.3% for age groups between 20–24 year olds, followed by 12.5% among those who are aged between 15–19 year old. (See Koyi *et al.*, 2012).

Essentially, there were sound political reasons for subsidies targeting maize. Maize is the country's staple food, and any volatility in the price of the commodity can have serious social consequences. Subsidy elimination has failed since 1993 (see Barlat, 2008:9). Apparently, the Patriotic Front (PF) government whose populist politics propelled it to power in 2011 had realised the strains subsidies place on government coffers (Zambia Daily Mail 03/05/13). Clearly, the government was caught into doing something politically unpopular by removing subsidies. However, there is need for the government to keep an eye on maize prices as these have the potential to breed instability, and it is difficult to predict how the PF government survives this. This serves as a caution that casting too much confidence in trade and market-based price setting as policy instruments cast a shroud over small-scale farmers. This is even true for the economic activity of horticulture farming among small-scale farmers.

2.2 An overview of the horticultural industry in Zambia

As agriculture is considered the largest sector of the Zambian economy, it employs an estimated 70 percent of the nation's labour force, and contributes at least 20 percent of the GDP. Zambian farmers grow a variety of vegetables by small-scale farmers, for food and as a business venture. The extent, to which the pattern of horticulture as a subsector of agriculture has grown in both relative and absolute terms since the 1980s, requires a proper benchmark across farming categories, but such data is rarely available (Jayne *et al.*, 2007). Horticulture is receiving attention as a beneficial economic venture. There has been an upsurge of research emphasising the importance of horticulture growing for pro-poor outcomes among small-scale farmers (Dorward *et al.*, 1998; McCulloch & Ota, 2002; Dolan *et al.*, 1999). The relationship between horticulture that epitomises non-traditional trajectories to an economy and its effect on poverty alleviation through employment creation and earned income for the majority of citizens is especially relevant. The sector can provide an impetus to economy-wide employment whilst simultaneously providing a significant contribution to both business activity and GDP. Small-scale agriculture constitutes a livelihood strategy for many Zambians, but most of these farmers are still poorly resourced for a people whose incomes and food are rooted in the agricultural sector.

Despite Zambia's well-suited agricultural potential, (Howard & Mungoma, 1996; Govereh *et al.*, 2009; Gollin, 2009; Saasa & Farington, 2002), agriculture productivity, particularly

horticulture remains poor consequently hampering poverty reducing efforts. In Vision 2030⁵, the national government has set out an ambitious plan to turn Zambia into a prosperous middle-income country that targets broad based wealth and job creation (GRZ, 2006; Bonaglia, 2008:15). The Zambia Vision 2030 hopes to change the economy “... from that of a primary commodity dominated to manufacturing. This will be evidenced by the reduction in the contribution of the primary sectors (agriculture and mining) to GDP. These structural shifts would be necessitated by the growth in value addition to primary commodities rather than exporting raw materials” (GRZ, 2006:8, 9). Zambia has not fully weaned itself off mining as the growth engine of the economy (Bonaglia, 2008:13). This failure has potentially pulled down overall economic diversification which could promote a thriving horticulture sector, for example. Even though agriculture in general and horticulture in particular is an important source of income, fresh produce in Zambia is still remains untapped. While small-scale farmers still dominate production and marketing, but most are weak to enter modern commercial relationships (Nakaponda, 2006). European markets are said to be the principle importers of Zambian horticulture, but stringent food rules challenge the capacity and participation of potential exporters (AfDB/OECD, 2007). The Zambian vegetable sector does not, in general, use grade standards, which are essential for international trade, except through third parties (see for example, Joosten, 2007:10). If, apart from focussing on GDP growth, poverty reduction is at the core of Zambia’s development plan, then there ought to be a strategy such as horticulture development among small-scale farmers to overcome poverty. Understanding not only the the direct impact of customer satisfaction in shaping customer loyalty, but also the interventions needed to meet standards are crucial to stimulating profitability. Further, Non-traditional exports (NTEs) are edging upwards, given the surge in exports of gemstones, burley tobacco and cotton. The challenge is for horticulture to also have a significant export market share (Hichaambwa, 2010). Figure 2 illustrates why export diversification may have ramifications for policy in Zambia.

⁵ The three main goals for Zambia’s Vision 2030 include: *i*) reaching middle-income status; *ii*) significantly reducing hunger and poverty; and *iii*) fostering a competitive and outwardly oriented economy (see Bonaglia, 2008).

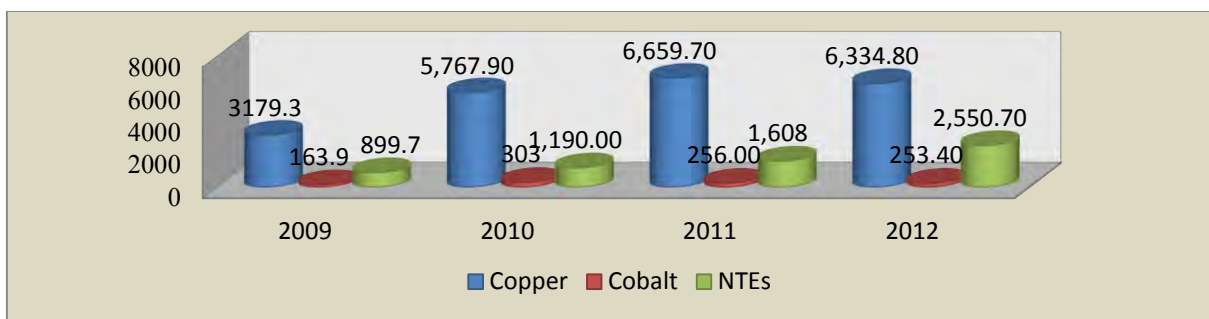


Figure 2: Zambia's share of mining export earnings relative to NTEs for 2009-2012 (US\$' 000)

Source: Adapted from the Bank of Zambia Annual Report

The horticultural sector is an important component of the non-traditional export sub-sector. While horticulture is productive, in aggregate terms, it lags behind horticulture exporting countries in the region, such as South Africa and Kenya. Table 1 below shows the trends in Zambia's horticulture's exports earnings.

Table 1: The horticulture sector's contribution to export earnings in Zambia (US\$ '000)

Year	2003	2004	2005	2006	2007	2008	2009
Export value (\$'000)	45,969	35,851	20,508	23,024	37,252	36,350	16,623
Rate of growth (%)	11.1	7.4	3.6	3	4.5	3	1.2

Source: Agriculture, Livestock and Fisheries Sector Profile 2011 (Zambia)

Table 1 above shows the trends in horticulture's contribution to the country's non-traditional exports in Zambia. As can be seen, there was a gradual decrease in the share of horticulture exports over the last 7 years (at an average decline rate of 4.7 percent). The reasons for this are not immediately known, but it may demonstrate the ready availability of domestic market demand due to urbanization as a substitute for export markets (Sitko *et al.*, 2011:65). The other reason could be that farmers are finding it difficult to enter the export market. The exports of fresh vegetables (beans, mange tout, baby carrots, courgettes, baby corn and asparagus) and cut flowers (roses and other flowers) revealed a national gross value of 40% of Zambia's total agricultural exports in 2006 (Bell & Newitt, 2010:6). The contribution to the workforce then was "... over 12,000 people of which more than 50% were women" (Mataa & Hichambwa, 2008).

Despite its recent export performance (as demonstrated for example by the available data shown on Table 1 in this dissertation), the horticultural industry is an important non-traditional export industry in Zambia, but the small farmers will have to be innovative to their on-farm and off-farm businesses to get into differentiated markets in an environment of several actors. Likewise, policies could help shape the efficiency of these farmers. According to Ergon Associates Ltd., the sector can be divided into a small number of large commercial farms that produce vegetables and cut flowers for the export market and a heterogeneous group of smaller growers who provide vegetables for the domestic market. There is little overlap between the two because, according to the *Zambian Export Growers' Association (ZEGA)*, commercial export farms no longer use out-grower schemes as a result of the high standards required for European markets. Major markets are the UK and the Netherlands. (Bell & Newitt, 2010: 42). In the context of exploiting the potential of *Zambian horticulture*, the *AfDB* and *OECD* observe that “much should be done to improve its domestic value chain ... At present, fresh produce flows in the country are dominated by a fragmented, small-scale traditional marketing system, characterised by chaotic and unsanitary markets with inadequate physical infrastructure” (AfDB/OECD, 2007:549).

Zambia's agriculture sector faces several constraints and challenges amongst which are high cost of production⁶, exacerbated by limited access to long-term finance and/or credit that would guarantee capacity to commercialise (Dolan *et al.*, 1999:18; Rios & Jaffee, 2009; Asfaw *et al.*, 2009). Long-liquidated institutions, such as the pre-liberalisation era *Lima Bank* and the *Cooperative Bank* which offered agricultural credit to small-scale farmers are in the memory of farmers as necessary support systems for them. (Mwanaumo, 1999; Chiumya, 2004).

2.2.1 Significance of horticulture to the economy and to poverty alleviation

Zambia's poverty is closely linked to a lack of income and unemployment. The decline in formal labour limits opportunities for income and employment creation, and as such many people are looking to informal activities to sustain their livelihoods (Gadzala, 2010:42, 3). *Hichaambwa* (n.d.:2) has argued that “Fresh produce is an important component of the diets of

⁶ Cost of production describes the cost margins or expenses associated with inputs, the cost of family labour, the lack of technology and adoption of practices, which increases among small-scale farmers (See, for example, Burke, Hichaambwa, Banda, and Jayne, 2011 on this)

urban households in Zambia as well though they do not usually produce their own”. Dolan and Humphrey (2000:148) state that “Fresh vegetables... illustrate the potential for agricultural diversification and production of high-value crops”. These authors argue that horticulture competes effectively in an increasingly globalised world in a way that cannot be matched by traditional agricultural commodities. Dolan *et al.* (1999:49, 50), for example, have referred to horticulture as “a bright spot in an otherwise dim agrarian landscape”.

Scholars have generally illustrated that horticulture positively impacts poverty alleviation (Rickard *et al.*, 2008; Pingali, 2004). Other scholars argue that commercial production will determine the extent to which horticulture will significantly contribute to the economy, to poverty alleviation and to the producers’ quality of life (see De Janvry *et al.*, 1991; Parrot *et al.*, 2008; Jaffee & Morton, 1995; Temu & Temu, 2005; Wiggins *et al.*, 2010; Weinberger & Lumpkin, 2007). Several authors enthusiastically endorse the potential of small-scale farmer participation in horticultural value chains (Bruton, 1998; Gereffi & Memedovic, 2003; Maata & Hichaambwa, 2010). Yet, horticulture makes little headway in a country where maize takes centre stage in both budget terms (now represents 80% of the government’s budget allocation) bought through the food reserve agency (FRA) and policy terms fertilizer support programs (FSPs) (Govereh *et al.*, 2006:18; Tschirley, 2011).

Producing quality that allows them to find rewarding markets can be a hinderance to small-scale farmers. In a study by the World Bank (WB) in 2009, an estimated 170,000 small-scale farmers were not able to sell vegetables exceeding an annual value of US\$100 (World Bank, 2009). This is because they were feared to settle in low income markets, with very few selling to supermarkets or exporting. Further, many researchers are pessimistic that supermarkets are characterised by poor vertical integration whose social outcome is ultimately exclusion of small-scale farmers (Reardon *et al.*, 2004; Neven & Reardon, 2004; Weatherspoon & Reardon, 2003). Rottger (2010) however, found that, with the exception of South Africa, there is a lack of data on the agribusiness sector and its ability to reduce poverty.

Notwithstanding such pessimism, there is an overwhelming literature on the importance of horticulture to human welfare and to the economy (see, Dolan & Humphrey, 2000, 2001; Weinberger & Lumpkin, 2007; Tschirley *et al.*, 2010; Larkins *et al.*, 2008; McCulloch & Ota, 2002). Ineed, among African states, Kenya and South Africa have seen exceptional benefits. In

2000 alone, “horticulture accounted for 22 per cent of agricultural exports from Kenya, generating US\$118m. In 1999, fruit accounted for 30 per cent of South African agricultural exports, when deciduous exports alone stood at US\$700m. Much of the expansion in sales has initially been to European supermarkets” (Barrientos *et al.*, 2005). Consistent with the above observations, Hichaambwa (n.d.:2) argues pointedly that “The mean household per capita income among small and medium scale farmers who sell fresh produce in Zambia is estimated at US\$183 compared to US\$103 among non-sellers... The figure rises from US\$103 for the lowest one-fifth of sellers to US\$387 among the highest one-fifth of sellers”.

Significantly, horticulture also contributes to the economy in terms of GDP per capita growth (von Braun *et al.*, 1989; Weinberger & Lumpkin, 2005; Rickard *et al.*, 2008). Much of the body of work has focused on the impact of horticulture on poverty alleviation. Of the available literature explored, no studies discuss horticulture CSFs in the context of Zambia. This makes it impossible to draw conclusions about the successes of small-scale farmers in this industry. Moreover, the lack of consensus in literature on the determinants of poverty reduction in horticulture growers, calls for research to bridge this gap. There may be need to discuss how small-scale farmers could explore new market opportunities if the farmers will withstand the competitive pressures associated with participating in the global trade.

2.2.2 Market segmentation of horticulture

Market segmentation refer to the process of exploiting and “redefining agrifood markets according to quality criteria that has a larger impact on ... investment strategies” (Bonano *et al.*, 1994:89). Within the above perspective, Getz (2005:87) defines ‘segmentation’ as “the identification of relatively homogeneous groups that can be targeted for competitive advantage and to meet destination goals” (see also Behe & Wolnick, 1991). The market can be segmented in three ways: 1) by product; 2) by volume of purchase, and 3) by location of purchase. The majority of players in the fresh produce supply chain to supermarkets and urban wholesale markets in the developing countries were small-scale farmers, whose dominance is slowly being usurped by medium-sized growers (Louw *et al.*, 2009; Miller *et al.*, 2008; Crush & Frayne, 2011; Dolan & Humphrey, 2000). It is however important for small-scale farmers to identify the segment that is more rewarding within the GVC.

2.3 Market channels of horticulture

Market channels refer to the movements or major links of goods and services between producers and consumers. “Market channel is an institution through which goods and services are marketed. Channels give place and time utilities to consumers ... The longer the channel the more margins are added” (FAO, n.d.). Market channels describe the several stages and many relations in supply chains before products reach consumers (Faye, 2005; Matthew & Todd, 2009). Relevant factors for small-scale farmers that impact market channels are post-harvest risks, time of payment, decent income, and the non-grading of produce, among other things (Hichaambwa, 2012; Bell, 2010; Chapoto, 2012).

Efficient market information is important in horticulture and it determines why farmers serve certain markets as opposed to others, and it is also a price determinant. As the demand for horticulture is increasing, larger farmers are turning to small scale-farmers. Literature calls this a “promising new business model” of procurement from large numbers of small-scale farmers and onward sales to large-scale retailers (Vorley *et al.*, 2008; Vermeulen, *et al.*, 2008; Hichaambwa, 2012; Emongor & Kirsten, 2009; Tschirley, 2012:42). In this model, it is critical to set customer interests or fall off their radar. However, a survey conducted in Lusaka’s Soweto market found that brokers disadvantaged farmers in terms of lack of pricing transparency and are starved of information (Hichaambwa, 2012:6). Chapoto *et al.* (2012:8) state that “open-air markets and street vendors dominate horticulture retail markets in Zambia and account for over 90% of all fresh produce marketed”. The Zambian domestic horticulture markets can be divided into three categories: formal, which is “more highly capitalised”, informal (mainly starved of capital) and institution markets (World Bank, 2009:59; Jayne, 2010). The channels are:

- Domestic Institutional;
- Intermediaries/commission agents;
- Sellers;
- Marketeers; and
- Growers’ Associations.

A schematic overview of five major market channels for small-scale farmers in vegetable

distribution in Lusaka can be identified in Figure 3.

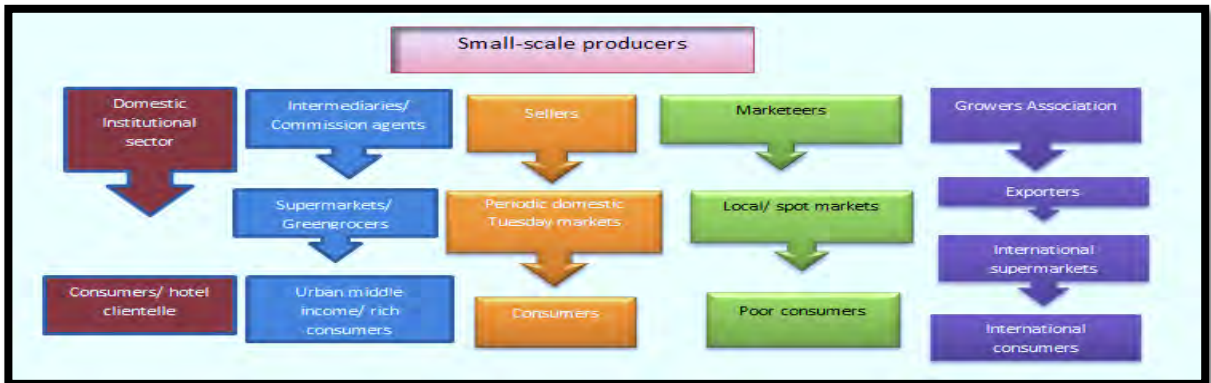


Figure 3: Market channel for fresh produce in Lusaka

Source: Adapted from Nenguwo, (2004); Hichaambwa & Tshirchley, (2006, 2010); Hichaambwa, (2010); Mwiinga, (2009); Likulunga, (2005); WB, (2009b).

Previous research has indicated that horticulture transactions in Lusaka are organised around “contract farming” (Tshirley *et al.*, 2010:6; Likulunga, 2005). However, the role this plays is being debated as both a driver of growth and also as a constraining force for small-scale farmers. Critics of contract farming argue that it confers on the producer monopoly power that rigidly ties farmers to a single buyer and rarely maximises earnings for small-scale farmers (see World Bank, 2009; Bellemare, 2010; Porter *et al.*, 2010; Sartorius & Kirsten, 2007). Okello *et al.* (2011) note that Growers Associations reflect transaction dependency, particularly in regard to specific assets, such as use of cold chains (an important technology).

By contrast, there is an optimistic school of argument on contract farming. The World Bank (WB), for example, argues that contract farming is important for enhancing commercialisation as it delivers “improved seeds and production techniques to farmers, provides input finance, and reduces the farmer’s risk from greater specialization and uncertain markets and prices” (Fox *et al.*, 2008:12, 3). A study carried out in Zambia by Likulunga (2005:5) notes that contract farming has offered leverage for 200 small-scale farmers contracted by York Farm Limited to integrate into export value chains. He further notes (2005:5) on the effects of contract farming: “The export vegetables sub-sector had shown tremendous growth over the years reaching in 2003/2004 a peak of US\$40 million worth of exports contributing about 33% of the Non Traditional Exports (NTEs)”. However, considering the demands for quality

and the variety of products required, only agents can afford the burden of the processes involved. This affects the growth of the industry.

2.3.1 Structure and behaviour of horticulture markets

As horticulture has become more market driven and globalised, the specific needs of consumers have led to the splintering of the market situation into two broad market types: the formal urban markets, mainly supermarkets, and the informal domestic markets, mainly open air markets (AgWater Solutions, 2011). Two powerful forces are driving consumer preferences in retail markets: *food safety* and *food security*. Hichaambwa and Tshirley (2006) notes how informal market supply chains of fresh produce in Lusaka handle the majority of all fresh produce (over 90%) in the country. The poor households mostly concerned with food security prefer buying from informal markets (Hichaambwa, 2010b:7; Crush & Frayne, 2011:798,9). As urban elites are increasingly appreciating efficiency, food safety and nutritional value, they are prepared to buy from organised retail markets, regardless of the price. The very notion of these demands, gives retailers' participation an upper hand. However, in a bid to define quality and credence, retailers are increasingly outsourcing⁷ or the use of purchasing agents is fast entrenched as a norm that evaluates suppliers. The influence of retailers means not all suppliers can supply these markets on an equal footing. Currently, the majority of horticulture trading in Lusaka is being undertaken in informal markets, raising debates of over-concentration, and concerns of congestion and hygiene (AgWater Solutions, 2011). This underscores the need for better market standards.

2.3.2 Supply and demand

The opportunities that exist for horticultural producers in Zambia can be analyzed from two perspectives, namely the demand side and the supply side. The expanding market (due to an increased urban population), in part, is driving the structural changes in supply, while demand conditions are also creating new market opportunities for fresh vegetables (Hichaambwa & Tschirley, 2006:29; Hichaamba, 2012). On the demand side, rising incomes and a desire for more balanced diets is increasing the rate of urban demand. On the supply side, the increased

⁷ Outsourcing has most commonly been defined as the transfer of activities and processes previously conducted internally to an external party (Ellram & Billington, 2001).

urban population and incomes stimulate the price of horticulture. Farmers with the capacity to increase production benefit from both increased demand and better prices.

2.4 The importance of horticulture to poverty alleviation

Reducing poverty has been identified as one key area that developing countries have to work harder at to meet the Millennium Development Goals (MDGs). In Zambia, agriculture contributes 21 percent to GDP, with the balance coming from industry (35 percent) and services (44 percent). The agricultural sector in Zambia is estimated to employ about 70 percent of the population (Deloitte, 2013:16). The majority of small farmers lack market linkages implying that they are trapped from accessing profitable markets.

Despite its potential in terms of its strong synergies with agricultural value chains as it “shifts resources from low value crops to high value ones, and hence increases the returns that small-scale farmers get” (Weinberger & Lumpkin, 2005; 2007), horticulture in Zambia remains unrealised. Further, its contribution to economic development and employment creation remains highly debated, with regards to sustainable job creation and poverty alleviation.

On the demand side, AgWater Solutions (2011:1) project that “In the next 30 years, urban populations are set to rise by 170% increasing the demand for fresh produce. Therefore, if small-scale farmers, who lack productive capital, can be effectively linked with markets, this could lead to a considerable increase in the supply of fresh produce commensurate with the rising population and demand”. A large body of research confirms that vegetable production has a “comparative advantage particularly under conditions where arable land is scarce, labour abundant and markets are accessible” (Weinberger & Lumpkin, 2005:10). According to Tshirley *et al.*, (2011), if poverty reduction through horticulture is to occur at scale, it ought to occur through two channels: “traditional channels” and “regional markets”.

2.4.1 Patterns and determinants of poverty reduction

This sub-section assesses the determinants of poverty reduction amongst small-scale horticultural farmers. Most authors have written how horticulture provides economic opportunities through poverty alleviation, but few have focussed on the terms or conditions, including limitations on working capital and access to credit, among other factors. Mauro

Gioè (2006:17), who examines horticulture in developing countries arguing that it offers and guarantees poverty alleviation, posits that access to export value chains is a success factor example through which to capture sustainable incomes. There has been a counter argument to this view, emphasising that export markets have high barriers to entry for small players (Smith *et al.*, 2004). Hichaambwa argues that domestic demand represents a huge opportunity that would increase incomes (Hichaambwa, 2012:1).

