THE INFLUENCE OF POWER RELATIONS ON THE TOMATO VALUE CHAIN IN LUSAKA PROVINCE, ZAMBIA

By

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A dissertation submitted to The University of Zambia in partial fulfilment of the requirements of the Degree of Master of Science in Environmental and Natural Resource Management

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DECLARATION

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CERTIFICATE OF APPROVAL

This dissertation by Emily Mwembo Katanga has been approved as a partial fulfilment of the requirements of the award of the degree of Master of Science Environmental and Natural Resources Management by The University of Zambia.

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DEDICATION

To my late parents Paul and Victoria Katanga who instilled in me the desire to keep learning and aiming higher. Mom and Dad you would have been proud.

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I would like to thank Jehovah God for all the rich blessings and strength that have kept me going during my studies. I would also like to thank my sisters, Flavia and Champo, for their loving support.

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ABSTRACT

Power relations are often studied in agricultural value chains because the different ways in which the participants in the value chain interact depends to a large extent on the forms of power present. Literature has shown that power relations among actors in agricultural value chains determine their operation and success. However, in the case of Lusaka Province it is largely undocumented how power relations are shaping the tomato value chain. It is against this background that this qualitative study intended to identify the actors in the tomato value chain, the forms of power and power relations. Further the study developed a framework of power mapping in order to assess the economic implications of the distribution of power. From December 2018 to February 2019 data was collected using key informant interviews, semi-structured interviews and structured observations from 72 traders, 32 market agents, 68 transporters, 38 farmers, four agro processors, five political agents, key informants from Lusaka City Council and Zambia National Farmers Union. Data sources were selected conveniently and by snowball sampling. Analysis of data was a continuous process of content analysis, creating themes and revisiting respondents to come up with a clearer picture of forms of power, their expressions and the economic implications of the distribution of power. This study identified farmers, transporters, traders, agro processors, market and political agents as actors in the tomato value chain. The forms of power present were found to be coercive, informational, legitimate, referent, reward, economic and expert power. The study showed that coercive power was expressed by market agents, political agents and traders towards farmers. Reward power was expressed by farmers towards market agents and market agents expressed reward power towards the traders. Expert and informational power was expressed by market agents and transporters towards framers and traders while legitimate power was solely expressed by the local city council towards all actors operating within Soweto market. Economic power was expressed by the agro processors towards the farmers, traders and market agents. The developed power mapping framework revealed that most of the power interactions occur on the formal-informal interface where the farmers, traders, transporters and market agents operate from. This study concluded that the distribution of particular forms power influences the structure of the tomato value chain and to a great extent determines the economic benefits attained by the actors. Thus this study recommends that policies concerned with value chain management should recognize and utilize as points of intervention the specific power relations shaping the value chains especially those that exist in the formal and informal interface.

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CHAPTER ONE: INTRODUCTION

1.1 Background

Agriculture value chains have been reported to be complex systems involving numerous actors with varied economic interests. Kiambi *et al.,* (2018) mapped an agriculture value chain profile in Kenya based on diary food system and identified the various actors that have emerged as a result of complex agriculture value chains. The interaction of actors competing for economic benefits in value chains is affected by the 'influence' that the actors possess (Belaya and Hanf, 2011). A report by the Norwegian inquiry of commission in 2011, found that food supply chains were laden with more retailers and wholesalers than producers suggesting that the producers have little influence. Liu *et al.*, (2017) found that a major challenge for actors in China's agriculture value chains was competition for dominance because the more dominant actors were found to attain more economic benefits. Similar trends have emerged from Malawi, Mozambique and Zimbabwe (Mango *et al.,* 2015; Macheka *et al.,* 2018) where reports indicate the presence of multiple actors competing for economic benefits with some actors gaining more benefits at the expense of other collaborating actors along agriculture value chains. In developing countries, such as Zambia, the organization of food systems (Ericksen, 2008) and its constituent agriculture value chains greatly affects food security.