However, investment in certain types of assets, that include physical, human, and locational, can facilitate modernised horticulture production that has positive impacts on small farmers (Okello & Swinton, 2007). From an institutional economics perspective and viewed within the lens of transaction costs, some scholars argue that without assets, small players may lack production requirements to secure economies of scale, which to a large extent, disenfranchises them (Poulton *et al.*, 2005).

2.4.2 Challenges to the performance of small-scale farmers

Scholars have highlighted how, in the global food context in which they are embedded, small-scale farmers face several challenges (de Haan *et al.*, 2001). The term “challenge” is used here to describe the subjective constraints (physical, institutional, financial, and social, etc.) that have a negative bearing on the performance of small-scale farmers. Lack of access to high value market chains is a common problem among small-scale farmers suggesting that they do not fully understand how to comply with the “prevailing technical standards”, which are necessary, even though not sufficient enough precondition for “dynamic markets including export” (Davis, 2006:1).

According to Narrod *et al.*, (2009), the main limiting factors that can exclude small farmers are: (1) how to produce safe food; (2) the demands for traceability raises the question of conformity that is neither costless nor easy in the value-added process; (3) how to reduce risks by identifying cost-effective technologies; and (4) how to compete for markets with larger players (Narrod *et al.*, 2005). The list could be extended to using primitive methods of production, such as hoe, dependence on family labour, animal drawn ploughs, and lack of transport to market produce (Nenguwo, 2004). These challenges could constitute trade-offs that squeezes the small-scale farmers out of HVA markets. The Fair Trade Movement

(Raynolds, 2002; Goodman, 2004) has argued for an alternative and equitable trade network aimed at challenging the economic marginalisation of small-scale farmers, most of who are in the south. This will foster ‘the re-embedding of international commodity production and distribution in “equitable social relations” (Raynolds 2000:297). In the context of globalisation which has seen a north/south divide in the agro-food system; this will entail connecting producers and consumers in a transparent and fair manner (Goodman, 2004: 891).

2.4.3 Market access

van Tilburg and van Schalkwyk (cited in van Schalkwyk *et al.*, 2012:35) define market access as “the ability to obtain necessary farm inputs and farm services, and the ability to deliver farm products to buyers”. The central problem manifested by or faced by small-scale farmers has been ably articulated by Lundy (2002) who states that, “farmers produce for markets rather than trying to market what they produce”. Some Zambian critics of neo-liberal policies in the 1990s, like Mwanaumo (1999) and Henriot (1997), hold that the forces of global integration put downward pressure on small-scale farmers as they had to face increased competition that reduced their opportunities. This underscores the importance for market and buyers are critical. However, their efforts to diversify and earn sustainable incomes are weakened by the biasness of transaction contracts.

Some proponents of market access (see IFAD, 2003; Barham, 2007; Senyolo *et al.*, 2009) have grouped the poor response of farmers into three categories: a) physical barriers (transport and bad state of roads; b) market structures (the hurdles of getting fair prices due to competing intermediaries on the one hand, and few consumers or buyers on the other hand); and, c) information, skills and organization (the lack of marketing information, research and extension, including ineffective lending institutions, and so on). There have been initiatives (such as the ‘Regoverning Markets’ project⁸) that play important roles in creating conditions for small-scale farmers to participate in well-coordinated value chain niches. Understanding the linkages between trade and poverty eradication and the dynamics of value chains can help small-scale farmers address some of the challenges they face considering a large part of export trade in fresh vegetables is taking place within value chains. Other exponents have proposed

⁸ See <http://www.regoverningmarkets.org/>

for ways to invest in small-scale farmers to help their inclusion for either retail and export markets among low-quality low-cost farmers “segregated” in the domestic market (Hatanaka *et al.*, 2005, Fulponi, 2006:6; Sodano *et al.*, 2008). While the literature recognises the importance of markets for small-scale farmers, there seems to be a lack in marketing theory in Zambia explaining the customer demands exerted upon them, and how they could tap into higher returns along the value chain for fresh produce.

2.5 The integration of horticulture into the Zambian development trajectory

Research has shown that horticulture is a thriving industry among small-scale farmers and a viable commercial entity for Kenya (McCulloch & Ota, 2002; Tschirley & Ayieko, 2005). The Kenya case shows that horticulture presents opportunities for pro-poor growth and development, as it boosts growth through inclusive growth. Some authors consider an *upstream integration model* (i.e. provision of upfront inputs, seeds, technical services, machinery) as ways through which horticulture can be integrated into the mainstream agricultural economy with small-scale farmers as beneficiaries (Sartorius, 2004; Fréguin-Gresh & Anseeuw, 2011). However, competition can be rife.

2.5.1 Existing competition in the supply chains

Narrood *et al.*, (2009) indicate how the fresh vegetables market has a range of competing suppliers among which are small-scale farmers, outgrowers, and large-scale commercial farmers – the latter two employing modern crop management systems. Large-scale farmers are ‘big players’ applying pre- and post-harvest services, including export operations; while small-scale farmers adopt a range of practices including selling their produce to local operators or traders. Outgrowers now govern production for small-scale farmers in most developing countries (BIRTHAL *et al.*, 2005; Tschirley, 2007). To rise above competition, Stevenson (2006) has suggested three major issues namely:

- Receiving a competitive price for the produce;
- Customer demands for the products; and
- By gaining market share through producing value-added products (differentiated).

Some authors point to small-scale farmers being excluded on the basis of preferred formal supplier relations, which are a pre-requisite in many deals (Eaton, 2001; Likulunga, 2005; Saenz-Segura, 2006; Biénabe *et al.*, 2004). These authors posit that outgrowers are beneficial in that there is improved access to credit, technical assistance aimed at reducing barriers to entry into lucrative export and domestic markets. In Zambia, retailers have expanded.

2.5.1.1 Supermarket expansion in Zambia

The subject of local supermarkets has received attention in academic circles pointing to their increased market power in the Zambian supply chains; however, they are neither the only players nor the most dominant. According to Reardon and Berdegue (2002) (cited in Figuié and Moustier, 2009:212), local supermarkets have to compete for market share with national and multinational retailers – a result of the ‘supermarket revolution’ which has seen a wave of such retailers entering developing country markets (Reardon *et al.*, 2003; Crush & Frayne, 2011; Reardon *et al.*, 2010; Tschirley, 2007). It is argued that this presents an opportunity for poverty reduction and can be an avenue for stimulating economic growth through additional investment, knowledge and technology transfers.

There exists a real possibility however that the presence of supermarkets and their procurement systems have not lived up to their potential (Abrahams, 2009; Hansen, 2004). The power that supermarkets wield accounts for the reduction of small growers to maneuver, which has implications for poverty alleviation (Likulunga, 2005; Samaratunga, 2006; Brown & Sander, 2007; Hantuba, 2006:13; Crush & Frayne, 2011). This leads to small-scale farmers being squeezed out of supply to supermarkets. Nonetheless, serving supermarkets would offer a price premium for small-scale farmers, despite fears that “commission agents” profit more than suppliers (SFAC, 2012:12; Lee *et al.*, 2010; Parfitt *et al.*, 2010; Okello *et al.*, 2011).

2.5.1.2 Supporting safe fresh produce through quality, grades and standards

The role of public standards as an export barrier or as a channel for high-value markets for producers in developing countries to developed countries have long been recognised in international debates (see International Trade Centre (ITC), 2012:2; Humphrey *et al.*, 2004:69; Weinberger & Lumpkin, 2005:15; Lock & van Veenhuizen, 2001). It is not the aim

of this chapter to cover wider debates surrounding food standards, but to indicate that the practice that exists in respect of fresh produce.

The adoption of standards is perceived to create both opportunities and challenges. One school of thought views standards as opportunities (see for example, Augier *et al.*, 2005). Some authors state the need for critical control ventures of *Caveat emptor* ('let the buyer be aware') aimed at disseminating best practices that protects consumers (Gulati *et al.*, 2005). Freidberg (2003b:29) argues that: "the appearance of transparency ... has become the new packaging model" just as traceability is the standard part of the supply chain that limits potential harm. For some commentators the imposition of standards create big challenges that oblige farmers to produce for inferior markets (see for example, Lee *et al.*, 2012; Tschirley, 2007; Humphrey, 2008; Dolan *et al.*, 1999 on this). Zambia carries out product verification under the Zambia Bureau of Standards (ZABS) and implements its Pre-Export Verification of Conformity Program (PVoC).

2.6 Important linkages of horticulture for economic growth

Horticulture spawns a whole new set of linkages that can create multiplier effects for the economy (Delgado *et al.*, 1998; Davis *et al.*, 2002). From the tourism context, Lejarraja and Walkenhorst (2007:17) define linkages as "the network of intersectoral supply relationships between the ... economy and the rest of the productive sectors of the domestic economy". It is noteworthy that linkages can be forwards and backwards.

2.6.1 Backward linkages

Gotyal (2007) has defined "backward linkage" as "the working relationship with the agencies/institutes/individuals in supporting production activities". Van Rooyen *et al.* (1995) have pointed how gains in output resulting from investments in any given sector of the economy stimulate demand for input production in other sectors (backward linkages). Simply put, backward linkages are the relational activities that catalyse the pre-harvest field activities in horticulture, for example, input suppliers and agri-processors, and on-farm and off-farm expenditure (see for example, Maertens, 2009). The horticultural sector, apart from inducing good nutrition, has also attracted a whole new set of linkage activities. These include

blacksmithing (Haggblade *et al.*, 1989), loans from micro-financing institutions (Béné *et al.*, 2007), and re-investing profits into farming (e.g. farm equipment and inputs) to enable effective farming to take place. Without this, production is minimised and the local multiplier effects (or ‘trickle-up’ linkages) of horticulture farming are potentially limited.

2.6.1.1 Seed availability

Weinberger and Lumpkin (2006:14) found that with respect to seeds, “A major limitation to fruit and vegetable production in many developing countries is the availability of good quality seeds”. This is true for Zambia, which does not have a government commitment towards seed research and requirements for small-scale farmers. (See, Oxfarm, 2013:4). Even though Zamseed, a private company provides hybrid seeds, supply is eclipsed by high demand. The maize sector has been the major beneficiary of high quality seeds, where autonomous patent seed firms, notably MRI, Pannar Seed, Seed Company International, all compete with Zamseed (the country’s sole seed company until liberalisation in 1991) (Nienke *et al.*, 2007:7). The seed industry has become a channel for quality control and innovation. The government of the republic of Zambia (GRZ) moreover supports only non-genetically modified seeds (GRZ, 2011).

2.6.1.2 Agriculture extension services

The role of extension services, defined as “a non-formal educational function that applies to any institution that disseminates information and advice with the intention of promoting knowledge, attitudes, skills and aspirations” (Rivera & Qamar, 2003:7), to small-scale farmers are of particular importance. The synergy between extension education and improved production that increases farm income has been noted in the academic literature (Lerman, 2004; Kalinda *et al.*, 1998; Oram & Bindlish, 2008; Anderson & Feder, 2003). Extension services in Zambia operate at three levels: provincial, district and camp (Björn Ericsson, 2001:7), although currently they are deemed to be ineffectual (World Bank, 2002).

2.6.2 Forward linkages

The term “forward linkages” refers to post-harvest ‘downstream’ activities (farm equipment, agroprocessors, pesticide industries, transport from field to collection centres, wholesalers,

supermarkets and exporting firms, among others). Lapping (2004) describes that the local economy is often run through ‘multiplier effect’, which help to induce industrial growth. The linkages include circulation of money, spillovers to the local businesses within the locale of production. For example, horticulture has not only propelled the growth of retailing, but also hotels and tourism, consumer goods, utility services, such as electricity, telecommunications, machinery and so on. In tourism, some hotels need high quality food – food that would sometimes not be locally sourced (Meyer, 2010).

2.7 Barriers to entry for small-scale farmers

Numerous agriculture experts (Byerlee *et al.*, 2008; Hazell *et al.*, 2006; Henson & Reardon, 2005; Reardon & Berdegue, 2002) suggest that globalization, environmental concerns, and institutional issues act as major entry barriers for small-scale farmers. Other authors recognize the importance of investment that characterizes packaging innovation to secure great benefits in GVC: “Fast, pre-prepared vegetables and salads, or stir-fry mixes that are transferred from farm to cool-shelves in supermarkets in less than 48 hours, plus labelling and bar coding, is something that traditional, low resource endowed small-scale producers cannot manage” (Temu & Temu, 2005:15). Indeed, there are several changes in marketing and trading modes across a wide variety of services and goods resulting from globalization - recognized as benefitting some and excluding others (Henson *et al.*, 2009; ITC, 2012, Davies, 2006; Weatherspoon & Reardon, 2003; Parfitt *et al.*, 2010:69; Chen *et al.*, 2005). Competing in global markets depends on how well players respond to shifts in buyer demands (Gereffi & Korzeniewicz, 1994; Little & Dolan, 2000; Freidberg, 2004).

2.8 Economies of scale for small-scale farmers

Conceptually the market has always been viewed as an enemy of small farmer development because of their weak competitiveness (Canz, 2005; Jaeger, 2010). Farmers’ collective action has therefore been widely associated with integrating and exploiting market opportunities (Ortmann & King, 2007). This is particularly important given Africa’s competitiveness in the international marketplace, and that small farmers often supply non-remunerative markets (NEPAD, 2002). Some authors show that these farmers are better suited with institutions and capacity building that secure economies of scale in production (Jayne *et al.*, 2001;

Skjöldevald, 2012; Barrett, 2010:40, 1). Other studies (Thapa & Gaiha, 2011; Rao *et al*, 2008) suggest a cooperative model to mitigate market and financial failures. A common outcome is reducing transaction costs for inputs that result in economies of scale. In a case study on potato production among small-scale farmers in Uganda, it was found that farmers who participated in credit co-operatives, increased production and yields (Kaganzi *et al.*, 2009). This reflects the importance of transforming the economies of small producers to move them from low producing capacity that improves their products for new market prospects.

2.9 Value adding innovations

In business management, value innovation has long been recognised as critical to overcoming supply-side constraints (see Smit, 2000; Kim & Mauborgne, 2005; Baregheh *et al.*, 2009, for example). In horticulture, the concept of value addition has also become a buzzword describing strategies of moving from low value-added subsistence agriculture (Dunlap, 2006; Humphrey & Oetero, 2000, Weber & Labaste, 2011) to higher value adding activities. A focus on value addition in agriculture opens up prospects for the development of core competencies to increase profitability and consumer appeal (Silva, 2002; Kitinoja, 2013). At the Sixth WTO Ministerial Conference in Hong Kong in late 2005, it was decided “to help developing countries, particularly LDCs, to build the supply-side capacity and trade-related infrastructure that they need to assist them to implement and benefit from WTO Agreements” (WTO, 2005: 57). This point should be taken as an illustrative one to show that there have been efforts to integrate developing countries.

In respect of horticulture, value addition can be typified by or include, for example, packing ready-prepared vegetables, slicing, and bar-coding (see Kelly, 2012). Value additions also include product features like sorting, grading, washing, cutting, cooling, packaging, branding, and storage (Louw *et al*, 2007). However, Zambian horticultural products are currently sold “as is” (as at the time of this study) because the only processing plant (the Freshpikt Canning Factory that started in 2006) closed its operations.

2.10 Chapter summary

This chapter set out to assess the horticulture sector in Zambia through multiple lenses. The chapter revealed that horticulture potentially enables households to have higher incomes,

enabling them to accrue better earnings which are important for their well-being. Despite this optimism of increasing incomes from horticulture, it showed that there are also possibilities that the producers are likely to experience increased vulnerability. The literature reviewed has shown that small-scale farmers in Zambia face daunting challenges. Some of the challenges are market related, while others are institutional in nature. The chapter further examined marketing options by exploring marketing types and channels, availability and type of buyers. That many small-scale farmers are still trapped in subsistence agriculture, using primitive farming methods, is more a sign of failed policy than failed farmers. The Zambia's national goals of eradicating poverty, creating employment and diversifying the economy will emerge by designing policies for more inclusive growth. Modern methods of farming in high value horticulture need to be adopted. This includes but is not limited to market access, promoting intensive agriculture and improving extension services. Literature identifies these as catalysts for maximizing the growth of this potentially lucrative business.

CHAPTER THREE: UNPACKING THE RELEVANCE OF THE GVC LITERATURE TO UNDERSTANDING HORTICULTURE DEVELOPMENT OPPORTUNITIES IN ZAMBIA

3.0 Introduction

This chapter employs the Global Value Chain (GVCs) literature to scrutinize how this perspective can contribute to our understanding of the horticulture sector in Zambia. In doing so, this dissertation places small-scale horticulture farmers within the broader context of how horticulture produce reaches consumers through a series of development activities within GVCs. This chapter will also explain the nature of the race-to-the-bottom trajectory in value chains, and how upgrading can be a useful tool for integration and competitive advantage. This understanding helps to map out the basis for sustained economic growth for the horticulture sector in Zambia.

The chapter proceeds as follows: *Section 3.1* defines and introduces the uses of GVC concept and its relevance to horticulture. *Section 3.2* discusses the input-out structure highlighting the range of processes involved to bring a product to end-users. A brief overview of GVC governance is then offered in *section 3.3* for the purposes of informing the debate on control and coordination of the value chain and also offers the main differences between buyer-driven and producer-driven chains. *Section 4* scopes the nature of the horticulture GVC indicating that it is dominated by large retailers, using rigorous standards as conditions for entry. These have implications for upgrading trajectories, which are crucial undertakings for small-scale producers in this industry and for poverty reduction. *Section 5* is a summary of the chapter.

3.1 The theory of Global Value Chain and its relevance

3.1.1 Defining GVC

The theory of GVCs is a useful theoretical tool of analysis that can help us better understand trade in a globalized capitalist world. According to Milberg (2008:7) GVCs are structured around vertical integration as the value chains are controlled by processors and retailers, for example. These operate “through arm’s-length subcontracting with supplier firms, or through various intermediate forms of arrangements”. This approach is narrow as it focuses on the

relationship between large firms and small suppliers in the value chain and their associated consequences. For the purpose of this dissertation, GVCs are the various processes beginning with the “inception” of a product, through the different phases of production, to its end use and beyond (Pietrobelli & Saliola, 2008; see also Kaplinsky & Morris, 2001). Of importance here are the perceivable processes that do not only end with the usage of the products, but also beyond that usage to include product disposal activities.

3.1.2 The relevance of GVCs

This theory first arose in the 1990s to understand global restructuring in the context of economic globalization (Gereffi, 1994, 1999; Gereffi & Korzeniewicz, 1994). Veseth defines globalization as “the process of economic, political, and social change that occurs when all agents in a system have access to a common pool of resources” (1998:28). Meanwhile, Ballard (2001:5) has asserted that globalisation has come to embrace social, cultural, and economic activities in the global world order. Globalization however is a complex word bearing conflicting meanings for different people. However, the one thing that stands out is that that the world is widely becoming integrated and internationalised thus economically benefitting players, who improve their participation. It is from this perspective that the discussion about GVCs that follow is framed.

According to Schmitz (2005:21), the value chain approach is appropriate to explain the global integration context which he describes as revolving around the “local-global axis.” Gereffi (2001:3) argues that the ‘value chain’ is a helpful concept as it describes “the full range of possible chain activities and end products.” Examples of these activities are Just-in-Time (JIT) and Total Quality Management (TQM), among others. This presupposes concerns of inequality as the developed countries are more downstream positioned in the value chain to the marginalization of small players in the chains, especially those in developing countries (Keane, 2013).

Nonetheless, GVCs have been viewed as pro-poor. According to the World Bank, the value chain framework takes as its starting point the idea of “the business-business relationships, mechanisms for increasing efficiency, and ways to enable business to increase productivity and add value... It is a vehicle for pro-poor initiatives and for linking small businesses with

the market” (Webber & Labaste, 2010: vii). Cattaneo *et al.*, (2013:7) argue that participating in global trade require firms to “develop capacities in specific segments (stages of production, tasks or business functions) of the value chain.” Cattaneo, *et al.*, (2013:14) have furthermore pointed out that improving market access is contingent upon achieving three options:

- Capacity to join GVCs;
- Capacity to remain part of GVCs; and
- Capacity to move up the value chain within GVCs.

The challenge for poor producers is not so much about integrating into the global economy, but to participate in the chains in ways that are economically viable. Kaplinsky (2000) consequently views value chains as “repositories of rent”. It is however critical in GVCs to fully understand critical areas to gain competitiveness. As Lowitt (2008:77) has argued, key is defining the rewarding activities, which attract higher returns along the chains. An example of the supply chain and its associated downstream and upstream activities⁹ is given in Figure 4 below.

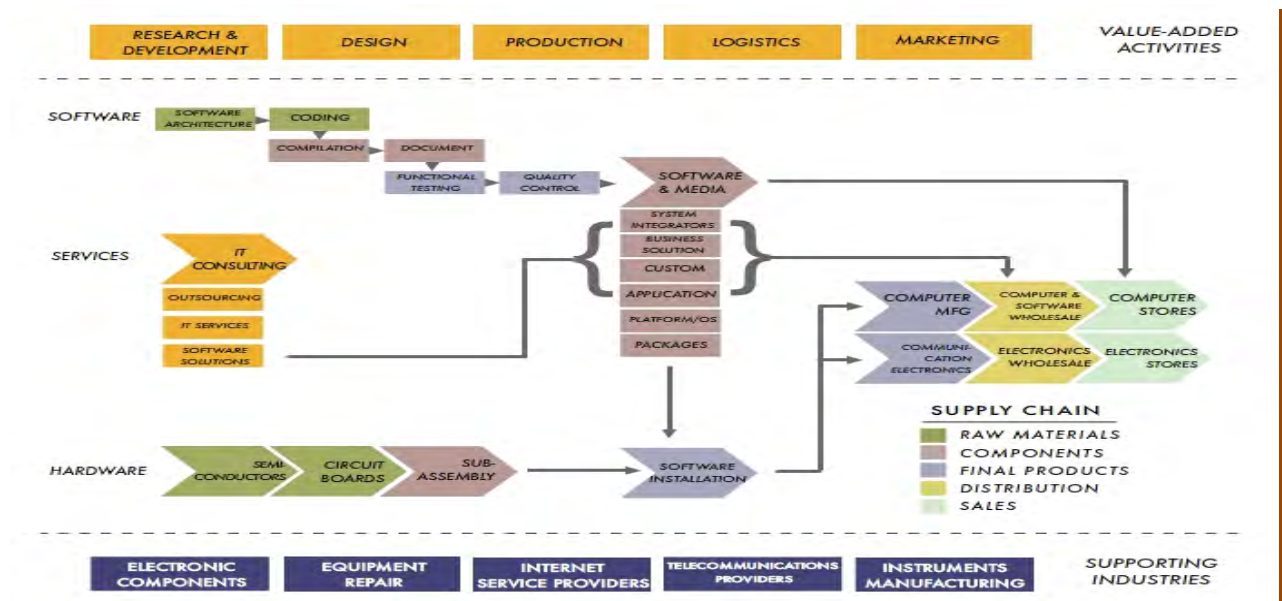


Figure 4: Supply chain network for software, services and hardware

Source: Adopted from Gereffi (2011).

⁹ “A country can be upstream or downstream within a GVC, depending on its specialization. Countries upstream produce the raw materials or intangibles involved at the beginning of the production process (e.g., research, design), while countries downstream do the assembly of processed products or specialize in customer services” (OECD, 2012:15).

The GVC literature has been used in industries to discuss moving from the production of intermediates or raw materials to finished goods (Gereffi, 1999; Sturgeon *et al.*, 2009). Examples of such industries are automotive (Barnes & Kaplinsky, 2000, Barnes & Morris, 2000); footwear (Schmitz, 1999), services (Rabach & Kim, 1994; Gereffi & Fernandez-Stark, 2010b), and in electronics (Sturgeon, 2002, 2003; Sturgeon & Kawakami, 2010). The GVC framework has been used in a number of economic sectors.

3.2 Input and Output structures

The input-output structure of a value chain refers to “forms of co-operation within a value chain for the manufacturing of a product” (Juliane & Robert, 2009:8). It mainly describes four aspects: i) the amount and quality of a good required by one stage of the chain to fulfil the requirements of the following stage; ii) the value that is created in each stage; iii) the profit distribution in a chain; and iv) the information flows between each stage of a chain. Only in this way can specifications about production processes, key actors and the marketing conditions at each link in the supply chain before a product reaches the final consumer and beyond (Gibbon & Ponte, 2005; Gereffi & Fernandez-Stark, 2011; Cataneo *et al.*, 2013). This also involves the relations, under which the transactions take place, including identifying opportunities for GVC insertion for economies based on their comparative and competitive advantages (Pietrobelli, 2008; Pietrobelli & Rabellotti, 2010). These opportunities in GVC insertion are judged by the extent to which an industry endeavour to capture value through efficiency for job creation, income generation, among other development agendas (Cataneo *et al.*, 2013:13).

3.3 Typologies and dynamics of governance

The concept of ‘governance’ has attracted considerable attention in the GVC literature (Gereffi *et al.*, 2001; Gibbon, 2000; Humphrey & Schmitz, 2001). Ponte (2005:12) defines governance as “a description of the dynamic distribution of power, learning, and benefits among a value chain’s firms.” It also hinges on authority and how benefits are distributed along the chain. Accordingly, Gereffi, (1994:97) is of the view that actors in the chains exert control over the value chains despite not owning production. The amount of control depends on how large and competent a company is.

The size of the firm in the chain is generally related to the power and influence it wields. What this means is that in general, the size of the firm defines the power it has in the chain (i.e. the bigger the firm, the more the power). For in the chain, the lead firm tend to master the parameters of what to produce, how, including delivery reliability, among other things - aspects that directly advantages them in value chains (Humphrey & Schmitz, 2004; Humphrey & Memodovic, 2006). As recent research has shown, the degree of governance varies according to different tiers of supply in the value chain (Elola *et al.*, 2012). First-tier suppliers are more likely to develop relational and modular types of relationships with lead firms because they are highly competent, whereas third and fourth-tier suppliers normally maintain hierarchical, captive or even market types of relationships with actors further up the chain.

In their book, *A handbook for value chain research* (2001), Kaplinsky and Morris assert that how a value chain is managed or coordinated and the degree of influence between buyers and sellers defines the “governance structure” of a chain. Understanding the nature of coordination and associated costs, lead firms pursue outsourcing as a strategy, choosing to keep only certain high value activities in-house (Salvatore, 2004; Gereffi, 1994; Schmitz, 2006). There are two ways through which governance in GVCs occurs. Namely, *hands-on*, where lead firms exert control to offshore subsidiaries of suppliers and buyers; and *hands-off*, which involves setting rules for all players in the value chains (Ponte & Gibbon, 2005; Kaplinsky & Morris, 2008). From this theoretical standpoint, GVCs can be distinguished into two broad forms, namely *producer-driven* and *buyer-driven value chains* (Gereffi, 1994).

3.3.1 Buyer-driven chains

The term ‘buyer-driven chain’, as espoused by Gereffi (1994), denotes how global buyers use explicit co-ordination to help create a highly competent supply-base upon which global-scale production and distribution systems are built without lead firms ownership. The World Bank defines buyer-driven value chains as “a market context where producers have few options for selling their goods or services. These chains typically have low barriers to enter at the producer level, or they may have locational/logistics limitations to whom the producer can sell... This type of market condition is referred to as a ‘buyer’s market’ (if not a monopolistic one)” (Webber & Labaste, 2010:21). This form of trade-led network has become common in

labour-intensive industries, such as horticulture and fresh fruit, handcraft, clothing assembly, etc.

Coordination and governance in buyer-driven chains represent a typical and complex case to understand, yet a crucial one in terms of understanding where power resides, how it is used and the consequences of using it or not using it (Gereffi 1994; Ponte & Gibbon 2005). Firms utilizing strategic and customer luring activities such as marketing, branding and logistics make greatest returns in buyer value chains rather than those who are located further down the chain (Kaplinsky & Morris, 2001). These firms do so by exerting pressure through “buyer-led GVCs and are more likely to work at arm’s length with suppliers and to have supplier contracts of shorter duration” (Milberg & Winkler, 2010:31).

3.3.1.1 Buyer-drivenness and smallholder access to markets

In buyer-driven chains, the reins of power rest with key buyers, usually at the top end of the chain near the final consumer. Gereffi (1999:1) associates buyer-drivenness of the chains to the change in the structure of global food chains through a proliferation of large retailers, marketers and branded manufacturers that have consolidated handling that consequently marginalises small producers in exporting countries. These buyers, usually very large firms, have more regulated formal systems that determine how produce reaches final consumers. The linkages between lead firms and the producers are also marked by power asymmetries.

In buyer-driven chains, retailers play the key role in governing the chains. “Producers in poor countries do not always connect with the retailers of their products through direct contact; they often work through buying intermediaries” (Kaplinsky, 2004:7). This can be a source of opportunity, but can also raise threats for small producers. Inclusion for small-scale farmers in the chain is contingent upon meeting the conditions that the retail markets set. Worth noting however is that “buyer-driven chains are labour intensive, less standardized and demand less special know-how thereby making them ideal for developing countries” (Kaplinsky & Morris, 2001:32; see also Palpacuer *et al.*, 2005:411). This information is helpful for small-scale farmers to understand the opportunities that exist and the critical dimensions required.

3.3.2 Producer-driven chains

According to Barrientos *et al.*, (2003:1512) “Producer-driven chains are typical of capital- and technology-intensive industries,” with the interplay of multinationals driving value chains. These firms sometimes referred to as lead firms, coordinate and govern the GVCs thereby improving their prospects as actors in global trade (Gereffi *et al.*, 2001; Kaplinsky & Morris, 2001; Gibbon, 2000; Humphrey & Schmitz, 2001). There is a panoply of technologically capable firms, who vertically coordinate their activities mainly through hierarchical governance (see section 3.2) as most of these firms bear considerable core competencies and capital that easily enable them to forge modular linkages along the chain. The implication is that local firms need to overcome the stifling competition from lead firms through innovations or risk being trapped in marginal GVC positions.

3.3.2.1 Barriers to entry and successful participation in GVC governance

Improving their positioning in GVCs should be considered the highest goal of each participating firm (Humphrey & Memedovic, 2006:49). But firms are controlling nodes in terms of location of production, including other interests and to whose benefits. This implies that the power in the GVCs is determined on the basis of the firm’s importance. This is essentially discussing governance, which also determines insertion and/or barriers to entry in GVC. Stamm *et al.*, (2006:36) discusses two governance types, internal and external governance: *Internal governance* refers to “agents within the chain”, while *external governance* refers to “agents outside the chain, who have the power to set rules...” Value chain literature advocate for governance as one of the ways in which economies are coordinated (Gereffi *et al.*, 1995:84).

Kaplinsky and Morris (2001) comment that participation in GVCs can be achieved by two paths: the low road and the high road. The low road includes lowering prices and wage-squeezing (Pietrobelli & Rabellotti, 2007). The high road trajectory focusses on innovation and efficiency that result in profitability and sustained growth (Kaplinsky & Morris 2001). This is even more pronounced in sectors, such as export fruits and horticulture. Below is an explanation of the five governance types as offered by Gereffi *et al.* (2005):

1. *Market-based*. This refers to coordination activities that occur mainly at arms-length as epitomized in spot markets based on price. Relations can however persist over time, with repeat transactions. Here, firms design, make and sell products. They interpret and respond to market demand. It is easier to enter the value chains in this form of coordination as the cost of meeting requirements is reduced. It is also easy to switch to new suppliers when problems arise. It is also easier to be exited from the chain, making it potentially very risky.
2. *Modular value chains*. Typically, products are made to customer specifications, which may be more or less detailed. However, when providing 'turn-key services' suppliers take full responsibility for competencies surrounding process technology, use generic machinery that limits transaction-specific investments, and make capital outlays for components and materials on behalf of customers. It is worth noting that modular GVC forms appear with an increase of standards, information technology, and the capabilities of suppliers (Gereffi *et al.*, 2005). Here, argues Gereffi, "organizational fragmentation will not lead to value chain modularity if codification is extremely difficult" (Gereffi *et al.*, 2005:96, 7).
3. *Relational value chains*. In this model, the networks between the buyers and sellers in the GVC are complex, with a sense of "mutual dependence and high levels of asset specificity." This may be managed through family and ethnic ties. Spatial proximity is an advantage as the familial relationships in the chain enable them to take new roles in the small firms when conditions change (Gereffi *et al.*, 2005:84).
4. *Captive value chains*. In these networks, small suppliers are transactionally dependent on much larger buyers. Relationships are quasi-hierarchical in that there is a high degree of monitoring and control. Suppliers face significant switching costs and are, therefore, 'captive'. Such networks are expensive to manage for small suppliers (Humphrey & Memedovic, 2006). As such, the high concentration of large firms means that suppliers are price-takers and have little or no economic freedom.
5. *Hierarchy*. This governance form is characterized by vertical integration which crowds out small producers. The dominant form of governance is managerial control, flowing from managers to subordinates or from offices headquartered somewhere else to subsidiaries and affiliates.

Table 2 Coordination in value chains

Governance type	Complexity of transaction	Codifying transactions	Capabilities in the supply-base	Degree of explicit coordination and power asymmetry
<i>Market</i>	<i>Low</i>	<i>High</i>	<i>High</i>	
<i>Modular</i>	<i>High</i>	<i>High</i>	<i>High</i>	
<i>Relational</i>	<i>High</i>	<i>Low</i>	<i>High</i>	
<i>Captive</i>	<i>High</i>	<i>High</i>	<i>Low</i>	

Source: adapted from Gereffi (2011:10).

Based on Table 2, GVC governance is four-dimensional. Market governance has no power asymmetry, with low coordination. In this type of governance, transactions are highly codified, but there is a low complexity of transaction. In contrast, ‘captive’ governance is characterized by complexity of transaction and transactions are highly codified. Therefore, power and control in value chains is influenced by the nature of and the players in the industries. There are several instances where power is exerted when lead firms set and/or enforce the parameters under which others in the chain ought to follow (Roldan & Wim, 2005). Drivenness therefore depends on improvements in the value chains aimed at competing in more attractive segments of the GVC.

3.3.3 Oligopolies and their effects on smallholders

In the GVC literature, the subject of oligopoly is discussed from the perspective of the relationships between GVC lead firms and maintaining preferred customers within the chain (Dubé *et al.*, 2012). These authors recognize that changing consumer preferences have been an important driver for retailers. However, some critics argue that the value chain is not free from opportunistic behaviour: many, if not all lead firms belong to large international oligopolies (even though not always), that shift trade terms easily (Busch, 2003; Busch & Bain, 2004). Cox *et al.* (2002) have referred to it as a “struggle for the appropriation and accumulation of value” in which the primary producers are squeezed out. Other authors consider that the increasing demand for ethical and social compliance has created a stratum of a privileged few that tend to apply some demands, taking the watchdog role in the chains. (Berdegue, 2001; Busch & Bain, 2004). Conversely, only by means of innovation are these opportunistic behaviours of oligopolistic competition be outmanoeuvred, to avoid the path of

immiserizing growth defined as “a situation where there is increasing economic activity (implying more output and more employment) but falling economic returns” (Kaplinsky & Morris, 2001:21).

3.4 The horticulture GVC

This GVC includes several segments: inputs, production, packing and storage, processing, and distribution and marketing. Logistics and transportation fulfill key supporting functions, and due to the fragile and perishable nature of the product, a high degree of coordination among different actors along the chain is required. Far from considering agriculture value chains to be homogenous; the horticultural value chains differ from other agriculture value chains. As horticultural products are high value crops, they only obtain price premiums when they make it to the markets in fresh, well prescribed forms. Cool storage is one critical element to keep produce fresh, along with effective transport. There is an increase in the multiple mandatory food safety requirements, especially during export, which are not exhibited in other value chains. Moreover, other agriculture categories such as maize exhibit low level of drivenness, and no private social regulation exists because no single actor has the power to control and impose conditions on others in the chain (Yumkella, *et al.*, 2011).

3.4.1 The role of private standards and smallholders

A few decades ago the term ‘standard’ conjured up a “technical specification” of the products with regards consumer concerns of environmental, ethical practices and production characteristics of the products (David, 1995:16; Jaffee & Henson, 2004; Readon, 2005). In the present era of neoliberal capitalism, food safety standards are a useful tool to understand the ‘top down’ agenda set by powerful firms headquartered somewhere else. (Humphrey & Schmitz, 2003; Freidberg, 2004; Okello & Swinton, 2007; Maertens *et al.*, 2009). Gibbon and Ponte (2005:3) argue that “rules and conditions of participation are the key operational mechanisms of governance... Marginalization/exclusion and upgrading/participation are the axes along which resulting (re)distributional processes take place.” The on-going debates about standards have brought forth concerns about the possibilities for small producers being excluded, and this has important implications for small-scale farmers in developing countries and which have important implications for poverty reduction. Evidence appears mixed.

Swinnen (2007:14) fears that global private standards create possibilities for some suppliers, while others, especially small-scale players are excluded. Lee *et al.*, (2012:12327) argue that “food standards shape the strategic options available to smallholders, who confront three basic choices: upgrade, downgrade, or exit.” The GVC literature teaches us that standards have three objectives: raising safety awareness, regulating product reputation, and creating a framework for all to follow. For standards have become models to improve products in international trade.

3.4.2 The impact of GVC intermediaries

The increasing globalisation of the horticulture industry has heralded a new age of retail trade, which also appears to be associated with intermediation (Gereffi, 1994). Spulber (1998) adds essential insights into “intermediation theory” behind which the logic of coordination lies, stresses the need to reduce searching costs in ways that efficiently connects actors (i.e. suppliers and buyers). Dunn and Lilian (2006) argue that intermediaries play a critical “role in promoting product upgrading”. Fearne and Hughes (1999) in examining the factors behind the UK fresh produce innovation noted the power of retailers in the governance of the global agrifood system and regulations in food safety. However, they suggest that farmers and growers should have a partnership in the marketing chain that ensures that they manage compliance requirements. Furger (1997:449) has also made similar observations in such partnerships, noting the “role of intermediary organisations as institutions are particularly suited to develop and maintain standards of accountability.”

3.4.3 Trajectories of upgrading for smallholders in the GVC

Value chain research from Africa has painted a rather bleak picture of the ease with which resource-poor actors can enter the value chains (e.g., Raikes & Gibbon, 2000; Dolan & Humphrey, 2000; Gibbon & Ponte, 2005). An upgrading approach proposed by GVC scholars is said to generate competitiveness (Humphrey, 2004; Humphrey & Memedovic, 2006; van Dijk & Triekens, 2012). Gereffi (1999:59) defines upgrading as: “.... a process of improving the ability of a firm or an economy to move to more profitable and/or technologically sophisticated capital and skill-intensive economic niches.” Although this definition is important, it only fits well at the firm level of the business environment. This author adopts a

definition by McDermott (2007:104): upgrading is, “the shift from lower- to higher-value economic activities by using local innovative capacities to make continuous improvements in processing products and functions.”

The competitiveness literature recognizes that upgrading does not occur automatically, but needs to be searched for and purposefully exploited (Pietrobelli, 2008; Humphrey & Schmitz, 2002; Brach & Kappel, 2009). Kaplinsky (2005:91) posits that foreign buyers provide the conduit for producers to understand what the final market needs thereby determining the modes of upgrading needed. As most developing countries face unequal terms of trade, packaging, or processing, and distribution strategies are especially relevant to maximise rewards (see Fernandez-Stark *et al.*, 2011:13).

Large players in the chain are able to cope with increased rivalry. But additional tools are needed for small producers applying creativity along the way to enhance their competitiveness. Researchers employing a GVC approach have examined the circumstances under which the poor nations can best participate in global markets in ways that will lead to their development. Schmitz (2005:9) has argued that “these markets are not free-for-all open spaces”. Moreover, horticulture being what it is – a buyer-driven chain, it is becoming increasingly critical to develop ways of satisfying customer demands. To be considered competitive and reliable, there is now usage of the Just In Time (JIT) model, wherein timely delivery is an important component of requirements (Dolan & Humphrey, 2000; 2001; Delgado & Siamwalla, 1997; Jaffee *et al.*, 2011). Lee *et al.*, (2012:12329) argue that “the success of smallholders” critically depends on “public institutional support as well as the active upgrading efforts of large agro exporters who link smallholders to foreign buyers.” Some authors express fear that only a small percentage of small-scale farmers can afford to meet these requirements (Humphrey, 2005; Garbutt & Coetzer, 2005). The above governance structure has significant implications for the ability of poor suppliers in developing countries, and has particular relevance to small-scale horticulture farmers in Lusaka, Zambia – as will be shown in Chapter 4.

3.5 Chapter summary

This dissertation uses the GVC framework to explain the production networks and trade that could offer prospects for the horticulture industry to participate and prosper. However, in focussing on GVCs, the researcher is well aware that it is not a magic sweet that gives rise to equal value. The researcher has identified the horticulture industry as a buyer-driven value chain that contains three types of lead firms: retailers, marketers and branded manufacturers. In this regard, a distinction was made between two governance structures: 'buyer-driven' and 'producer-driven'. The intention here was to develop an understanding of how lead firms shape GVCs. The buyer-drivenness of horticulture and the safety compliances impede many farmers. More than that, it was highlighted that horticulture is now a global industry, which attracts several large firms competing for a share of income, leaving limited market space for small players. The buyer-driven nature of the horticulture GVC places significant pressure on small-scale farmers, and has fundamentally shaped the nature of domestic and export markets. This highlights the need to shift the choice of production practices.

CHAPTER FOUR: THE ROLE OF HORTICULTURE IN SUPPORTING THE DEVELOPMENT OF SMALL-SCALE FARMERS IN LUSAKA

4.0 Introduction

This chapter sets the contextual background of horticulture in Lusaka, with a view to explaining the impact it has on development among small-scale farmers in the greater area of the city. It seeks to analyse the structure of the population in the city of Lusaka and further attempt to locate small-scale producers within the spectrum of urban poverty. This context will help explain the position and scale of horticulture in Lusaka (and hence the importance of the study), outlining that it is mainly used as a safeguard against susceptibility to poverty. In doing so, it explains the vulnerable status of horticulture farmers, which precisely reflects the tensions between informality and municipality.

4.1 Research setting

Research context and study area refers to the characteristics of the place where data was collected. This study focused exclusively on small-scale horticulture farmers in Lusaka, Zambia. Lusaka was chosen as the study area because of its known potential for growing non-traditional horticulture products. It also fits the description as an urban agricultural city, which presents opportunities for making an impact on poverty reduction efforts in a number of ways.

4.1.1 Physical and climatic features

Geographically, the city of Lusaka is located in south central Zambia at 15°25'S 28°17'E, on a plateau at 1280 m (4200 ft.) above sea level. It covers an area of 375 km² of mostly flat relief out of Zambia's total area of 752,612 km². Lusaka also lies on an ecological and production zone with the most favourable terms of rainfall, soil quality, etc. Like the rest of Zambia, there are two main seasons in a year for Lusaka: "dry" from May to October and "rainy" from November to April (Simatele, 2010). Lusaka enjoys an annual rainfall of over 800 mm (between November and March). Further, "The Lusaka plateau forms a watershed between the Chumba river, which ends up in the Mwembeshi river to the West, and many smaller rivers which [flow] into the Chongwe to the Northwest and Kafue rivers to the South" (De Waele &

Follesa, 2003:72). The rivers and the good rainfall patterns can be important resources for domestic use, rain fed agriculture and irrigation. The input and criticality of water into the value chain lies in its important link for impacting on product quantity and quality.

4.1.2 Political administration

Lusaka is the national capital of Zambia. It was founded in 1905 by European settlers. According to UN Habitat (2007:9), “Lusaka received its capital city status from Livingstone in 1935... Lusaka is the seat of all government operations, and home to all foreign missions serving in Zambia, including heads of big corporations and NGOs that operate there”. Further, the UN Habitat (2010:29) says, “Lusaka did not possess the scenic attraction of Livingstone neither was it endowed with the mineral resources like the Copperbelt”. The town was chosen because of its central location as this would lessen the administrative costs besides its healthy climate.

Lusaka is also the Zambian hub for air transport, including proximity to the railway line, road transport, among other things (Siegel & Alwang, 2005:3). At national level, the Head of State’s official residence is found here, but at a district level, the central government representative is the district commissioner, appointed by the Office of the President. Lusaka is an administrative capital that contributes to policy shifts and a commercial hub of Zambia, yet it still reflects slow growth in agricultural technology and pro-poor policy reforms. (Mulenga, n.d.:4).

4.2 Socio-economic implications of growing the horticultural sector in Lusaka

As the biggest city in Zambia - Lusaka is undergoing rapid urbanization, with a greater proportion of the population looking for opportunities for livelihoods. The population has “increased from 1,391,329 in 2000 to 2,198,996 in 2010’ representing 16.9 percent of the national population (CSO, 2011). Lusaka has an average annual population growth rate of 4.7 percent meaning that by 2030 the population will have doubled. On the one hand, this demographic shift, whose population density is relatively high with 100.1 persons per square kilometer, presents a growing concern as it presents low rates of employment prospects and implies potential food insecurity (Lusaka Times, 13/03/13). In reality, Lusaka has the highest

proportion of poor people in Zambia (Gauci & Steinmayer, 2004). On the other hand, this growth potentially not only generates demand for fresh produce, it entails investing in the chain for quality products and quantities that allows for opportunities in trade.

The usefulness of the challenges of a growing urban population in Lusaka, which accounts for 32 percent of the total urban population in the country, is several. Like all other African cities, population growth is failing to accommodate “formal employment” (Mulenga, n.d.:5). According to the Worldfact book (2011), Zambia is one of Africa’s most urbanized countries, with 36 percent of the population living in urban areas. Only 9 percent of the urban population is in formal employment, while the rest are in the informal sector or unemployed. People who live in informal are living deplorable lives as they mostly “live in poorly serviced townships and, owing to the decline in wage employment, work in the informal sector” (FAO, 2012:92).