Food systems encompass all the elements that include the environment, people, inputs, processing, distribution and marketing (Kaplinsky, 2000). Within food systems are found agriculture value chains, which are described as the full range of activities which bring produce from conception, through a sequence of phases of production, delivery to final customers, and final disposal after use (Ingram, 2011). Cotula and Blackmore (2014) define an agriculture value chain as the set of actors and activities that are involved in producing, distribution, processing and trading of food ending in consumption. Kaplinsky and Morris (2000), in their description of the structure of agriculture value chains, suggest that agriculture value chains are made up of inter-related successive components which work as a whole system and each component has actors with different interests. In Zambia, the agriculture value chains are mainly dominated by smallholder farmers who produce cash crops such as maize, tubers and

pulses as well as fresh produce which are mainly vegetables (Hichaambwa and Tschirley, 2010).Hichaambwa and Tschirley (2010) further report that, major opportunities, for smallholder farmers in Zambia, have been created as a result of rapid growth in demand for food attributed to growing urban populations and renewed growth in per capita income. Apart from smallholder farmers, other entities involved in different components of agriculture value chains also take advantage of the opportunities created (Mukololo, 2009).

The components of agriculture value chains are subjected to the influences of power (Ingram, 2011) due to the potential economic benefits to be acquired by the actors involved. Pieterse (2005) defines power as something that manifests itself in ways that circulate in the form of a chain. Therefore, agriculture value chains, being made up of a network of components, are not exempted from the influences of power (Ingram, 2011). The operational definition of power as it relates to this study is adopted from French and Raven's (1959) view of power. Power is the ability of one entity to influence the actions or behaviour of another entity they interact with. It is inherent in all social relations and emanates from multiple sources, thus implying that all social relations are relations of power (French and Raven, 1959). Thus, actors in agriculture value chains utilize the institutions and structures governing the value chains to subject others and are themselves subjected to the influences of power (FAO, 2014). French and Raven (1959) posit that power is pervasive, complex and is often disguised in social relations and processes of social influence. They assert that power in individuals and entities can be determined by the behaviour of the agent exerting the power and the reactions of the recipients of the identified behaviour. Power relations in this study will refer to the power based interactions of actors holding different forms of power in the tomato value chain (Raven, 1965). Power exists in various forms, these include legitimate, referent, reward, coercive, informational and expert power(French and Raven, 1959).Revoredo-Giha *et al.,* (2012), posit that power and how it is distributed in a food value chain affects the both the innovation and the sustainability of the product chain.

He *et al.,* (2013) infer that different forms of power influence the relationships of actors in the value chains. The distribution of the various forms of power along an agriculture

value chain has the potential to imbalance the value chains' operations (Revoredo-Giha *et al.*, 2012). This is especially true in short food chains such as the vegetable value chains mapped by Hichaambwa and Tschirley (2006), whose study found that onion, tomato and rape value chains in Lusaka Province were prone to imbalance due to having many actors who struggle to find their niche within the short chain.

The overarching research question that this study intends to answer is; how are forms of power interacting and shaping the tomato value chain in Lusaka Province? Thus this study intends not only to identify forms of power but ultimately map various forms of power exhibited along the tomato value chain.

1.2 Statement of the Problem

A major feature of agriculture value chains in Southern African countries such as Zambia is tomato farming and trading which has proven to be quite lucrative (Mango *et al.*, 2015). Smallholder farmers have increased the production of tomatoes in order to increase their gains. Apart from smallholder farmers, other producers have emerged as reported by the Urban Consumption Survey of 2007-2008 which found that 40 percent of households in Lusaka have a field where they grow vegetables, such as tomatoes, for consumption as well as for sale. With about60 percent of the produce being sold, suggesting a commercial motive among some households. An increase in the production of tomatoes has contributed to the increasing number of collaborating actors in the tomato value chain in Lusaka (Mukololo, 2009). Despite being an extensive part of agriculture value chains, the tomato value chain is marked with increased inequalities in the distribution of economic benefits and imbalances in the power-based collaborations within the value chain (Hachaambwa and Tschirley 2010). The unequal distribution of economic benefits gives rise to opportunism among more dominant actors who continue getting more benefits while the less dominant actors have inadequate safety nets and social protection systems. The High-Level Task Force on Global Food Security (2010) attributes these inequalities and imbalances to policy failures regarding smallholder producers and lack of consistency in effective operation of markets. Literature has shown that power relations among collaborating actors in agricultural value chains determine their operation, success and