The search for higher economic prospects, such as job opportunities, higher education and so on is spurring on this urban migration. Some people end up in perilous predicaments and become vulnerable to poverty (below the poverty line of \$1/day). It is often said that the many street vending activities seen in the city are associated with social stress and remain a choice for those who otherwise fail to be absorbed within the formal labour market (see for example, Berner *et al.*, 2008; Hansen, 2010:16; Ndhlovu, 2011). While street vending can be associated with income generation, this economic activity poses very unpredictable income streams as compared to the labour intensity of activities applied. The changes seen in the city are especially marked that producing horticulture can be rewarding as a form of diversification. The need for matching up the growing and ever-expanding population with food security could translate into economic benefits for growers. One other consequence of changing demographics is the strain created by the prevalence of diseases such as the HIV/AIDS pandemic on livelihoods (Harris *et al.*, 2010). Interventions aimed at increasing family incomes and helping those who are isolated by economic circumstances to be viable contributors to the economy through horticultural value chain development and livelihoods, may be a necessity.

The one advantage that Lusaka poses is the proximity of Kenneth Kaunda International Airport (KKIA), a factor which represents important trade opportunities in terms of export opportunities for horticulture producers. Lusaka is an area that typifies the struggles of

urbanised cities in Zambia, and reflects the conditions of life faced by many Zambians. The above realities of the city provide the need to find poverty reducing strategies with large-scale effects, such as horticulture to generate sustainable incomes for small-scale farmers.

4.3 The existing situation of small-scale farmers

Two main models of production are evident in the agricultural sector in Zambia. The first sector is large commercial farmers. According to the Crop Forecast Survey of 2011-2012, Zambia has an estimated 74,100 large-scale farmers who dominate the production of tobacco, Irish potatoes, wheat and soybeans. The second sector comprises predominantly small-scale farmers accounting for 70 percent of marketed agricultural produce, dominated by maize, seed cotton, sorghum, rice, millet, sunflowers, groundnuts, cowpeas, sweet potatoes, Bambara nuts, paprika and mixed beans (Oxfam, 2013).

There are over 1.5 million smallholder farm households in Zambia (Ministry of Agriculture and Livestock, 2011). The main farming enterprise in Lusaka among poor households is the production of vegetables. From the composition of horticultural products in Lusaka province, it is clear that the production of vegetables is one of the most important activities to households. According to Hichaambwa (2011:3), “Fresh produce forms 18% of total household income and 39% of total household cash income”. According to the World Bank (2009:19) “Smallholders also frequently bring their tomatoes and rape to Lusaka for sale to brokers (who charge a commission) rather than directly to wholesalers. Thus links between chain participants are generally weak, occurring deal by deal, albeit with the potential to develop over time. Farmers are not organized and receive no services from agribusiness aside from brokering.”

Zambia faces weaknesses in terms of marketing chains as most small-scale horticulture farmers, who grow fresh produce, still sell to informal markets with no value addition (estimated at 85 percent of output feeding into these markets) (Hichaambwa, 2010; Hichaambwa & Tschirley, 2006). Evaluating the farmers through a competitiveness lens and in terms of improving their standard of living, it can be debated as to the degree to which they have meaningful impact. As a middle-income economy, Zambia has huge agricultural production, but horticulture has not commanded the same importance in the economy as is the

case in Kenya. Oxfam (2013:3) has demonstrated that Zambia's small-scale farmers face obstacles: very small and fragmented farming units, little irrigation, low quality markets, and poor technology. It is therefore important to evaluate the market failures that hold back the optimally functioning of value chains that would improve the economic structure of the country.

4.3.1 Farming systems in the city

Small-scale farmers in Lusaka can be classified into four main groups; commercial, progressive, small-scale and resource-poor.

4.3.1.1 Garden typologies

Earlier studies (Jaeger and Huckabay, 1986) trying to assess and understand the trajectories of small farms in the city of Lusaka, identified agricultural activities and noticed approximate concentric circles around the urban centre, namely, "Household Gardens", and "Backyard Gardens" most of which occupy the central zone, while the semi-commercial and commercial type of agriculture is situated at the periphery of the city. In another study conducted in Lusaka, home gardens were found to be important contributors to incomes for poor households, producing an average of three months' income at the average worker level in 1992 (thus, 15,000 Zambian Kwachas) (Drescher, 1999). To this effect, "Households in both the low and high income groups (expenditure terciles) are engaged in gardening, but those that have a field are predominantly in the low income bracket" (Hichaambwa *et al.*, 2009:viii). However, the benefits derived from gardens in terms of income casts doubt on its sustainability. This raises concerns about assessing and identifying rewarding value chains that may offer ideal opportunities to improve farmers' quality of life.

4.3.1.2 The farm level

Hichaambwa notes the existence of three nodes at large farms where most tomato sold into the city comes from, constitutes a "market share of 45% by volume followed by medium farm areas (44%) and lastly small farm areas (12%)" (n.d.:3). Mweetwa (2004) also states that Lusaka has an estimated "100 commercial farms, over 1000 emergent and close to 1000

smallholder farms”. Of these farmers, those in sectors like floriculture, horticulture, coffee, and chicken are independent of state control (Wichern *et al.*, 1999).

4.3.2 Irrigation potential

Hambulo (2009:1) notes that small-scale farmers constitute “more than 80% of the national output”. These farmers are however constrained by things like a lack of irrigation: they have to almost always depend on “rain fed agriculture...their productivity is still poor and vulnerable to vagaries of nature”. Lusaka falls under what the Ministry of Agriculture has categorized as Region II (*Zone IIA*) – a region which receives rainfall between 800 and 1,000 millimetres annually (MACO, 2004). This can be a resource for irrigation. However, the significance of the rain harvest has not been exploited, neither have there been methods of increasing the capacity of small-scale farmers to obtain and utilise irrigation technology aimed at improving the quality of produce and ethical food. For that reason, it can be said small-scale farms are based on low input – low output production.

4.3.3 Profitability in the domestic market for small-scale farmers

Much is known about the export of horticulture, but very little is known about the domestic value chain. According to Tschirley (2007:4), “in Zambia, the domestic fresh produce system is 10-20 times larger than exports.” Horticulture is a crop with market potential and a source of high profitability that could offer the best prospects for poverty reduction. The Lusaka fresh vegetable market plays a very important role in trade within Lusaka, and to and from other parts of the country and even other countries in the region (AgWater Solutions, 2012). The only drawback is that, unlike in cotton and maize farming where farmers receive agricultural support, horticultural farmers must finance their input purchases and coordinate their own marketing. Quality and information on domestic horticulture are important prerequisites for entering the markets and obtaining premiums in the industry. In their study of Lusaka fresh produce, Chapoto *et al.* (2012:8) indicate that: “Price volatility coupled with product perishability make horticulture marketing risky, while high values make it lucrative.”

Currently, Lusaka city has four domestic markets, which represent crucial avenues for dietary habits: Luburma, City Market, the New Soweto market and Soweto. It is doubtful if these markets trigger farmers’ viability. Much of Chain stores also represent an avenue for income

growth considering agreements from authors that small-scale farmers are playing an important role in the domestic chain (Kasongo, 2010; Hichaambwa, 2011). According to van Tilburg and van Schalkwyk (2012:38) “Market prices embody a crucial signaling device directing the decisions of market participants.” Information flow is paramount for leafy vegetables. (See Hichaambwa & Tshirley, 2010). The greatest problem is finding information and to be accepted as a supplier.

4.4 Horticulture consumption in Lusaka

Demand is a proxy for the importance of fresh produce in urban areas. A study by AgWater Solutions in Zambia’s four big towns found that “vegetables rank third in the share of the urban households’ monthly food budget in all the sampled cities of Lusaka, Kitwe, Mansa and Kasama” (Hichaambwa, 2012). According to Romanik (2004:14), “as urbanization increases, and the urban demand pushes up prices for foods such as meat, fish, dairy, and vegetables, one would expect domestic producers to respond by increasing food production and shifting production patterns to accommodate urban diets.” Connecting poor vulnerable growers to markets is always a contentious issue in a liberalized economy (Minot & Hill, 2007:2; Siegel & Alwang, 2005). Understanding domestic market realities for vegetable production are critical not only for commercialization but also as the basis for competitiveness.

As other authors elsewhere have argued, the problem with small-scale farmers is not finding markets, but rather finding profitable markets (Minot & Hill, 2007). Consequently, most of these farmers have been turned into price takers rather than price setters (Havnevik *et al.*, 2007; Reardon & Berdegue, 2007; Nielsen, 2008)). However, there have been concerns that a large proportion of market transactions in Lusaka are taking place outside the national legal regulatory framework or in spaces where regulatory regimes are poorly implemented. (Tshirley & Hichaambwa, 2010; Hichaambwa & Tshirley, 2006:23, 4). For example, Soweto market has “no provision for drainage, refuse disposal, designated loading bays, and storage facilities” (AgWater Solutions, 2011). At the same time, some authors posit that lack of cash; price variability and other assets exclude these farmers from high value GVCs: “smallholder farmers ... find it much more difficult to manage this variability than will larger and better capitalized farmers” (Tshirley *et al.*, 2012:3). This suggests that an understanding of the

nature of value chains, with regards to how farmers are embedded to markets by identifying optimal areas of success, and how/why they have been successful or unsuccessful, is crucial. The question is whether farmers have the ability to meet the demands that the new urban market opportunities bring.

4.5 Disparities between small-scale and commercial farmers and how it impacts on competencies

Small-scale farmers are categorized into two: the first are those who grow commodity crops and the other are those who specialize in horticulture. According to Chapoto *et al.* (2012) commercial agricultural production for smallholders is influenced by “two pathways” – the “low road” and the “high road.” The low road is characterized by “low value output and low cash input costs.” The high road is characterized the farmers who grow low cost crops, such as cotton and maize and some vegetables that are “high value crops” but that have “high cash input requirements.” The latter trajectory or road also requires discipline in terms of cash management. It appears that Chapoto and his collaborators use the idioms, “high road” and “low road” to indicate the opportunities and constraints that the two categories of farmers find themselves, that is either less or more profitable opportunities. For poorly developed small-scale horticulture farmers reflects on the entire industry that also have repercussions on the country’s growth trajectories.

4.6 Chapter summary

This chapter has argued that the horticultural industry in Lusaka is potentially important sector for improving livelihoods of the poor. As the city’s population grows, it is also producing socio-economic ills. This means that it is important to improve the commercial transformation of small-scale horticultural farmers. Although vegetables circulate freely across the city of Lusaka, the overall trend is that the infrastructural and environmental development of the city’s informal markets is relatively low. However, most small-scale horticultural farmers trade in non-remunerative markets, such as informal markets. These markets in which they produce a range of undifferentiated fresh products may not spur productivity that secures income sustainability. Horticulture does not seem to be a significant income earner among small-scale farmers. Secondary literature indicates that domestic facilities for horticulture are

still below par. As such, new ways of operating have to be developed for these farmers if they are going to supply new market opportunities; and secure sustainable incomes from their farming activities.

CHAPTER FIVE: RESEARCH METHODOLOGY

5.0 Introduction

This chapter outlines the research methods used for the study, including questionnaire administration. The chapter also describes the case study area selected, the sample, sampling techniques, and the nature of data analysis completed. Finally, some of the limitations of the data collection process are presented.

5.1 Research design and methods

5.1.1 Research Design

The first basic choice to be made in designing any research study, according to Peil (1982:10), “involves organizing the collection and analysis of data to fulfill the purpose of research, to provide the information which is sought”. Yin (2003:19) describes research design as a blueprint or an action plan for getting from the initial research questions to the conclusions drawn to these questions. He notes “colloquially a research design is an action plan for getting from here to there, where ‘here’ may be defined as the initial set of questions to be answered and ‘there’ is some set of (conclusions) answers”. According to Durrheim (2003:34), research design is “a strategic framework for action that serves as a bridge between research questions and executions or implementation of the research”. In other words, it sequences data collection, data quality and the units of analysis (Kumar, 2005:84). In short, research design acts as a link between the theory and argument that informed the research and the actual data collected. In order to measure the extent to which horticulture was contributing to poverty reduction among small-scale farmers and the development trajectory of Zambia, this study used both qualitative and quantitative methods in collecting data. The research started by sequencing in a logical order how data would be collected.

There are various types of research designs based on the weighting of factors such as the nature of the study, the research problem, the field of research, and the objective of the study. These include “experimental research design” which aims to establish the cause-effect nature of categories between variables (Biscoe, 2003), and “correlational research design” which

assesses or tests related variables (Vogt & Johnson, 2011). The present study utilized a “mixed-methods approach” (Marsland *et al.*, 2000), which arguably provides a more complete picture of a phenomena and also increases the validity of the findings. According to Johnson and Onwuegbuzie (2004:17) the mixed-methods approach is “an attempt to legitimate the use of multiple approaches in answering research questions, rather than restricting or constraining researchers’ choices”.

5.1.2 Research Methods

The study used a field survey comprising multiple interviews with key informants. The approach followed to gather the data contained in this research is explained in the following steps:

5.1.2.1 Primary data

5.1.2.1.1 Data collection

The primary mode of data collection was through interviews with key informants. The interviews were normally one hour in duration and were based on the completion of a formal questionnaire. The interview process took place after the researcher introduced himself and communicated the purpose of the study. In all cases, it was the head of the household who answered the questionnaire.

The study’s primary research instrument was a farmer-specific questionnaire developed by the researcher in consultation with the supervising professor who assessed its content, quality and suitability before it was used in the field. Mostly, closed questions were used in order to obtain specific answers and to ensure uniformity during the data capturing process, thereby avoiding any data contradictions during analysis stage of the research.

A questionnaire (attached hereto as appendix 3) was used for reasons of seeking to elicit first-hand information from the respondents. The questionnaire was developed over a number of drafts and revisions before it could be administered. All the questionnaires were administered in English to all respondents except for cases where the key informant did not understand

English. In these cases, a translator was provided to interpret in the local language (Chinyanja). The questionnaire was structured to cover a list of questions as follows:

- i) *Farmer profile.* This section was designed to collect the particulars of the farmers, such as gender, marital status, education standard of the household head, size of farm (Ha), and area under cultivation (Ha);
- ii) *Market demands and Critical Success Factors*

According to Lowitt (2008:69),

Critical success factors (CSFs) are the factors which producers need to ‘supply’ in order to succeed in a given product segment market. These factors are readily grouped into two categories – order qualifying CSFs and order winning CSFs. Order qualifying CSFs are the price of entry into accessing a given market, i.e. if the producer fails to meet these standards they will be unable to participate in the market. Order winning CSFs are those factors that allow suppliers to not only access a market but to succeed in that market either by gaining market share or by selling at a premium price.

A radar chart performance assessment instrument was developed to identify specific patterns of statistical data and as a benchmark for comparative analysis for the markets. In this case, the first part elicited the farmers’ perception of their performance relative to perceived customer demand, and the second part evaluated the farmers’ abilities to meet performance expectations in terms of identified CSFs. This section formed the core of this research as it afforded the participants an opportunity for self-assessment in respect of how they met their customers’ requirements. This was aimed at gaining a sense of the functioning of small-scale farmers in the horticulture industry, and how effectively they compete in the market place.

- iii) *Income and asset development.* The aim here was to determine the extent to which small-scale farmers were earning an income from their horticulture production. Assets assessed included those for improvement of farm productivity (e.g. hand hoe, rake, plough, tractor, irrigation equipment such as treadle pumps and engine pumps) and those assets which can enhance market information and production methods (e.g. radio, van, mobile phone). An identification of assets accumulated such as television also provided an indication of the wealth accumulated by the farmers.

iv) *Institutional support.* This section aimed at identifying the nature of institutional support available to the farmers, including sources and types of micro-financing and/or credit from the government or any other source.

5.1.2.1.2 Sample size and sampling procedure

Sample size. The sample for the study was drawn from horticulture small-scale farmers in the city of Lusaka, Zambia. According to Denscombe (2007), sampling is the final stage in the research process before data collection, and is concerned with identifying the population within which the primary data collection is to take place. There are many factors that determine a sample, notably, homogeneity of the population, statistics to be applied, and time and money available (Churchill & Iacobucci, 2002). The sampling methodology utilised in this study is “typical case sampling” which “seeks those cases that are representative of the questions under study” (Kemper *et al.*, 2003:280). The farmers were selected on the basis of their growing horticulture products and their meeting of the criteria for smallness adopted in Chapter 1 of this dissertation, which defines smallness by constraints in capital, asset base, among other things.

Sampling procedure. There are two types of sampling: probability and non-probability sampling.¹⁰ In this study, an attempt was made to use the non-probability method of snowballing sampling. In this sampling technique, the researcher identifies a participant, who is then asked to assist in identifying his/her acquaintances to be recruited as potential participants. This was especially appropriate for this study in order to select the farmers from wide geographical sub-locations within Lusaka. None of the farmers were induced with any gift or promised a gift in an effort to have them participate. Of the 20 questionnaires administered, 19 were completed. One questionnaire was not completed because the respondent wanted to be paid for the completion of the survey. This partly completed questionnaire was withdrawn from the study.

¹⁰ For probability sampling, randomization that assures representativeness of the population is a feature of the selection process, rather than an assumption about the structure of the population, while in non-probability sampling, the population or the elements are chosen arbitrarily, without estimation of the sample being included in the research (see Patrick Dattalo, ‘Ethical Dilemmas in Sampling’. *Journal of Social Work Values and Ethics*, Vol. 7, No. 1 (2010).

5.1.2.1.3 Access to farmers

Access to the farmers was obtained through a ‘snowballing’ method via personal contacts established through horticultural associations and agencies such as Agribusiness in Sustainable Natural African Plant Products (ASNAPP) and the Fresh Produce Growers Association of Zambia (FREPEGA). The respondents were drawn from the following grower constituencies: Lusaka West, Kabangwe, Chilanga, Konga-Makeni, Ibex Hill, Bauleni, Barlastone Park, Linda Township and Mutumbi. These sites were selected to represent the cross-section of producers within Lusaka. Questionnaires were completed through face to face interviews in order to increase the quality of the responses through probing for more specific answers.

5.1.2.1.4 Ethics

Ethical clearance is an important factor in social research. This is necessary in order to minimize the negative effects of the research on either the participants involved or the community in which the research is conducted. Ethical clearance for this study was obtained from the University of KwaZulu-Natal Ethics Research Sub-Committee of the Faculty of Humanities, Development and Social Sciences. Ethical clearance from participants was obtained via an Informed Consent form (see Appendix 1). Participants all received an information letter beforehand (see Appendix 2) which contained the research proposal and the Informed Consent form. Before the interview, all participants were briefed about the purpose of the research and assured of their rights to privacy, autonomy and to accurate information and feedback on the outcomes and findings of the study. Before the interviews however all respondents were assured of anonymity. They were informed that interviews would be audio recorded and transcribed, but assured of confidentiality in the form of pseudonyms in the text and that all transcriptions would be kept in a controlled access location. After the briefing, participants signed the consent form which included consent for interviews to be audio recorded. All 19 respondents made it clear they wanted anonymity; their identities are therefore presented through the use of pseudo names.

5.1.2.1.5 Data analysis

The qualitative data consisted of interviews which were recorded then transcribed by the researcher. The data collected were organized into selected themes. The common themes that emerged were then analyzed quantitatively using Microsoft Excel software and SPSS (version 19.0). Descriptive measures such as frequencies, percentages and mean values were analysed. Graphical representations were employed to further illuminate the results.

5.1.2.2 Secondary sources

Secondary data is data which has already been collected and analysed for other purposes. Obtaining secondary data in practice is easy compared to primary data (Descombe, 2007). For this dissertation, the theoretical and conceptual parts of the study relied on reviewing horticulture literature generally, and that which focussed on Zambia in particular. Emphasis was placed on literature from the last ten years, although not exclusively so. Literature exploring the links between horticulture and poverty were focused on Google scholar was used for academic books, journals, articles, consultancy reports and conference sources. In particular, literature relating to the value chain between production and the market was significant considering this study aimed to ascertain how, and through which value chain conduits are sustainable incomes generated. A thorough literature review is necessary for any researcher to gain a better understanding of the subject and so have a good foundation on which to collect, analyze and interpret primary data. Figure 5 visualizes the different layers of the methodology followed in this study.



Figure 5: Model of research process

Source: Adopted from United Nations Statistical Institute for Asia and Pacific (n.d.)

5.2 Limitations

There are two main limitations to the methodology employed. The first relates to the dual role of research director and researcher – needing to be aware of the bigger picture but at the same time being immersed in the small picture of individual farmers’ lives and livelihood by virtue of conducting all the interviews and doing all the transcriptions. Personal bias and partisan affiliation may have an impact on the writing of the thesis. Secondly, this study was conducted on a small population sample of 19 small-scale farmers located in one area, namely, Lusaka. Therefore, these findings are limited to that sample group and cannot be generalized to the whole population of more than a thousand small-scale farmers in Lusaka, Zambia. Further, wet weather inhibited the extent to which data could be effectively and quickly collected during the course of the field work. This was compounded by the researcher’s dependence on public transport.

5.3 Reliability and validity

Reliability and validity are relevant to the accuracy of findings. While reliability relates to matters of consistency, validity is to do with “whether the research truly measures that which it was intended to measure or how truthful the research results are. Reliability means that the method is good enough to generate the same conclusions if it is done under similar circumstances” (Gustafsson, 2006:7). Generally speaking, validity asks the question: “does the research instrument allow you to hit ‘the bull’s eye’ of your research object?” (Joppe, 2000), and is a measure of the extent to which the findings of any particular research study would hold true if the study was replicated in a similar context. To ensure the rigour of this research, software such as Microsoft Excel and SPSS were used to analyze the data collected. Validity within and across studies can be examined from two dimensions: *internal* and *external* validity. Internal validity has to do with the consistency or accuracy of any variable being observed, whereas external validity ascertains how accurate and representative the data is or the conclusions are that are being drawn from the data. According to Cook and Campbell (1979: 37), internal validity “refers to the approximate validity with which we infer that a relationship between two variables is causal or that the absence of a relationship implies the absence of cause,” whereas external validity, according to Merrigan and Huston (2004:62),

concerns “the accuracy of applying conclusions from one study to another setting or to other people.”

In this study, reliability and validity were enhanced by gathering from respondents’ demographic data such as market proximity, market institutional arrangements and difficulties involved in market exchange, and to then code the interview material to identify major themes. Statistical analyses applied, such as the Likert scoring method, provided insight into the perceptions of the scale-scale farmers in horticulture. The research methodology selected, i.e., the mixed-method approach, contributed to the validity and accuracy of the study, because it suits studies like this which require a flexible, exploratory approach allowing for in-depth interactions and subjectivism.