failure. However, in the case of Lusaka, it is largely undocumented how power relations are shaping the tomato value chain and how these interactions tend to influence the formal and informal institutions within the tomato value chain.

1.3 Aim

To investigate the influence of different forms of power along the tomato value chain in Lusaka Province.

1.4 Research Objectives

i. To identify various forms of power among actors in the tomato value chain in Lusaka.
ii. To illustrate the interactions of the various forms of power in the tomato value chain in Lusaka.
iii. To assess economic implications of the distribution of power among the various actors along the tomato value chain in Lusaka.

1.5 Research Questions

i. Who are the actors in the tomato value chain?
ii. What forms of power are exhibited in the tomato value chain?
iii. Which actors are dominant in the tomato value chain?
iv. Which forms of power are dominant in the tomato value chain?
v. How are the formal and informal institutions influenced by the power relations in the tomato value chain?
vi. What costs are incurred by the actors in the tomato value chain?
vii. What benefits attained respectively by the actors in the tomato value chain?

1.6 Significance of the Study

This study identifies the forms of power at play in the tomato value chain as well as their points of influence along the tomato value chain. The study also highlights the economic implications of the distribution of different forms of power. A comprehensive inquiry into the tomato value chain from the perspective of the actors will provide insight into the influences of power relations along the value chain. The information obtained from this

study, such as the positive influences of particular forms of power along the tomato value chain, could be useful to agricultural policy makers, agricultural decision makers and actors such as local authorities. The findings from this study on the areas along the tomato value chain facing negative effects of power relations could be addressed by the government, agro-processing associations and farmers. This study also contributes to academic literature on political economy of food systems.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The demand for horticulture commodities and products has increased drastically due to an increase in population in the major cities of Zambia such as Lusaka. This has resulted in an increase in the production of fruits and vegetables (Agribusiness Incubation Trust, 2015).In response, smallholder farmers in Zambia have increased their production of different kinds of food, especially fresh fruit and vegetables, (Agribusiness Incubation Trust, 2015) to meet the ever increasing demand. According to the ITC Trade Map (2018) smallholder farmers produce significant amounts of vegetables which are enough to carter for the domestic market as well as supply enough for the export market. In the case of tomatoes, for example, in the year 2017 alone, Zambia exported unprocessed tomatoes worth USD20 000, which demonstrates that the agriculture sector can create wealth and income for smallholder famers.

In developing countries, such as Zambia, studies have revealed that smallholder farmers producing vegetables, such as tomatoes, encounter many challenges stemming from supply choice, supply channels and market margins attained (Mukololo, 2009;Zimba 2013). This, in part, is due to the dominance of traditional marketing systems (Hichaambwa and Tschirley, 2010) which present several uncertainties for the farmers such as the volatile prices of raw tomatoes, lack of storage facilities (Mango *et al.,* 2015; Macheka *et al.,* 2018) and the struggle for dominance (Mungandi et al., 2012;Match Maker Associates, 2012) in the value chains.

This chapter reviews literature according to the following themes; theories on power and power relations, theoretical basis of this study, effects of power on food value chains as well as a conceptual framework for this study.