CHAPTER SIX: FIELDWORK FINDINGS

6.0 Introduction

This chapter endeavours to present the research findings from the extensive field work conducted. The research categorised factors that facilitate or impede small-scale farmers' capacity to improve their livelihoods. Thus, the factors have been grouped in three dimensions: (1) market demands and Critical Success Factors (CSFs), (2) income and asset development and (3) institutions-related factors. These dimensions provide a broader understanding of the functioning of the (small-scale farming) horticultural subsector in Lusaka, Zambia. The chapter strives to answer the following questions: i) What are the main critical success factors of horticulture producers? ii) How is the horticultural industry segmented? iii) To what degree does the horticultural sector generate income, asset accumulation, and improve farmer livelihoods? iv) Finally, what role do institutions play in supporting the horticulture industry?

6.1 Profile of sampled farmers

The interview population comprised 17 males and 2 females, from 19 different farming plots and representing various households supplying vegetable produce in Lusaka. The survey instrument used investigated household (HH) size, gender of the HH head, marital status of the HH head, and educational level of the HH, as well as landholding and land cultivated. It also examined sources of income (horticulture farming, business, pension, etc.); duration in the industry; and whether or not mixed crop production was taking place. The analysis included monthly income and how it was linked to duration in industry, while average income per household member was also analysed. Age was not however included in the analysis as it was believed to have little significance on production and hence the survey results. The demographic characteristics shown in this study represent the situation of the households at the time the survey was conducted (December 2012 – February 2013).

6.1.1 Gender of household head

Male headed households dominate the population sample at 89.5 percent ($n=17$), against female headed household of 10.5 percent ($n=2$). This implies that males dominate horticulture production and is consistent with other research findings (e.g. Dolan, 2001; Maertens & Swinnen, 2009), which determined that males are most likely to be the active participants in horticulture production.

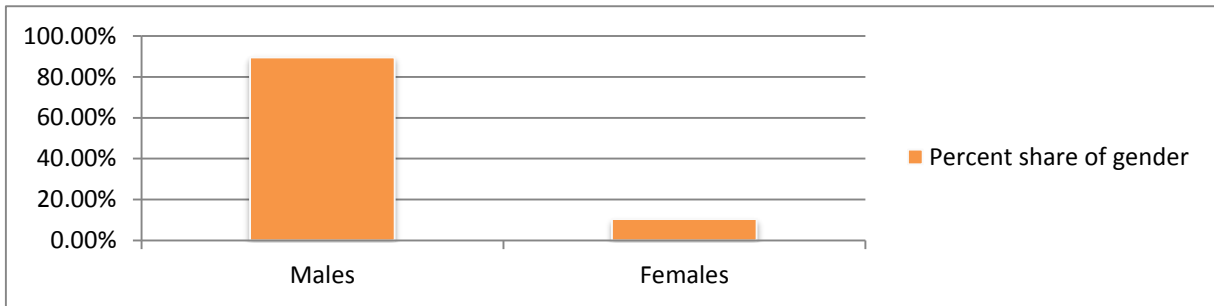


Figure 6: Breakdown of gender for field participants

6.1.2 Marital status of household head

As can be seen in figure 7 below, 69 percent ($n= 17$) of respondents were married, while 26 percent ($n=2$) were single and the balance of 5 percent widowed. None of the respondents indicated that they were divorced.

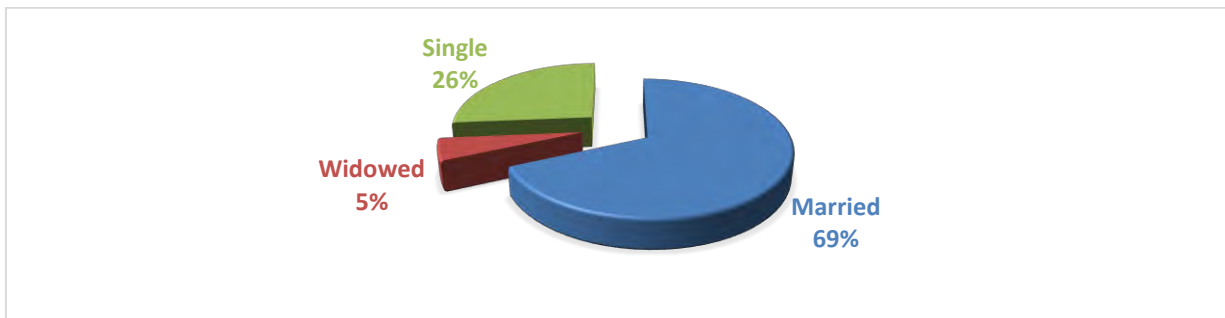


Figure 7: Marital status of hh head

6.1.3 Educational level of household head

The results displayed in Figure 8 shows that of the 19 respondents only 8 household heads had a tertiary education (42.1 percent), followed by 6 respondents who had attained less than Grade 12 (31.5 percent). A total of 5 of respondents (26.3 percent) had a grade 12 level of education.

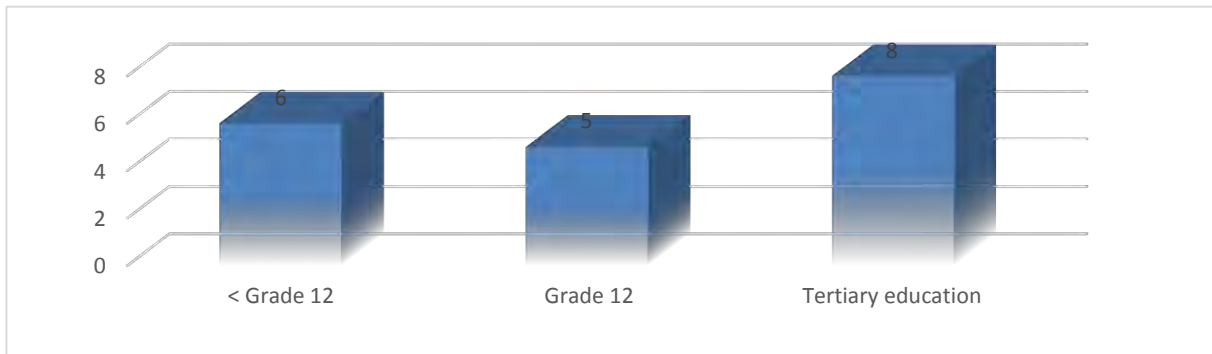


Figure 8: Proportion of educational standards of head of hh

6.1.4 Composition of household

A graphic representation of the size of the surveyed households is presented in Figure 9.

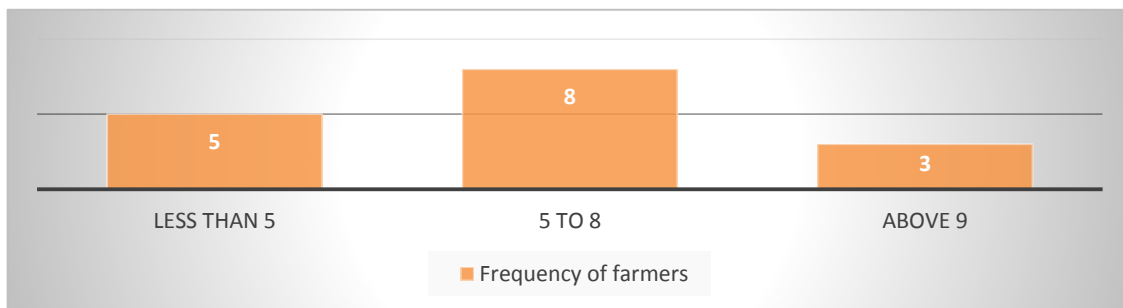


Figure 9: Proportional size of hh for surveyed farmers

The figure reveals that farmers with a household size of 5 to 8 constituted 42.1 percent of the survey population. Farmers with less than 5 family members constituted a further 33.3 percent ($n=5$) of the survey population, while only 3 households had 9 or more members (15.7 percent

of the survey population). HH size included parents and children, as well as extended family members who lived within the same house.

6.1.5 Land size distribution

For the purpose of this dissertation, land size explains the sum of land owned by the surveyed farmers and being used for horticulture farming. The landholding of the farmers is summarized in Figure 10.

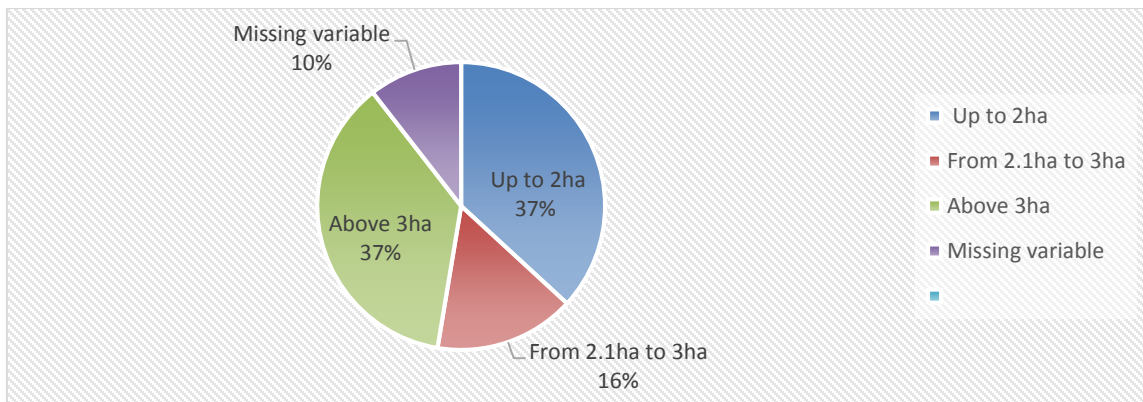


Figure 10: Breakdown of farm typologies by size owned (ha)

Figure 10 above indicates that 37 percent of households had farms greater than 3 hectares (ha) in size, while an equal number had 2 ha or less ($n=7$ farmers each). It was also found that a further 16 percent ($n=3$ farmers) had landholdings ranging from 2.1ha to 3ha. Two farmers failed to provide the extent of their landholdings.

6.1.6 Area under cultivation

As highlighted in Table 3 below, the mean land holding size of the surveyed small-scale farmers was found to be 2.2107 ha compared with the Median of 2.000. The Standard Deviation for the area under cultivation was however large at 1.55895 ha. This is further borne out by the range of farm sizes included in the survey population: 0.4ha to 7.0ha.

Table 3: Area under cultivation

Valid	19
Missing	0
Mean	2.2107
Median	2.0000
Std. Deviation	1.55985
Range	6.60
Minimum	.40
Maximum	7.00

6.1.7 Years of Production

This sub-section is premised on understanding that the longer the producers spent in vegetables production, the better the skills and learning in horticulture production and so the better the returns/incomes earned. It is envisaged that years of production experience are crucial, impacting significantly on the productive efficiency of farmers, and hence incomes. This survey categorized the respondents into three categories: respondents with less than five years' experience; those with greater than five years but less than ten years and those with ten years or above. The results are shown on Figure 11.

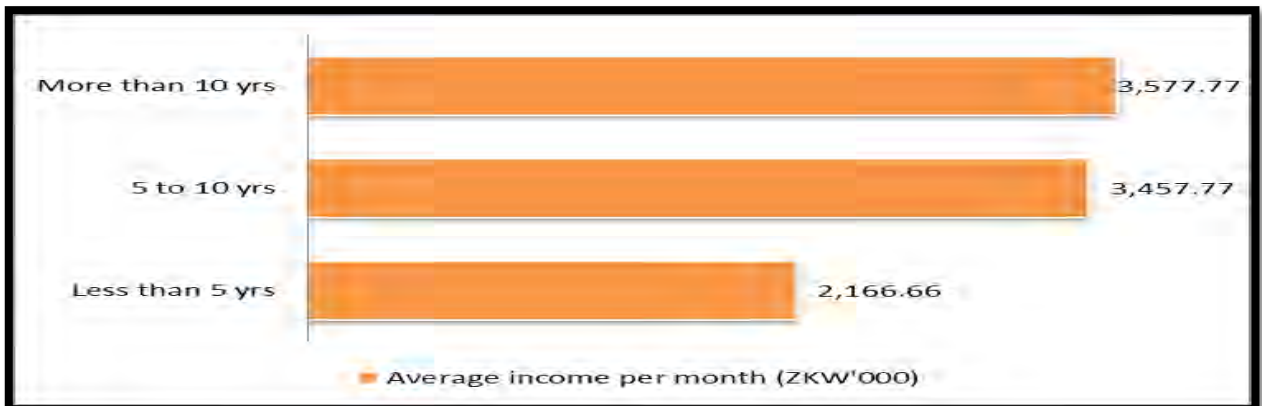


Figure 11: Breakdown of farmers according to years of production and monthly

It emerged that farmers with more than 10 years of farming experience had slightly bigger incomes (ZKW 3,577.77), while those with 5 to 10 years followed closely at ZKW 3,457.77. Those with less than 5 years served the least revenue with an average income of only ZKW 2,166.66.

6.2 Horticulture Critical Success Factors (CSFs) and market demands

This section examines the factors which influence the degree of commercialisation and market participation of small-scale farmers in the study area, and explores avenues to increase market participation by them, including relevant policy options.

6.2.1 Major customers

Figure 12 presents a summary of the responses of the sampled farmers on how their market segment is disaggregated.

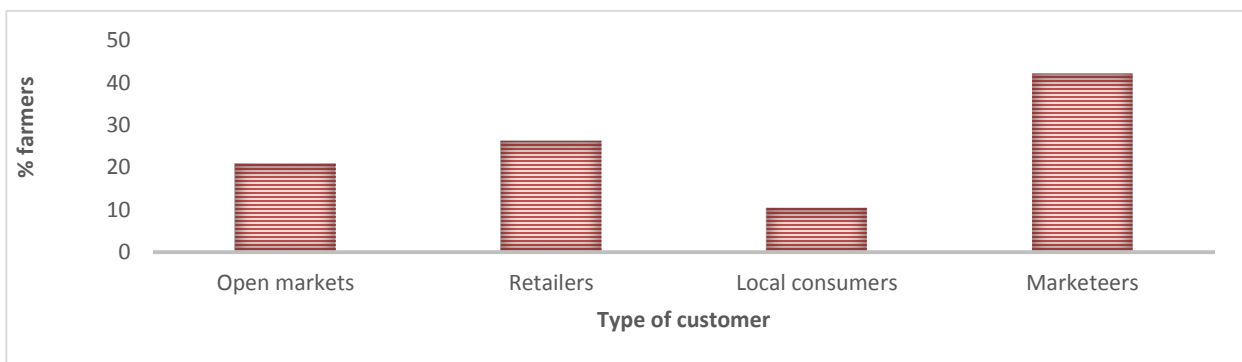


Figure 12: Proportion of farmers participating in each market channel

A significant proportion (constituting 42.1 percent, $n=8$) of the 19 sampled farmers indicated that their most common distribution network is the marketeers, while the retailers were second in importance at 26.3 percent ($n=5$), and the open markets the third most important distribution network (21.0 percent, $n=4$). Local consumers were the least important market channel for farmers, constituting about 10.5 percent ($n=2$) of the total.

When asked the reasons for choosing the distribution network of their most important customers, respondents' reasons are depicted in Figure 13.

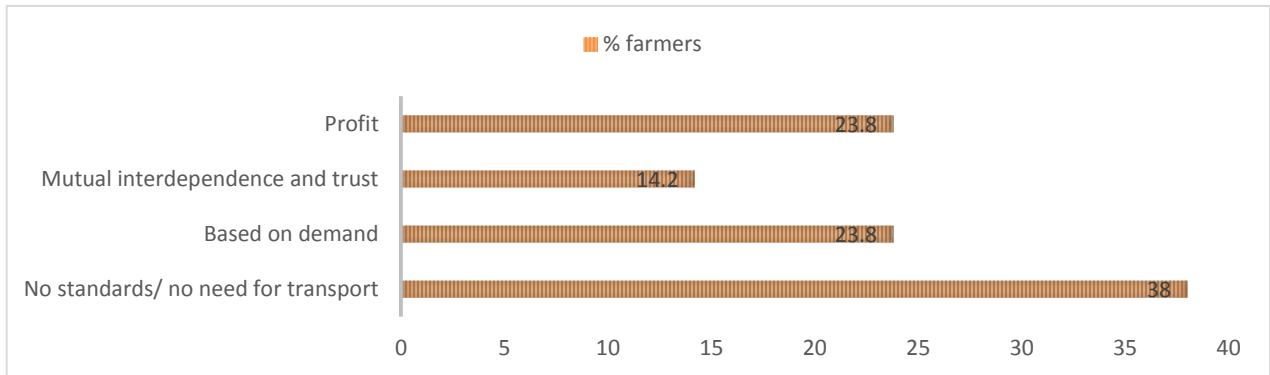


Figure 13: Reasons for selecting the market channel (%)

As revealed in Figure 13, the most common reason for small-scale farmers selecting their market channel is because there were no standards (38.0 percent). Two reasons accounted for the second most common response, namely, that respondents selected the market based on market demand and for reasons of profit (23.8 percent each). The lowest was those who selected their distribution network based on trust and mutual interdependence (14.2 percent).

6.2.2 Critical success factors (CSFs)

To better understand the critical success factors shaping the markets into which the surveyed farmers supply, a survey using a likert-scale was used with a scoring scale of 1 to 10 where 1 meant the CSF was 'not important' and 10 that the CSF was 'very important'. Each survey respondent was asked to identify and rank the factors they perceived as critical for success in terms of meeting the demands of customers. At the same time they were asked a set of 'mirror' questions to rate their own performance in relation to meeting the customers' demands. The reason for asking questions regarding customers' demands was to attempt to rate the degree of importance of each individual CSF.

Similarly, questions regarding the respondents' performance were aimed at identifying the extent to which respondents believed they were meeting market requirements. This helps to discover differences in perception and identify problems that need to be tackled by the

farmers. To this effect, 10 CSFs were explored: Quality, Price, Packaging, Financial stability, Delivery reliability, Product innovation, Environmental practices¹¹, Delivery speed¹², Ethical farming practices¹³, and Location of farm. Figure 14 below shows the scores in terms of both perceived CSF performance levels and perceptions of customer demand.

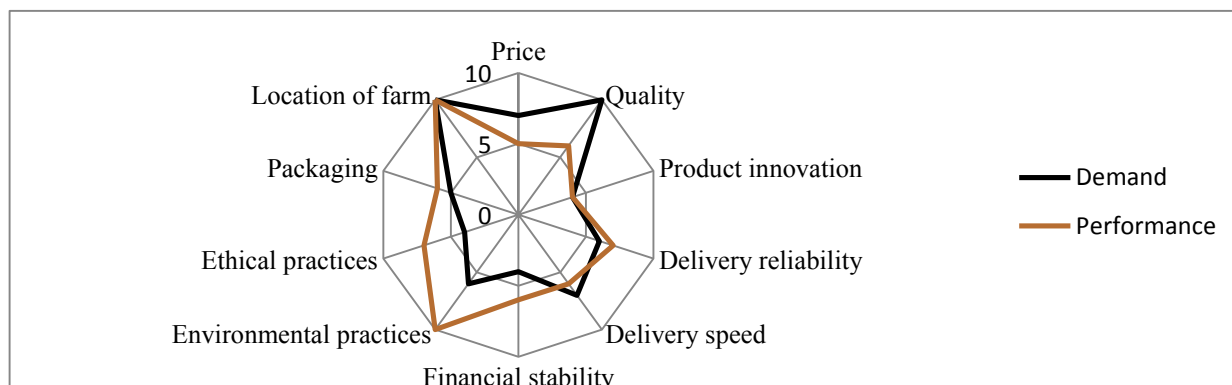


Figure 14: Aggregated farmer perceptions of customer demand and self-performance

6.2.2.1 Aggregated CSF findings

The aggregated CSFs findings, as summarised in Figure 14 above, are analysed in this section. The analysis is based on the two dimensions of the CSF challenge explored: customer demand versus farmer performance.

6.2.2.1.1 Customer demand

The findings in Figure 14 reveal that the demands customers place on farmers are generally low with respect to ethical practices, environmental practices, financial stability and product innovation. The demands are also low for packaging and delivery reliability. The biggest challenges related to meeting customer quality demands (where the farmers gave themselves very poor comparative performance ratings), followed by price and delivery speed.

¹¹ 'Environmental practices' here implies the care and tight controls during cultivation process of fresh produce aimed at ensuring public trust and farmers' integrity regarding use of inputs, such as fertilizer and pesticides to ensure safety standards. (See SNV, 2012. *The Beans Value Chain in Kenya*).

¹² Delivery speed here is understood to mean the extent to which fresh produce can be delivered by the farmers to their customers within a required timeframe.

¹³ Ethical practices involve the efforts made by the growers to avail safe, clean and presentable produce to consumers.

6.2.2.1.2 Performance

Figure 14 reveals there are a number of CSFs in which the respondents feel they are mostly satisfying their customers' requirements, or even exceeding them. The farmers perceive themselves as either meeting or even surpassing their customers in environmental practices and location requirements. Similarly, in relation to delivery reliability and ethical practices, the farmers perceive themselves as surpassing the customers' demands, and in the latter case by a large margin. However, the farmers report major performance gaps for the key criterion of price, as well as in relation to customer quality demands. In some criteria such as that of financial stability and ethical practices (both of which scored an average of only 4 on the rating scale) it is encouraging to note that the farmers perceive themselves performing above their customers' demands.

The perception scores suggest that the respondents are treading a downward trajectory with constant pressure on their financial stability and sustainability. In many respects, the respondents' low rating of certain customer requirements highlights the nature of the markets they are feeding into, as innovation, delivery reliability, packaging, and environmental practices are critical requirements in developed economy horticulture markets or in remunerative domestic value chains. This analysis seems to indicate that most small-scale horticulture farmers are still locked at the low end of value chains. Given this possibility, it is important to analyse the type of customers supplied by the farmers. The types of markets supplied are summarised in Table 4 below, which also indicates the primary reasons farmers serve the markets they do.

Table 4: Most important markets served by surveyed farmers, and factors influencing their market selection

Market type	Frequency	Factors influencing farmers' choice of current markets			
		No standards	Based on market demands	Trust	Motivated by profit
Open markets	4	0	3	1	0
Retailers	5	0	0	0	5
Local consumers	2	0	0	2	0
Marketeers	8	5	0	3	0

Source: Own calculations based on the different market types identified.

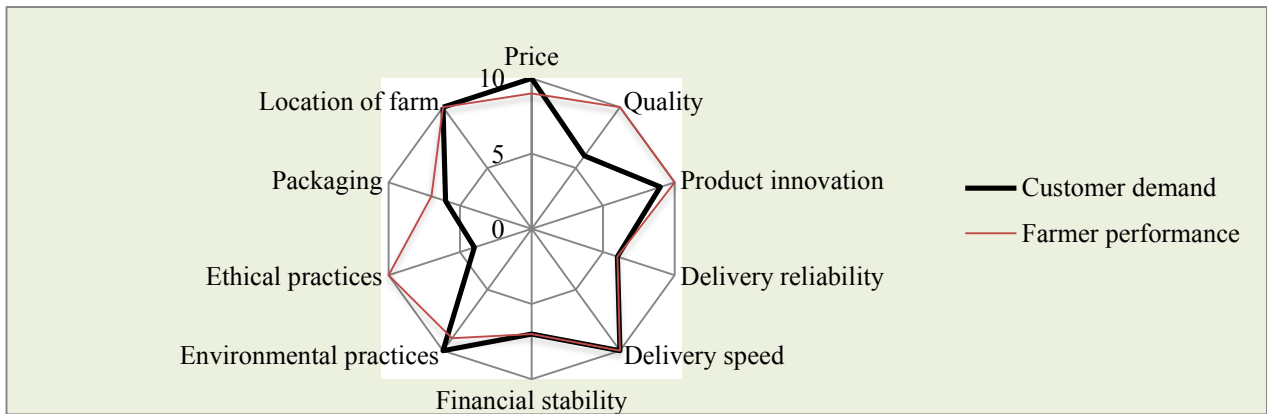
The findings indicate that eight farmers supplied marketeers as their primary market conduit. Of these eight, five farmers indicated that the main reason for supplying this market was because there is a lack of demand for standards, while three indicated trust as their main reason. The five farmers who supplied retailers indicated the profit motive as their main reason. Of the four farmers supplying open markets, three offered market demands as the reason for supplying this market type, while only one indicated trust as the main reason. Local consumers represented the least important market niche, comprising two farmers. Both of these indicated trust as their main reason for supplying local consumers.

The results shown in Table 4 have implications for the small-scale farmers. Traditional market outlets clearly provide market options for small-scale farmers who are excluded from more profitable market avenues. At the same time, the marketeers offer valued services to a broad range of consumers and their dominance among small-scale farmers is clear. The ease of entry in supplying open markets explains the inability of small-scale farmers to accrue sustainable incomes. It is noteworthy that farmers, who supplied retail markets, cite profits as their main reason. This implies that the entry requirements to retailers may in themselves act as barriers to some small-scale farmers. From a supply perspective, these challenges call for interaction of a number of coping strategies and policies to allow as many small-scale farmers as possible to harness this rewarding market.

The above results suggest that the surveyed farmers face two challenges. One is meeting base customer requirements relating to quality and price. The second is meeting retailer specific demands, insofar as this market segment appears the most attractive to farmers. This means that these farmers will need to define their marketing approach. However, their ability to produce quality products in the volumes demanded by retailers may be difficult for many of these farmers. This becomes particularly apparent when analyzing the CSFs of the individual market types – as identified by the farmers.

6.2.2.2 Marketeer CSFs

This sub-section rates the CSFs of the marketeers as identified by the surveyed farmers. Figure 15 summarises the findings.



Source: Own calculations for Likert scale results from the questionnaire administered.

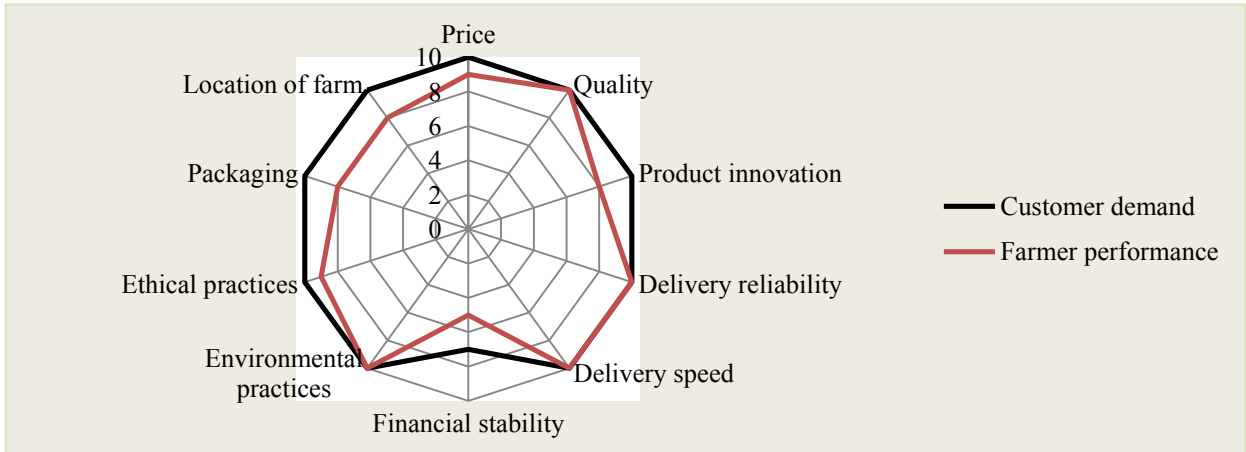
Figure 15: Marketeer CSFs

As can be gauged from Figure 15 above, the farmers consider themselves as significantly out-performing the demands of their customers in relation to their quality and ethical practices, and marginally in relation to packaging. The farmer self-assessments show performance gaps in relation to price and environmental practices, even though the gaps are low, while the farmers believe they are matching customer demands in respect of locational requirements, financial stability, delivery reliability and speed of delivery.

When asked to comment on the nature of relationships in this market segment, this study established the importance of word of mouth among respondents. One farmer indicated: “a verbal kind of arrangement based on mutual trust”. Another farmer stated that, “they always call me before coming and I advise them on what they can find”. Another farmer noted that “[I maintain my relationships through] informal relationships. They phone me to find out if the produce is ready, and when it is, they come”. Similar sentiments were echoed by four other farmers. During the survey it emerged that proximity drew local consumers to buy from the surveyed farmers in this market segment.

6.2.2.3 Retailers CSFs

Figure 16 below, highlights the CSFs of the retail market, as identified by the surveyed farmers.



Source: Likert scale results from the questionnaire administered.

Figure 16: Respondents' perceptions of Retailers' demands vs. rating of own performance

As revealed in Figure 16, the respondents perceived themselves as meeting their customers' most important performance criteria of environmental practices, on-time deliveries, delivery reliability and quality. However, the chart shows that their biggest perceived challenge in this market segment is meeting packaging, location, product innovation and financial stability requirements. Although the respondents generally perceived themselves to be performing strongly across most criteria, the high absolute levels of customer demand (ratings close to, or at 10) reveal how challenging it is to supply into this market.

6.2.2.4 Open market CSFs

This sub-section presents CSF results for open market customers.

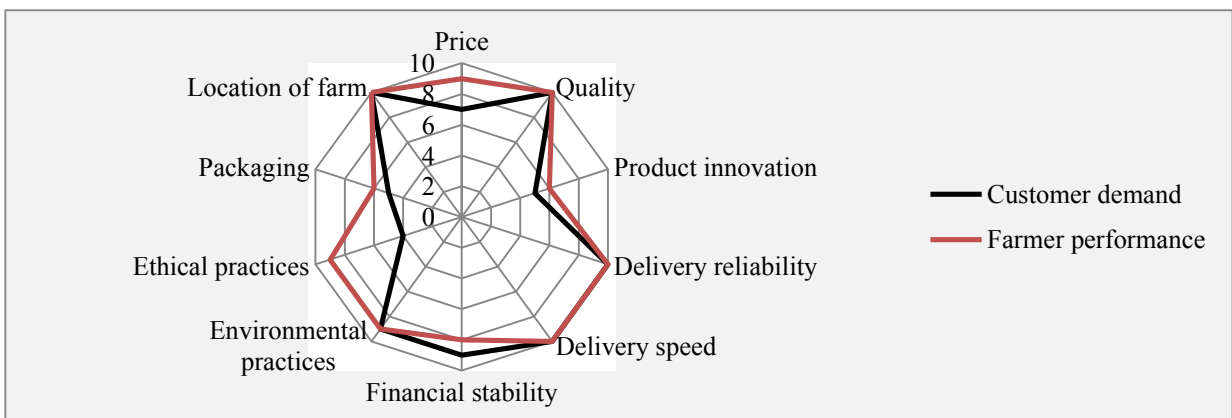


Figure 17: Open market CSFs as perceived by respondents

Figure 17 illustrates that the farmers perceive themselves to be performing well in respect of their customer’s location, quality, delivery reliability, delivery speed and environmental practices requirements. The single exception is financial stability, where the farmers report performance levels below that of customer requirements, albeit by only a small margin. This positive self-assessment is perhaps unsurprising considering that the farmers were feeding into open markets, where demands are not highly pronounced.

6.2.2.4 Local consumers CSFs

The final market-type analysed in respect of CSFs is local consumers with Figure 18 illustrating the self-ratings of the farmers in this chain.

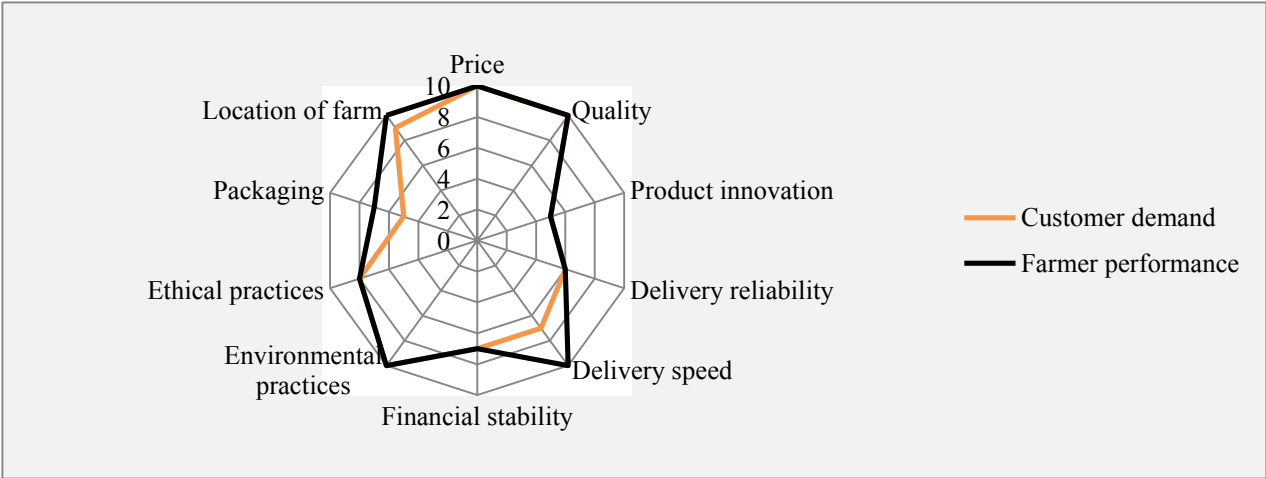


Figure 18: Local consumers CSFs as perceived by respondents

As per the open market findings, the chart shows clearly that the farmers generally perceive themselves to be meeting many of their local customers’ perceived demands, or even surpassing them. In the most important performance criteria of price, location, quality, and delivery speed, the farmers report that they are meeting or even exceeding their local customers’ perceived demands.

6.2.2.4 Summary of major CSF findings by market type

Table 5 below summarises the ramifications given above, and the gaps in the perceptions of the respondents’ performance relative to their customers’ perceived demands, with bullet points revealing the key gaps in various value chains in which they participate.

Table 5: Summary of Gaps according to the importance ratings given to them by respondents in terms of their customer requirements relative to market types:

Ranking of gaps of various criteria relative to each market	Marketeers	Retailers	Open market	Local consumers
1	<ul style="list-style-type: none"> • Price • Environmental practices 	<ul style="list-style-type: none"> • Packaging • Product innovation 	<ul style="list-style-type: none"> • Financial stability 	N/A
2	N/A	<ul style="list-style-type: none"> • Price • Ethical practices 	N/A	N/A
3	N/A	<ul style="list-style-type: none"> • Financial stability 	N/A	N/A
4	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A

Source: Adapted from spider graph analyses above

Table 5 illustrates that the most notable performance gaps in the markets supplied relate to the retail market segment, followed by marketeers, then open markets and lastly, undemanding local consumers. As illustrated in the table, there are marked dissimilarities and gaps between customer demands relative to the surveyed farmers' perceived performance in each of the markets served. With the exception of retailers, few gaps were noted for any of the criteria explored. The retailer findings reveal gaps that are different from those seen in the three other markets analysed in at least two important ways. First, it can be noted that the retailers place high importance on price, environmental practices, quality, product innovation, delivery reliability, delivery speed, ethical practices and packaging. This assessment suggests that meeting these factors is a critical requirement for farmers supplying retailers. However, the high demands of the retailer market have consequences for farmers insofar as they act as barriers to entry for many small-scale farmers. This implies the need for upgrading, which can only be achieved through institutional support and farmer investments.

Second, there are negligible demands or no big noticeable gaps for CSFs relating to open markets, marketeers and local consumers. This finding provides insight into the extent to which income generation and poverty alleviation can take place. This gap analysis finding suggests that the farmers find it difficult to know which performance dimensions to improve upon in these three markets as they exhibit general satisfaction with low performance levels, which affects the marketability of the products and consequently impacts on their incomes.

Therefore, producers aspiring to gain leadership in the retail value chain need to better align themselves with market needs and devise strategies that meet demanding consumer dynamics.

6.2.3 Aggregated analysis of major CSFs differentiated by market type

From the above results, it is clear that there are different CSFs across each of the four customer types (i.e. retailers, local consumers, marketeers, and open markets). In view of the above realities, two major differences in terms of demand and performance for each of the four customer types were noted: 1) there was limited customer demand, and therefore limited effort made to produce higher value products for marketeers, open markets and local consumers. This implies that the products reach these markets in a largely undifferentiated form, which also inhibits proper positioning in the value chains and ultimately the remuneration earned by farmers; 2) for retailers, success for farmers depends on meeting customer demand specificities (as was seen in Figure 16 and Table 5) of quality, consistency, environmental practices, packaging and optimization of delivery schedules, among other expectations. This suggests that there is valuable demand for product differentiation in this market channel.

However, it emerged during the course of the field work that the small-scale farmers found it much easier to supply open market, marketeers and local consumers because of factors relating to strong relationships, which acts as a form of social capital, as well as a source of easy cash when needed. Most farmers indicated the importance of credit from customers as a critical resource: one farmer stated that “the marketeers [are the most common] because they come to camp and they help me have quick money when I need it”. Another farmer was of the view that marketeers are the most common market “because of living in the same locality”. Another farmer indicated that “sometimes we deliver to the market and sometimes they come. It is the biggest market and they pay on time”. On a similar point, the significance attached to social capital was echoed by most farmers indicating it is the means to obtain credit facilities during times of financial need. As one farmer rightly put it that: “we have maintained our relationships in that sometimes when I don’t have money to buy fertilizer, for example, these marketeers loan me”. This suggests that the choice to serve the lower segment of markets by the farmers in this survey often depends on their ability to secure lines of credit from their customers.

The above findings are very interesting in that they tell us that before choosing a marketing channel, small-farmers tend to first consider the costs associated with transportation, proximity, standards, profit margins, levels of trust with customers among other things. They also evaluate conditions of delivery, and if they will or will not incur marketing costs. However, their choice of supplying some markets over others is often derived from the fact that they face difficulties in accessing potentially more rewarding markets.

6.3 Income and asset development

This section discusses issues relating to the third objective of the dissertation, which is to explore the degree to which the horticultural sector generates income for farmers and supports their accumulation of assets, thereby improving livelihoods. There is generally a clear relationship between income and asset development, as household income provides the basis for acquiring assets that then enable more effective farming, which then supports further income generation, and further asset accumulation, etc. In addition, household income generation and associated assets owned ultimately determines the extent to which HHs benefit from participation in the horticulture value chain; and ultimately whether they live above or below the poverty line.

6.3.1 Analysis related to farmers’ earnings

The researcher first sought to determine whether the source of income for the small-scale farmers surveyed lay in producing horticulture alone or on a diverse portfolio of non-horticulture activities. The farmers’ responses regarding their main sources of income are summarised in Figure 19 below.

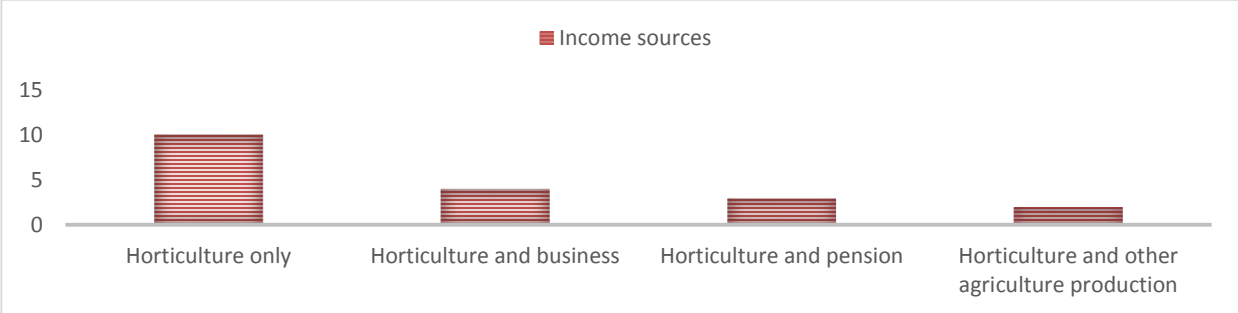


Figure 19: Number of surveyed farmers in horticulture relative to other means of production

It was established that of the 19 respondents, 10 (52.6 percent) are entirely dependent on ‘horticulture’ farming for their income, while only four (21.1 percent) complement their primary source of income (i.e. horticulture farming) with non-farming related incomes. Of the remaining five farmers, three (15.7 percent) were supplementing their horticulture income with pensions, while two respondents, representing 10.5 percent of respondents, cited horticulture and other production (such as other crops and poultry production as their main activity and source of income). It was however noted over the course of the interviewing process that those farmers who earned incomes from mixed crops and other additional non-farm activities relied mainly on horticulture for their income.

6.3.2 Income distribution of farmers

This subsection seeks to analyse the net income of respondents at the time of the field work. The computed results of the households per family member are summarised below in Table 6.

Table 6: Horticulture per capita monthly income of the surveyed farmers

Educational level of head of HH	Average size of HH	Monthly income (ZKW'000)	Per capita income (ZKW/day)
Tertiary	7 members	4,257	19.19 (US \$3.72)
Grade 12	4.6 members	1,240	8.86 (US \$1.65)
<Grade 12/no ed.	9.2 members	4,600	16.44 (US \$3.06)

*Note at the time of the survey USD 1=Zambian Kwacha 5.36

Source: own calculations

As shown in Table 6, there was a marked variation in the per capita income of the surveyed farmers. The highest per capita income earned was for HH where the head had a tertiary education. Based on their average family size of seven members, the HH’s per capita income was ZKW 19.99 (\$3.72), followed by HHs where the heads had no form of education or with less than Grade 12. These earned ZKW 16.44 (\$3.06), but on average had higher dependency ratios of family members, consisting of 9.2 members per HH. Heads of HH that had a Grade 12 education had the least per capita income averaging ZKW 8.86 (\$ 1.65) and also fewer family members averaging 4.6 living in the HH unit.

6.3.2.1 Contribution of horticulture to farmers' livelihood

The surveyed farmers were asked whether horticulture income allowed them to pay for their children's education, and also if the respondents owned a savings account or had an insurance policy. The summary of responses is shown in Table 7 below.

Table 7: Benefits derived from horticulture farming

Proportion of respondents who can send children to school, those who cannot and those who sometimes send children to school				Proportion of those who own a savings account against those who do not		
<i>Those who can</i>	<i>Those who cannot</i>	<i>Those who sometimes</i>	<i>Total proportion</i>	<i>Those who own</i>	<i>Those who do not own</i>	<i>Total proportion</i>
79 %	11 %	11 %	100 %	79 %	21 %	100 %

As highlighted, the proportion of respondents who send their children to school resulting from horticulture farming is bigger (79 percent) than those who indicated 'sometimes' (11 percent) and 'cannot pay' (11 percent) respectively. A full 79 percent of respondents also own a savings account compared to only 21 percent, who indicated they did not own a savings account.

6.3.2.2 Reason for ability to pay for children's education

When asked about the reasons for their ability to pay, most of the study participants drew attention to the opportunities horticulture provides. For example, one farmer indicated how: "we have a steady income (weekly) making it possible to save for the school going children". Another farmer indicated in no uncertain terms that: "without the income from horticulture, it would be very difficult to meet these needs. Nonetheless, not all is rosy. Of those whose response to the question was 'sometimes', one farmer was wary of: "when competition gets stiff our income comes low – as such, you just retrieve your capital". Therefore, it may be concluded that, amongst most respondents, horticulture makes a positive contribution towards reducing non-income poverty by paying for children's education, even though it depends on how high the income is. That is, the higher the sales they make the greater is their ability to

meet their children’s education. Table 8 below explores the relationships between the market segments and the ability of farmers to pay for their children’s education.

Table 8: Responses on ability to pay for children's education by types of markets

<i>Market type</i>	<i>Number of those able to pay for childrens' education</i>			<i>Percent share of farmers able</i>
	<i>Yes</i>	<i>Sometimes</i>	<i>No</i>	<i>% Yes</i>
<i>Marketeers</i>	5	2	1	26.3
<i>Retailers</i>	5	0	1	26.3
<i>Open markets</i>	2	1	0	10.5
<i>Local consumers</i>	1	1	0	5.3

The analyses revealed that of the nineteen overall respondents who participated in this study, thirteen participants in all the four market types said they were able to pay, underscoring stable incomes from horticulture as their common answer. When the responses were disaggregated by market types, various answers could be shown. It was found of the 8 respondents who supplied marketeers, 5 were able to pay for their children’s education, with the reasons being that horticulture is rewarding, while 2 said ‘sometimes’ and only 1 farmer was unable to take his children to school. For those supplying the retailers, 5 were able to pay, one was not able and none indicated sometimes. For open markets, the results show that 2 farmers were able to pay as compared to 1 respondent who indicated sometimes and none who said no. When supplying local consumers, 1 respondent indicated an ability to pay, while another 1 said sometimes, and none gave the answer no.

6.3.3 The effects of horticulture vs. other crops on small-scale farmers

The respondents were asked to voice their opinion on whether the farming of other crops would translate into better incomes than currently. The results are summarised in Figure 20. The majority (n=15) in this survey disagree that they are unlikely to shift versus 4 who agreed they would. As shown, most producers of horticulture are unlikely to shift into traditional food crops such as maize, millet or any other crop.

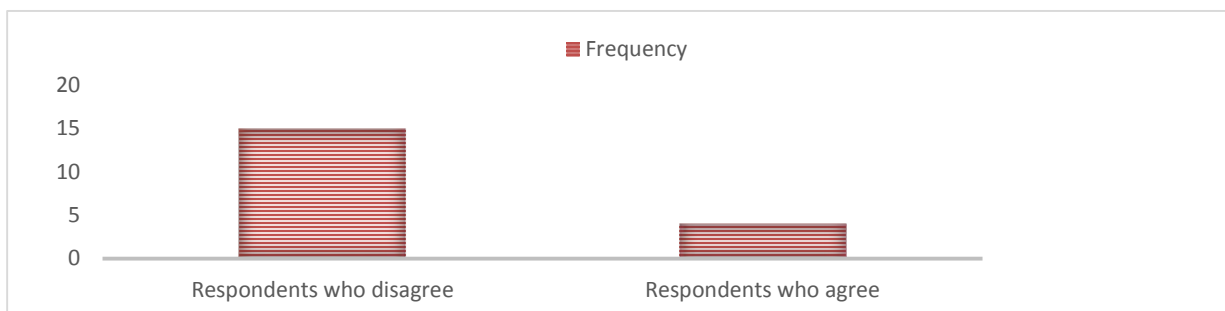


Figure 20: Opinion on farmers' willingness to shift from horticulture into other means of crop production

6.4 Asset development for small-scale farmers

Asset endowments offer potential for small-scale horticulture farmers, as they allow for potentially greater levels of productivity, which can improve livelihoods. For the sake of this dissertation, assets were categorised into the following: (1) transportation assets, notably, a van; (2) ploughing assets, for example, a disc plough, ox plough; (3) basic traditional assets, such as rake, hoe and so on, and; (4) productive assets, such as land and non-land assets, such as farm equipment, including irrigation equipment. The acquisition of these assets was then investigated.

6.4.1 General asset investments bought out of horticulture

This sub-section examines the role of horticulture in enabling respondent households to buy land and non-land farm assets that promote better living standards that potentially support their participation in higher value chains. The respondents' "yes/no" responses, including the frequency of responses regarding buying assets from their horticulture activities, are reported in Table 9 below.

Table 9: Physical assets of respondents derived from horticulture farming

<i>Type of asset</i>	<i>Rate of response</i>						<i>Total</i>	
	Yes		No		Did not answer		Freq. (n=19)	Overall %
	Freq.	% share	Freq.	% share	Freq.	% share		
Rake	13	68.4	6	31.5	2	10.5	19	100
Garden fork	13	68.4	4	21.1	2	10.5	19	100
Hoe	16	84.2	3	15.7	0	0	19	100

Ox plough	2	10.5	14	73.6	3	15.7	19	100
Tractor	2	10.5	13	68.4	4	21.1	19	100
Treadle pump	3	15.7	14	73.6	2	10.5	19	100
Van/Truck	6	31.5	12	63	1	5.2	19	100
Disc plough	1	5.2	16	84.2	2	10.5	19	100
Borehole pump	11	57.9	7	36.8	1	5.2	19	100
Engine pump	7	36.8	10	52.6	2	10.5	19	100
Land	14	73.6	3	15.7	2	10.5	19	100
Chemical sprayer	14	73.6	4	21.1	1	5.2	19	100
Hired transport	10	52.6	6	31.5	3	15.7	19	100
Mobile phone	14	73.6	3	15.7	2	10.5	19	100
Cold chain	2	10.5	16	84.2	1	5.2	19	100

**The researcher cautions that the figures given above are for farmers who gave responses only.*

Table 9 shows that a majority of surveyed farmers reported positive investments in irrigation machinery: engine pump (7 =36.8 percent bought), borehole pump (11 responses, 57.9 percent), as compared to only five farmers (26.3 percent), who applied the treadle pump¹⁴ technology. All but three farmers owned a hoe (16=84.2 percent), followed by 14 respondents who indicated having bought land, representing 73.6 percent of the sample. A further 14 farmers (73.6 percent) indicated having bought mobile phones from their horticulture income, and 14 (73.6 percent) reported buying chemical sprayers as a result of their current farming activities.

Only two farmers (10.5 percent) have however purchased tractors. Similarly, only two respondents reported having acquired cold chain assets, while five farmers (26.3 percent) indicated buying disc ploughs and two respondents (10.5 percent) reported buying ox ploughs. This is surprising considering that none of the farmers reported owning cattle, and a further

¹⁴ Adeoti (2009:52) defines treadle pump as “a low-lift, high capacity, human powered water lifting Pump ... [which is] suitable for irrigating agricultural land of less than one hectare and are considerably less expensive than motorized pumps ... [It uses] no fuel ... Its water lifting capacity of five to seven cubic meters per hour ...”. It is sometimes referred to as a pedal pump.

surprise was when five respondents indicated having invested in a disc plough when only two had bought a tractor.

Of the 19 respondents, only five (26.3 percent) had bought their own vans, noting that they must rent or hire transport. A total of 10 (52.6 percent) rented their transport. However, the most common constraint limiting small-scale horticulture production was the lack of a cold chain. This implies that most of the surveyed farmers are producing their crops for immediate sale postharvest. It can be observed in Table 9 that the overwhelming majority of the surveyed farmers are constrained in terms of their asset endowments.

6.4.2 Asset profile of producers who participate in local traditional-market channels versus formalized channels

Asset endowments and the ability to use (and accumulate) certain assets effectively enhances value chain participation and eliminates market bottlenecks. Assets also can be considered a useful metric for evaluating the likelihood of the producers' participation in higher value chains and the trading opportunities that these value chains present. In this sub-section, the researcher analysed the type of assets the respondents owned relative to the market channels supplied. The resulting clusters were then matched to examine if specific types of assets were relevant for participation in certain market channels. The results are shown in Table 10.

Table 10: Gaps of type of asset and average income by market channel

Market channel	Types of asset owned		Farmers' overall per capita income
	Advanced assets	Basic assets	
Marketeers	Treadle pump, engine pump, land, borehole pump	Rake, hoe, garden fork, chemical sprayer	ZKW 1,857.14
Retailers	Van, borehole pump, land, tractor, engine pump, cold chain	Rake, hoe, garden fork, chemical sprayer	ZKW 6,240.00
Open markets	Treadle pump, land, borehole pump	Garden fork, rake	ZKW 3,666.67
Local consumers	Engine pump, borehole, land	Ox plough, hoe, sprayer, rake	ZKW 3,000.00

Respondents serving marketeers owned some advanced productive assets like treadle pump, engine pump, land, and borehole pump, as well as basic production assets such as rakes, hoe, garden forks and chemical sprayers. Their average monthly income was ZKW 1,857.14. Respondents supplying open markets owned productive assets, such as a treadle pump, land, borehole pump, and generated an average monthly income of ZKW 3,666.67. Those farmers serving local consumers also had productive assets, covering engine pumps, borehole pumps and land, with an average monthly income of ZKW 3,000. Respondents supplying retail chains owned more advanced productive farming assets, including, vans, borehole pumps, land, tractor, engine pumps and cold chain equipment. On average these farmers had a much higher monthly income averaging ZKW 6,240. Thus, a significant disparity was noted for farmers supplying retailers. They, on average, had a far better income and productive asset base than those farmers supplying the three other market channels. This distinction appear to suggest that there is a positive correlation between the nature of markets the farmers serve, the type of assets they own, and the incomes they earn.

6.4.2.1 Household improvements over the last 2 years

This sub-section evaluates the areas of the sampled households’ lives that have shown a significant improvement as a result of producing fresh produce. The findings are graphically presented in Figure 21.

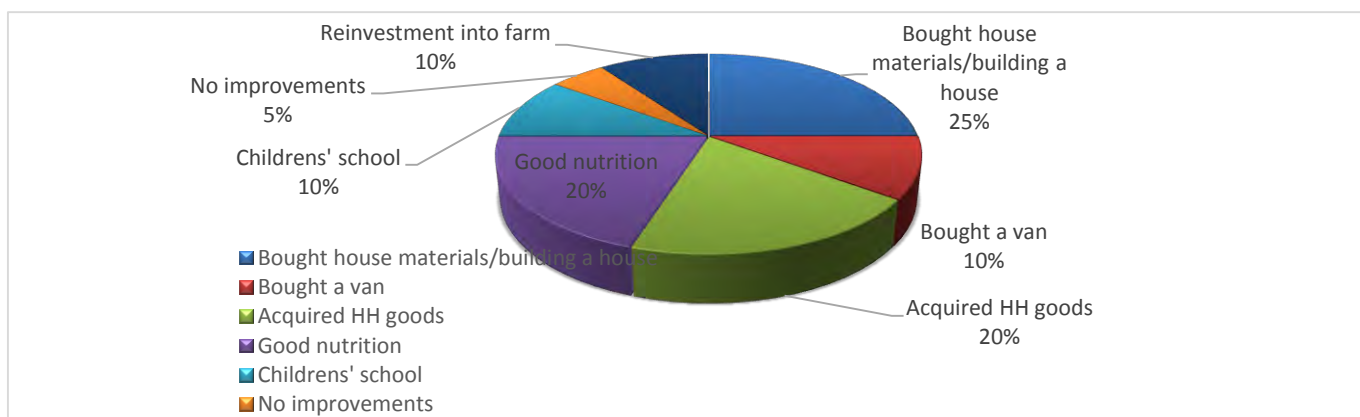


Figure 21: Area of HH that has improved significantly in the past two years

As noted in Figure 21, six areas of potential improvement were identified by the sampled households. The survey shows that 25 percent of respondents were able to build shelter

(bought house materials or are building a house), 20 percent bought HH goods and another 20 percent improved their food nutrition. Others (ten percent) invested their incomes in children’s schooling, while 10 percent were able to buy natural assets (e.g., cultivable land), 10 percent marketing assets (e.g., a car), and another 10 percent indicated re-investment into their farm by buying seeds, farm implements, water pumps, pipes, etc. Only 5 percent of respondents indicated that there was no improvement in their livelihoods over the past two years.

6.4.2.2 Farmers’ perceptions of the major problems with producing horticulture

Respondents were then asked about the difficulties they faced in respect of producing perishable crops. This was meant to illustrate both the challenges and opportunities faced by the surveyed households. The results are presented in Figure 22.

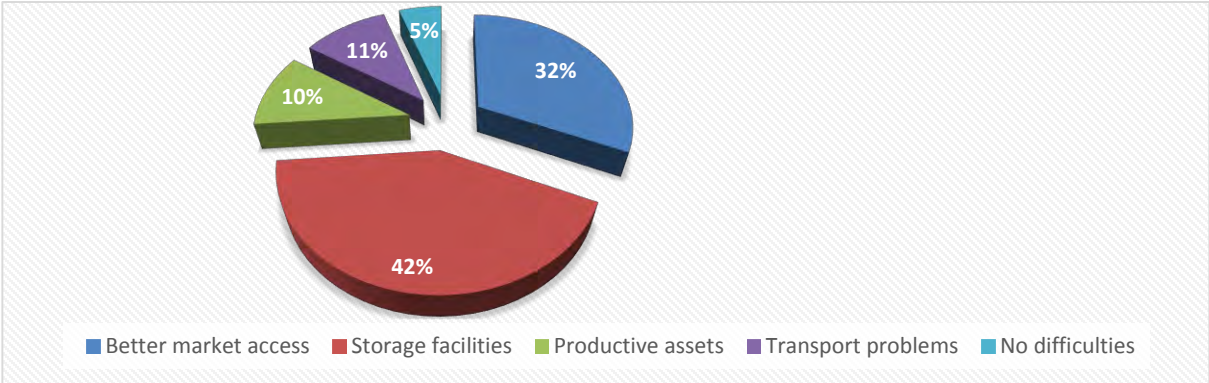


Figure 22: Difficulties faced by the surveyed farmers (n=19)

Of the 19 surveyed farmers, eight (42.0 percent) pointed out that they did not have storage facilities, while six (32.0 percent) indicated a lack of better market prospects as the most common problems they faced. Two (11.0 percent) of the respondents pointed to transport problems and another two (11.0 percent) indicated a lack of productive assets, and only one responded that there were no difficulties.

6.5 Institutional support

The survey examined the political and institutional support that the surveyed farmers received to help them in their farming activities. The results of the survey are summarised in Figure 23 below.

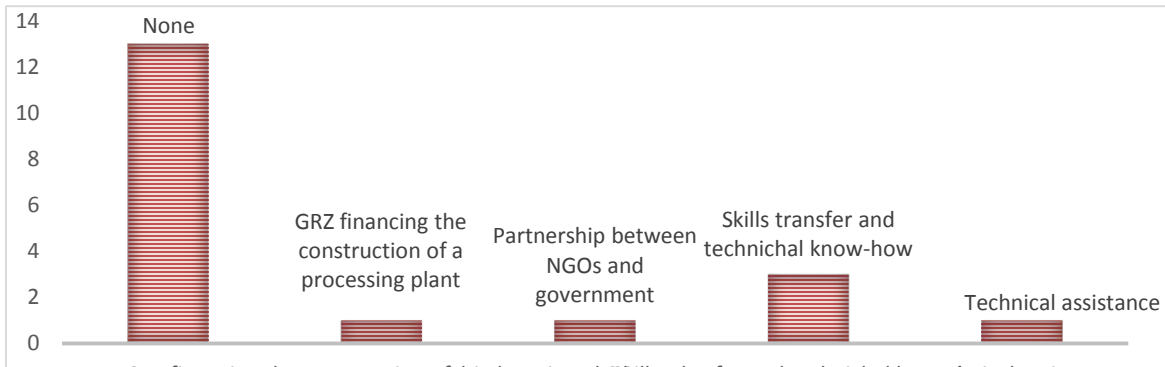


Figure 23: Types of institutional support farmers receive

As shown on Figure 23, the majority of the surveyed farmers ($n=13$, 69 percent) deny receiving any institutional support while 16 percent indicated that they received skills transfer and technical know-how. Of the rest of the surveyed respondents, five percent ($n=1$) said there was a partnership between the private sector and the government and another five percent ($n=1$) indicated that the government was in the process of constructing a processing plant. Another five percent ($n=1$) indicated that they were receiving technical assistance. Considering that more than two-thirds indicated that they received no support, the findings are suggestive of the need for additional support for the farmers.

Asked for their comments about which institutions they considered important, the farmers' responses were varied. However, most of the participants alluded to lending institutions. Of the 19 respondents, a total of 10 (52.6 percent) were of the opinion that lending and credit-giving institutions policy frameworks were important. One farmer stated that "if we were given help as is given to maize growers, e.g., soft loans we would do better than currently". Another farmer mentioned that: "if they [government] help us with capacity or loans to buy pumps, we will do better. Watering veggies with buckets is always hard for me. So, this can be very important for me". Some farmers were wary of higher interest rates that the banks charged. One farmer noted the absence of banks that meet the credit needs of small-scale

farmers: “credit giving institutions charge high interest rates and demand collateral which most of us do not have” and another spoke of inadequate security on her part to enable her to obtain a loan from the banks: “financial and lending institutions that help buy inputs; but the lending rate is higher for us”. Another respondent emphasised the absence of financial institutions that are friendly to small farmers: “credit giving institutions like CETZAM [Christian Enterprise Trust of Zambia is important], would be helpful for us, but they have not yet been here in our area”. One farmer reported the lack of agriculture lending: “Banks do not give us loans”. The rest of the five farmers also echoed the lack of loans to support their farming.

Other farmers indicated the importance of government intervention. Five (26.3 percent) reported the importance of government. For example, a farmer highlighted that “if the government helps us with boreholes, we would do better than present”. Another farmer stated that “we need support from government to empower us so that we can produce quality products”. Yet again, on the justification for government to contribute to the development of small farmers, another farmer was of the opinion that government should avail training institutions targeting small farmers in horticulture. Two farmers reported the crucial role government and cooperatives play in respect of fertilizer support. One farmer stated that “there has been too much focus on fertilizer support programs targeting small-scale farmers in maize; there should be plans to help horticulture”. Conversely, another farmer stated the importance of private public partnerships to resolve the good agricultural practices obstacles: “the non-governmental organisations [are helping when they are] conducting workshops on better farming practices” and added further that the government was “helping with policy framework”. One farmer summed up the need for institution building: “there is no policy to support a small scale farmer”, while another reported that the “failure of the farmers union to create market for our produce affects us negatively. [There is need] to create a levelled playing field for the benefit of the industry”. Most of the above responses indicate that small-scale horticulture farmers in the study area lack government incentives to expand their production.

CHAPTER SEVEN: CONCLUSIONS AND RECOMMENDATIONS

7.0 Introduction

This final chapter concludes the dissertation by putting into perspective the insights gained into the situation of small-scale farmers in the horticulture industry in Lusaka, Zambia. The chapter comprises the following three sub-sections:

- Synthesis of major findings
- Institutional framework recommendations; and
- Implications for policy

The main objective of this study was to interrogate the mechanisms to improve the livelihood of small horticulture growers in Lusaka, Zambia. The study consequently attempted to understand the position of farmers in the horticulture value chain, define the distinctive nature of different market opportunities, unpack the various challenges related to these opportunities, and finally grasp the factors and conditions under which small-scale farmers could potentially achieve higher performance levels that will lead to an improved quality of life for their households. The literature reviewed raised the following study questions:

1. What are the critical success factors for small-scale horticulture producers?
2. How is the horticultural industry segmented?
3. How can the Global Value Chain methodological framework be applied to small-scale horticulture farmers in Zambia?
4. To what degree, and under what conditions, does the horticultural sector generate income, asset accumulation, and improve the livelihood of small-scale growers?

7.1 Synthesis of major findings

Given these questions, the study was consequently framed from the perspective of GVCs and their associated CSFs. Chapter 1 set out the tone of the research by outlining the development question requiring primary and secondary research focussing on Lusaka-based small-scale horticulture farmers.

In Zambia, like all other developing countries, personal income is an essential pattern for household welfare, insofar as it facilitates access to basic necessities, and permits the accumulation of assets. Through secondary data (referred to in Chapters 2 and 3), this study identified constraints for market access and gaps in the GVC literature with regards to poverty alleviation among small-scale farmers in Zambia. These gaps relate to the identification of challenges and opportunities for small-scale horticulture farmers.

Chapter 3 offered an overview of the theoretical relevance of GVCs to the study. By using the GVC theoretical framework, this chapter provided a broad perspective on how small horticulture farmers compete in different markets, thereby placing the research results within both a domestic and global scope. Moreover, GVC analysis was helpful to fully comprehend the broad implications of identifying the diversity of market requirements as they are currently impacting on small-scale horticulture farmers and the industry as a whole. Barriers to entry in the more lucrative, sustainable market segments of the horticulture value chain (such as domestic retailers) were, for example, identified.

Chapter 4 was also critical to this dissertation as it offered the contextual basis to why the study focused on Lusaka. This chapter strategically positioned the research to fully grasp the relevance of the literature reviewed in Chapter 2, and put into perspective the field results. In Chapter 5, the researcher offered the methodology and main instruments, including how primary research data was collected. The primary data were collected from individual non-probability sampled farmers using a structured questionnaire. The findings of the research were offered in Chapter 6. Apart from an extensive description of the findings generated from the field work, the chapter also presented a range of descriptive statistics as a means to effectively describing the findings. This ultimately led to the compilation of this chapter, which discusses the study's conclusions, recommendations, and policy implications.

It is important to emphasise that the second research objective, which was “*to evaluate the extent to which diversification from maize agriculture to high value horticulture could induce pro-poor outcomes*”, was unpacked theoretically in Chapter 2, although Chapter 6 provided the major insights drawn from the fieldwork findings. This chapter reflected deeply on the opinions of the farmers. For research objective number 3: “*to assess the main constraints that small-scale farmers of vegetables face in the value chains*”, it has been demonstrated in this

dissertation that horticulture value chains are buyer-driven. In this context, it is no longer a question of whether the farmers should differentiate products and farming capabilities, but so as to be included in profitable value chains. The growers who meet the demands of the buyers are likely to secure access to high value markets that also result into profitability, while undifferentiated products go to open markets, marketeers and end-consumers. Securing sustainable profit in these market segments is questionable.

7.2 Study conclusions: Lessons learned

7.2.1 Demographic characteristics of respondents

The socioeconomic status (educational level of household heads, household sizes, income, marital status, assets and landholding) were considered as dependent variables and are essential components of livelihood. In terms of household distribution, the study findings showed that the highest concentration was for family members ranging between 5 to 8 (8 farmers), followed by those less than 5 (5 farmers) and the fewest were those above 9 members (3 farmers). The study also found that the participants had imbalances in educational attainment: some had tertiary education levels, others had completed grade 12 of the secondary schooling system, while a few others had less than grade 12 or no formal schooling at all. Their average land holding size of 3.2 ha, captures the characterization of smallness as per the national Zambian average of less than 5 ha (Sitko *et al.*, 2013; Chomba, 2004). The marital status of the household head revealed that most HHs was married. Further, the results also revealed that there were more males than females among the sampled farmers.

7.2.2 Market demands and CSFs

It is evident from this study that the horticulture market is highly segmented. The factors influencing participating in certain markets, as well as customers' purchasing decisions, differed significantly. The main reasons for farmers selecting their markets showed that the farmers preferred market channels where there were no demands for standards. This explicitly means the farmers are currently supplying undemanding value chains. Customers' purchasing decisions were also varied. With the exception of retailers, there were no significant variations in the marketeers, open markets and local consumers in terms of purchasing decisions or even in terms of their CSFs. In the retail value chain, however, CSFs were very different: the

parameters of quality, product innovation, price, delivery reliability, environmental practices, delivery speed, delivery reliability, packaging and ethical practices emerged as critical requirements. Notably, these elements contribute to the ability of farmers to secure price premiums. Meanwhile, in the other three chains, only four criteria of price, locational requirements, delivery speed and environmental practices were considered important.

In essence, the lower barriers to entry in other market channels are holding most of the surveyed farmers back from competing in the retail market where there are more demanding CSFs. Two conclusions on CSFs seem to emerge, that is, meeting customer expectations is both a challenge and an opportunity. While most surveyed farmers served open markets, marketeers and local consumers in contrast to a minority that served retailers, it appears clear that the former markets are only beneficial to the extent that they exhibit no entry barriers. In terms of profitability, however, they are the least rewarding. This is clearly evident in relation to HH incomes secured.

7.2.3 Income and asset endowment

Horticulture production is the basis for the economic survival of a large number of low-income small-scale farmers in Lusaka, Zambia. This study found that the farmers in the study area are hampered by poor productivity and efficiency as many of them lack advanced production assets that would enable them to sell their produce in higher value-adding markets. It is noteworthy that most of small-scale farmers that sell to open markets, local consumers and marketeers suffer from a poor asset base and are earning substantially lower incomes than their counterparts supplying retailers. For the latter farmers, their returns appear to be substantially healthier and more sustainable. This is reflected in the average household income of farmers supplying retailers being ZKW 6,240.00, which is 73.2% higher than the income of farmers supplying other market segments. The development consequence of this is clear: Farmers supplying retailers accumulate more assets over time, while also being able to better educate their children - a “winning development recipe”. This important finding should not, however, detract us from the critical evidence that suggests small-scale horticulture farmers in Lusaka are largely unable to meet the demanding requirements of the formal retail segment of the GVC. With this finding, the broadly optimistic conclusions in the literature regarding

poverty alleviation in horticulture (see Pingali, 2004; Weinberger & Lumpkin, 2007; Rickard *et al.*, 2008), only become applicable depending on how well small farmers embed themselves in particular segments of the horticulture GVC.

Further, the findings show that the average per capita income of household whose head attained tertiary education was higher than those with a grade 12 education (or lower); it also showed that this category had a higher dependency ratio than the former even though they were the most financially constrained. It needs to be noted that the lack of assets, including poor production and capital to exploit remunerable markets implies that poverty for these farmers goes beyond the vague terms of per capita income alone. This seems to agree with some studies, which indicate that the educational standard of HH heads is linked to how open they are to innovative ideas and new technologies that promote technical change (Lapar & Ehui, 2004, Makhura *et al.*, 2001). This study concludes that the business-as-usual model can no longer apply for the farmers in horticulture.

This study has shown that the success of the surveyed horticulture farmers, especially those who supply retailers, depends on the extent to which they meet the CSFs that are demanded of them. However, meeting these specifications demands certain assets that will enable the farmers to upgrade, noting that they lack irrigation systems, farm efficiencies and cold chain assets. Given that many of the surveyed farmers indicated a lack of access to financial services, the hoped-for economic viability of these farmers under a liberalized marketing system is questionable.

7.2.4 Institutional framework

This study identified major shortcomings in the institutional framework supporting small-scale horticulture farmers in Lusaka. Farmers struggle under the burden of an unclear regulatory framework (and its associated implementation), limited institutional support, policy fragmentation, and poor access to affordable credit from commercial banks. These appear to be some of the reasons responsible for the poor performance of the small-scale farmers and the sector as a whole. Additional reasons for failure are the cost burden associated with participating in certain GVC market segments, and inadequate levels of product, process, and functional upgrading, as these are difficult to achieve. The lack of support institutions appears

to have a negative impact on the farmers' production capacities in terms of functional capabilities. Furthermore, the supply chain in Lusaka, as Chapter four recognised, is not well organized. Poorly coordinated collection processes, deficiencies in product grading and poor off-loading facilities ensure farmers are unable to separate higher quality produce from lower quality produce, which impacts on their income generation potential. With the right institutional support, small-scale farmers can be included in retail channels. In this case, it is useful to understand how the small-scale farmers earn sustainable incomes by accessing these markets; in terms of the parameters of their chain, and under what conditions their products are produced and marketed.

7.3 Institutional recommendations

Four institutional recommendations emanate from this study.

Firstly, there is need for policy makers to find a solution to address sector-wide externalities and coordination problems as small-scale farmers are severely affected by their poor capital base, their lack of efficiency, and their limited access to financial and lending institutions. It is not clear how the *Zambian government's* objectives of poverty eradication and improved development can be achieved when important sections of the society are unable to access sustainable income generating market opportunities. Many of the surveyed farmers are struggling to meet their customers' requirements on a reliable basis and at the quality levels required, and hence are locked out of markets capable of supporting wealth creation. Whilst it is clear from the findings that there is need for small-scale farmers to search for more demanding market segments (e.g. formal retailers) by identifying customer demands and working towards satisfying these customer preferences, if they are to escape poverty. Institutional backing is required to support the horticulture firms in this "market search" process.

Secondly, horticulture farmers need to identify their present competitive advantage in the markets in which they compete, and then identify opportunities to improve their productive capabilities in line with evolving market requirements. This potentially involves process, product, functional and even value chain upgrading trajectories. The small farmers need to take ultimate responsibility for developing their own capabilities in this regard, but it is

important that institutional support mechanisms be created to support farmers in this learning-rich, often capital intensive process. A priority area would be to establish cold storage facilities close to the farmers, along with reliable produce collection services that could play a catalytic role in supporting the upgrading of farmers.

Thirdly, the surveyed small-scale farmers are not supplying produce to any export markets linking them directly to horticulture GVCs. This means that supply to the still small local retailing market remains the only sustainable market conduit. Identifying and growing access to European or even South African retailers requiring high-value, high quality horticulture products represent a completely untapped market opportunity for small-scale Lusaka farmers. This is attributable to the small size of the farmers' operations, poor organization, low or lack of technologies used, lack of capital and poor support services leading to questions regarding sustainability.

Fourthly, there is also a role for institutional support targeted at providing farmers with essential services such as the provision of pesticides, consulting advise on the quantities and timings of crop planting, harvesting, storage, and packing practices. In this regard, the government should give attention to extension services, and ensure the inclusion of urban farmers in Lusaka.

7.4 Implications for policy

As indicated in the literature review, small-scale farmers whose lives depend on horticulture have largely been subjected to official neglect. This neglect spans an extended period, from the country's colonial past, whose legacies are still at work today. Given this context, which is now exacerbated by globalisation and evolving market requirements shaped by the development of GVCs, there is cause for concern. This appears to imply that the traces of Zambia's colonial heritage continue to pop up among poor farmers several decades after independence. The present study points to a potentially vicious development circle: small-scale farmers with poor operational capabilities and limited access to capital suffer from high loss rates and are prohibited from entering higher value chains, which can support higher incomes for the farmers and their households. In light of the study's findings, it is proposed

that a number of new policies be considered for the enhancement of small-scale horticulture farming in Lusaka.

(1) *Stepping up* (Dan-Azumi, 2011:255). As there appears to be increasing market competition, sustained performance of the farmers is dependent on the level to which they strive to meet customer demands. This calls for innovation, sustainable technology and facilitating access to credit as a policy. In this case, stepping up also entails that customer demands and the performance needs in each market segment is periodically reviewed. This will not only ensure that the gaps between perceived performance and customer demands are traversed, it also entails that the vulnerable farmers will then effect potentially beneficial changes to their operations in order to exploit good markets. This is important for Zambia in general and small-scale farmers in particular who have inherited legacies that have effectively disenfranchised them, thus putting their survival difficulty.

(2) *Optimizing innovation*. In a world characterised by GVCs, small-scale farmers cannot conduct their business without upgrading. High value markets are exclusive; while those that undertake upgrading trajectory can potentially increase their earnings in GVCs. More explicitly, poor farmers are faced with quality problems, which limits their capacity to achieve the necessary specifications for participation in higher value GVCs. Evidently, credence of product quality, innovation, ethical practices, and the financial stability of supplier, among other things are positively related to customer satisfaction in some markets such as retailers. Therefore, improving on these areas can potentially induce competitiveness for farmers. Insertion into, and rewards from participation in GVCs calls for a mix of public policies, multi-stakeholder initiatives and cooperation. In view of findings that the farmers lack access to credit-giving and/ or micro financial institutions, there is need for a National Horticulture policy to help develop the domestic horticulture value chains from which small-scale players will also benefit. Once this policy change is implemented, a further study would be important to see how it would affect the farmers' innovation, their market channel choice, and ultimately their livelihood.

(3) *The need to rethink the role of government*. The horticulture sector among small-scale farmers requires support for it to be competitive. As this study has shown, there is limited institutional support for small-scale farmers (see Figure 23), and yet the government needs to

be responsive to their needs. Product processing and value addition, for instance, would provide relief to the producers. The extent to which small-scale farmers can be competitive depends on support and initiatives to effectively support the poor to participate in market oriented production. Such support could take many forms, for example a matching grant that facilitates setting up critical infrastructure facilities, like processing plants and irrigation investment among other things to facilitate horticulture development.

There appear to be three major constraints to the development of horticulture value chains, with each pertaining to a different value addition stage: production stage, post-harvest stage and the marketing stage. At the production stage, the farmers lack capital assets, such as irrigation that constraints their production cycle (c.f. Fiebiger *et al.*, 2010). At the post-harvest stage, the farmers lack cold handling facilities, while logistics inefficiencies damage fresh vegetables, thereby retarding returns (as Idah *et. al.*, 2007 has shown in a study elsewhere). At the marketing stage, the situation is much worse in terms of post-harvest losses as most farmers commonly use sacks (as observed during the field work). These reduce product shelflife and affect product quality and appearance – a finding that is congruous with other researchers, like Bachmann and Earles (2000).

Several conclusions can be drawn as to whether horticulture generates income, asset accumulation and improves livelihoods. The above discussion succinctly brings out the importance of GVCs and their associated CSFs to understand the horticulture sector and the opportunities it generates for small-scale growers. As revealed in the farmers' customer perception survey that outlined farmers' perceived customer demands and farmers' perceived performance, some small-scale farmers are disproportionately disadvantaged in the value chains. While the demanding retailer-driven value chain offers major opportunities for small-scale producers, those who are unable to meet the sector's standards are being forced to sell their produce at the farm gate at pitifully low prices. Instead of the farmers climbing the value chain, it would appear that most of the sampled growers are treading a downward trajectory into the lower value chains where there are relatively smaller profit margins, such as in local markets and local consumers. This poses subsequent poor abilities to improve their livelihoods in terms of paying for school children, for example, in the latter two chains.

Given this gloomy picture, the question of a supportive institutional environment arises, implying that attention needs to be given to performance criteria in which the farmers performed poorly, but which the respondents viewed as critically important. This study identified six key performance criteria, namely packaging, ethical practices, quality, price, timely delivery and product innovation. The results also showed however that the magnitude of the criteria depended on the nature of the market. In the retail market, quality, traceability, delivery speed, consistency, packaging, as well as uniformity of produce had higher demands than evident in the other chains explored.

Following GVC typologies, the retailers are visibly chain governors, as they are the ones who set standards (even though they are not the producers). It can be concluded that in such a relentless consumer-oriented environment, it is important for the farmers to apply appropriate upgrading strategies. The government and other stakeholders can help the farmers to be sufficiently equipped to overcome their shortcomings and also find some means of adding value to horticultural products, such as establishing further processing activities.

Two fundamental lessons stand out. One is that small-scale farmers must allocate more effort in the production and post-harvest process along with fully understanding the demands of high value markets. The second is the need for an upgrading focus, which builds on the capacity of farmers, whose production capabilities largely represent subsistence activities. These interventions will help increase the net incomes of the farmers. Based on the literature reviewed, there is a potential market due to the expanding urban population. This market can be tapped efficiently where CSFs have been amply identified, and responded to by the small-scale farmers.

Helping small-scale farmers' access productive assets in a weak horticulture policy framework, among other things, has to be looked at in conjunction with revamping micro-financial institutions for farmers who appear to be locked out of more favourable value chains. Most small-scale farmers are producing low-skill products making poverty reduction prospects difficult to achieve. Without this, the much extolled impact of horticulture on poverty reduction will ultimately be an illusion.

8. Bibliography

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9. Appendices

i. Appendix 1: Informed Consent Form

This informed consent form is for male and female adult farmers living in Lusaka, Zambia who accepted the invitation to participate on a research study titled “A Global Value Chain Perspective to Understanding and Unpacking the Development Trajectory of the Horticultural Industry in Zambia: The Case of Small-Scale Farmers Based in Lusaka”.

Principal Investigator: Harold Kazekula

Name of Institution: University of KwaZulu-Natal (UKZN)

Description of study

I am Harold Kazekula, a Masters’ student in the School of Built Environment and Development Studies at UKZN. I am doing research on how the horticulture industry is impacting on poverty alleviation in Lusaka. I am going to give you information and invite you to be part of this research. If there is something you do not understand from the following information, please feel free to ask me to stop and go through it once again. If you have any questions later, please let me know.

In this investigation, I seek to clearly obtain an understanding on the gains of small-scale farmers from horticulture. Literature suggests that horticulture production holds direct economic benefits to small-scale farmers. In the context of Zambia in general however, the purported benefits send incoherent and anecdotal messages. The challenges these bring, require empirical evidence on how the poor small-holders (who are the main suppliers) are shaped by value chain and the inertia associated with exports within the ever changing business environment. **The main objective is: examining the degree to which the horticulture industry in Zambia is reducing poverty among small-hold farmers.**

I believe that being the actors of the horticulture industry; you are of help to me by sharing your experiences. I want to learn how small-scale farmers in Lusaka are benefiting from horticulture and the reasons for their successes and/or failures. I hasten to add that participation in this research is fully voluntary. What this means is that you have rights if you are to be involved in this inquiry. Your rights include withdrawal from participating at any point in the research, without intimidation or fear of facing consequences. You also have rights to anonymity, meaning your names will not be made public except by use of pseudo names and assigning codes (numbers). In fact, the findings of my investigation will be reported accurately and truthfully without bringing harm or discomfort to you. To ensure this outcome, my university has an ethical committee under UKZN Research Ethics Policy that

would look into how well I guard your right to your voluntary consent and to retract the consent, your confidentiality, among other ethical issues.

If you accept this invitation to participate in the research, we will conduct the interview at a safe place that best suits you providing you feel comfortable. You are also not obliged to share any information that you feel uncomfortable with. I fully understand that some questions are very much personal, confidential or uncomfortable for you.

During the interview it will only be you, a person that will help take notes and I present. The interview will be tape-recorded (only for our memory and we will dispose it as soon as we have transcribed it). The recorded information will be treated as confidential and kept under lock to which only my supervisor and I will have access to. But if you are not comfortable about recording, we will avoid it altogether. Even though the research won't be of direct benefit to you, it is highly possible that your participation will assist me in understanding the role of horticulture in poverty alleviation. Please feel free to ask me questions at any stage of our interview.

If you wish to ask questions later you can contact me:

Email: harold.kazekula@gmail.com

For further information please contact: Prof. Justin Barnes

Email: justin@bmanalysts.com

ii. Appendix 2: Certificate of Consent

I _____ hereby confirm that I understand the contents of this document and the nature of the research project, and I agree to participate in the research project.

I understand that I have the freedom to withdraw from the project at any time, should I so desire, and that the information I give will be treated as confidential. I also understand that my identity will be protected at all the time during and after the research project.

Signature of Participant:

Date:

iii. Appendix 3: Questionnaire

A. Preamble

My name is Harold Kazekula, I am a student from the University of KwaZulu-Natal in South Africa. I am here to develop a better understanding of the effects of horticulture on small-scale farmers in Lusaka as regards poverty alleviation. This inquiry is meant to inform my understanding of how the industry is performing in terms of generating incomes and improving livelihoods. I will be asking questions based on your involvement in horticulture as a farmer. So, I will greatly appreciate your honest responses to my questions.

I encourage you to speak freely as these interviews are anonymous (meaning that your names will not be identified) and completely confidential. Further, you are under no obligation to participate in this interview if you have not indicated your voluntary consent.

Thank you

B. Questionnaire (to be completed by small-scale horticulture farmers)

Section 1: Farmer Profile

Date..... Interviewer.....Name of respondent (optional).....
 Name of farm..... Size of farm (Ha)..... Gender.....
 Marital status Education level of household head.....
 Area under cultivation (Ha)..... Size of household (number of people living in house, including interviewee).....
 Household sources of Income (horticulture farming, business, pension, etc.).....
 For how long have you been in the horticulture industry?years
 Are you combining horticulture with any other types of production?
 If so, what types of production?
 Is your household female or male headed?.....

Section 2: Market demands and customer critical success factors

1. Who are your most important customers for your horticulture products?

2. What kind of customers are they (i.e. intermediaries, end-users, etc.)?.....
3. How many years have you supplied these customers?.....
4. How have you maintained these relationships?.....
5. Describe the distribution network, which channels are the most common and why?.....
6. What are the Critical Success factors (CSFs) driving your customers' purchasing decisions? Mention the most important ones.....

Please rate the importance of the following critical successful factors for your customers, using a Likert scale of 1 to 10, where **1** means the CSF is completely unimportant, **5** that the CSF is relative important and **10** that the CSF is critically important (mark a **D** in the appropriate box)

CSFs	1	2	3	4	5	6	7	8	9	10
Price of your output										

Quality of your output										
Your product innovation										
Your delivery reliability										
Your delivery speed										
Your financial stability										
Your environmental practices										
Your ethical farming practices										
Your packaging										
The location of your farm										
Other (specify):										
Other (specify):										

7. Based on the same scale above, how well do you meet these CSFs (mark a **P** in the appropriate box above)?

8. How does the competitive positioning of Multinationals (or middle men) affect your competitiveness in the industry?

.....

 - i. What consequences have their involvement brought on your livelihoods?

.....

.....
 - ii. How is their involvement a significant factor on your livelihoods?

.....

9. Mention three important customer distinctions between farmers who supply horticulture produce and those who do not
 - i.
 - ii.
 - iii.

10. What marketing challenges do small-scale farmers in horticulture have in reaching their customers?

.....

 11. In what specific ways does your participation in your preferred markets affect your income growth?

Section 3: Income and asset accumulation

12. What monthly income do you secure from horticulture farming? ZKW

13. What monthly income did you secure from horticulture farming 12 months ago?

14. What assets does your farm have? (Evidence of the influence of owned farm equipment on producers)

Assets	Do you own these assets due to horticulture? (1= yes, 2= no)	How many of these assets have you bought in the last 12 months? (mark with X)	What assets did you own 12 months ago? (mark with X)	How much does it cost in its new condition? (ZKW)
Rake				
Hoe				
Garden fork				
Ox plough				
Tractor				
Treadle pump				
Van/light truck				
Disc plough				
Borehole pump				
Chemical Sprayer				

Hired transport				
Engine pump				
T.V.				
Radio				
Cold chain for handling				
Land				
Cellphone				

15. Which of the assets listed above are the most important in improving your agriculture performance (list three in order of importance)?

a)..... b)..... c).....

16. How does asset growth facilitate the participation of smallholders in export markets?

.....

17. Compared to your economic status when you were not in horticulture, what significant difference is there on livelihoods between growers and non-growers? Why is this?

.....

18. Which areas of your household have shown significant improvements over the past two years (in terms of assets accumulated and income) as a result of horticultural farming?

.....

19. Are you able to pay for your children's education from your horticulture farming income?

1. Yes	2. Sometimes	3. No
--------	--------------	-------

Please explain your answer:

20. Would engagement in other crop production rather than horticulture translate into better income than current activities?

1. I disagree	2. I don't know	3. I agree
---------------	-----------------	------------

If so, which value chain characteristics are these?

21. What difficulties do smallholders face in securing sustainable incomes considering the perishable nature of the business?.....

22. What improvements have you secured in your life as a result of your horticulture farming for the past 12 months?.....

23. Do you have a savings account or an insurance

1. yes	2. No
--------	-------

 policy?

<i>Section 4: Institutional support</i>
--

24. Has the government or any other organisations helped you in improving your farming practices?

If your answer to question 13 is 'yes', please explain how.....

25. Which of the institutions supported by government or agencies are related to value chain investments?

1= technical assistance programs; 2= processor market 3= skills transfer and technical know-how; 4=Good price incentive; 5= value addition; 6=Others

Please indicate.....

26. What are the most important institutions which affect the small-scale farmers positively or negatively? Why are these institutions considered important?

.....

THANK YOU

iii. Appendix 4: Introduction Letter



14th November, 2012

To whom it may concern

Dear sir/madam

Mr Harold Kazekula's horticulture research in Lusaka

This letter serves to confirm that Mr Harold Kazekula is a Masters' student at the University of KwaZulu-Natal in South Africa, and that he is studying the horticulture value chain in Lusaka for his Masters' dissertation. Mr Kazekula is a Zambian national and is studying the horticulture value chain as a means to better understanding its developmental impact on small scale farmers specifically, and the Lusaka and Zambian economy more broadly. To complete his primary research, he requires access to 20 small scale horticulture farmers in and around Lusaka, so that he can administer his hour long questionnaire that captures the development impacts that he is attempting to understand.

Mr Kazekula is completing his dissertation under my supervision. As such, if you require any further information on the purpose of Mr Kazekula's research, please contact me on +27 31 260 2363, or email Ms Shivani Durgiah (durgiahs@ukzn.ac.za), administrator of the Development Studies Masters programme.

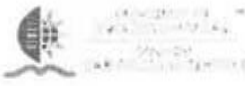
Yours sincerely

A handwritten signature in black ink, appearing to read 'Justin Barnes'.

Justin Barnes (Prof.)
BA Hons, MSocSci, PhD
Chair of Industrial Studies
Adjunct Associate Professor

School of Built Environment and Development Studies
University of KwaZulu-Natal, Howard College Campus, Durban 4041, South Africa
Telephone: +27 31 260 2363 **Facsimile:** +27 31 260 2359 **Website:** www.ukzn.ac.za **Email:** durgiahs@ukzn.ac.za

iv. Ethics approval



UNIVERSITY OF LIMPOPO
LIMPOPO PROVINCE
SOUTH AFRICA

Research title: 8557/2535 / 2015

Fieldwork: Medical enteric chain responsive to understanding and tracking the development trajectory of the healthcare industry in Zomba The case of health care services based in Lusaka

ACKNOWLEDGEMENT BREACH OF ETHICAL PROCESSES AT UKZN

I, the undersigned:

Name (Printed): HELENE VAN DER VURDEN (2015/1113)

Subject: PHD IN COMMUNITY + HEALTH SERVICES STUDIES (PHD)

College: HEALTH S.S

I do hereby identify the ("the applicant") in the above stated regard, do hereby acknowledge that:

1. The University of Limpopo's Research Ethics Policy (M) does not make provision for Participative Ethics (P.E).
2. All researchers (both students and staff) at UKZN are obliged to be familiar with this policy.
3. I have been informed and received written approval to have written approval for ethical clearance as per the policy and guidelines of the University.
4. Research on the above mentioned undertaken by myself without prior ethical clearance being obtained.
5. The University reserves the right, at any stage and time, withdraw the research program provided by myself if it is considered harmful to UKZN and I will also be considered ethical breach during my field work or whilst conducting work for the above stated project, staff or
6. It will not apply for ethical clearance in any other research projects.
6. In addition to item 5 above, the appropriate disciplinary processes will follow should this occur again.

I further acknowledge that should there be any legal implications arising from the research in terms of any ethical violations, I will be personally liable and hereby indemnify UKZN against any legal action that may arise from my failure to adhere to the University Research Ethics Policy (M).

Signed at: UKZN on the 15th day of January 2014/2015

Signature of applicant: [Signature]

Signed at: _____ on the _____ day of _____ 2014/2015

Signature of Chair (HDSREC): _____

Page 1 of 2

- v. **Appendix 5: Gatekeeper introductory letter**
vi.

AGRI-BUSINESS
Forum

100/655 Off Lake Road, Ilex Hill, P.O. Box 32758 Lusaka, Zambia. Telephone: 260 211 262936, Fax: 260 211 262950

December, 15th 2012

Small-scale farmers (In and around Lusaka area)
Lusaka,

TO WHOM IT MAY CONCERN

This is to introduce Mr. Kazekula, who is pursuing his studies at the University of KwaZulu-Natal, School of Built Environment and Development Studies. He is studying towards a Master's Degree in Development Studies. Mr Kazekula is requesting for small-scale farmers to participate in his research on *Horticulture value chains*. He has a questionnaire that may take 30 minutes to complete.

You are invited to participate in this research. He hopes to get a clear understanding on what influences the customers purchasing decisions, and whether small-scale farmers are conscious about this and making necessary amends to meet those perceived demands of their customers.

I understand that this participation is voluntary and that your names will be fully protected. It is hoped that after this research is published, you will be able to know the gaps between your customer's demands and your perceived demands. This may assist in making improvements for small-scale farmers.

Thank you for your usual cooperation.

Yours Sincerely



Brenda K. Nang'amba
Acting Executive Secretary
ABF