2.2 Theories on Power and Power Relations

A review of literature shows that there are many theories put forward on power and power relations. For instance, Cho and Chu (1994) postulate that power is an amalgam of complex social, economic and even psychological factors and therefore is very

difficult to measure. They further suggest that power is a subjective phenomenon predicated on one's belief or expectation of how another actor will create an impact on oneself. Further elucidating on the definition of power Emerson (1962) describes power as the ability of one actor to influence another to act in the manner that they would not otherwise. This definition indicates why actors who have to collaborate with each other struggle for more power. Based on this definition, Emmerson (1962) coined the power-dependence theory that suggests that inequalities in dependence create power imbalances that can lead to conflict in social exchange. Further, social relations are inherently integrated with dependencies and power resides implicitly in how some actors depend on another actor. One factor that increases dependency is lack of alternatives. Even though collaborating actors could be mutually dependent in an exchange, it does not mean that they are equally dependent on each other. This results in the less dependent actor maintaining a power advantage on the more dependent actor leading to power imbalances.

Golgeci *et al*, (2018) conceptualized yet another theory of power and power relations. They suggest that power in value chains can be observed by the behaviour of collaborating partners. They suggested three power-based behaviours expressed by collaborating partners in a value chain; dominance, egalitarian and submissive behaviours. Dominance behaviour denotes the expectation of compliance by the dominant actor often with implications that failure to comply will have adverse consequences. Egalitarian behaviour denotes a degree of reciprocity, equitability and compromise between collaborating partners where partners view each other as equals despite an imbalance in power between them. Submissive behaviour denotes conformity to the requirements of a partner which encompasses both willing and resentful submission.

Pieterse (2005) when discussing the power-based behaviour of collaborating actors proposes the existence of ideological or conditioning power which he describes as collaborating actors being accustomed to certain patterns of behaviour due to local customs, norms and values. He further proposes that power can be attained by

imbalance such as uniqueness and strategic centrality, skills and money, structural position such as formal authority and network centrality.

2.3 Theoretical Framework

The concept of power reveals relations of domination between different social entities. The domination is mainly as a result of the uneven distribution of power in the social relations which translates into relations of power or power relations. This concept of power is useful in food value chain analysis because the complex interactions which exist among collaborating actors are usually on a 'who dominates whom' basis. The actors dominating a food value chain usually influence its operation. Studies based on power relations in value chains emphasize how collaborating actors in value chains utilize the structures, the formal and informal institutions, governing the value chains in their interactions to subject others and be subjected to power and power relations. There are many theoretical perspectives that inform studies on how power and power relations influence value chains. This study's theoretical leaning is based on French and Raven's (1959) view of power and power relations.

French and Raven (1959) posit that power is present everywhere, complex and is often disguised in social relations and processes of social influence. Therefore, they assert that power in individuals and entities can be determined by the behaviour of the agent exerting the power and the reactions of the recipients of the identified behaviour. The definition of power by French and Raven (1959) implies that different forms of power can be expressed by different behaviours which can be observed. Different social relations result in an array of power relations due to the interactions of actors holding different forms of power. This study adopted French and Raven's (1959) theory of power because the collaborating actors in food value chains utilize the different forms of power they possess to influence others and are themselves influenced. This theory therefore was suitable for this study as it sought to investigate the influence of power relations on the tomato value chain.

2.3.1 Forms of Power

Different forms of power are expressed and can be observed in the behaviours of those expressing the power and on the recipients of the expression (French and Raven, 1959). This study focused on the seven forms of power identified by French and Raven (1959) as reward power, legitimate power, referent power, expert power, informational power, coercive power and economic power.

Reward power is described as the ability of one actor to offer rewards to another in exchange for advantages in the food value chain. This form of power is characterized by intrinsic motivation and low resistance. Legitimate power is exhibited by entities with legitimate right to influence other actors and other actors have an obligation to accept. It is power possessed due to an entity's position attained by election, selection or appointment and may at times be underpinned by social norms. Referent power entails charisma and interpersonal skills which are especially useful when trying to convince others. It is evident when collaborating actors have to choose a network to join. Expert power is based on actors' knowledge, experience, and special skills or talents. It can be positive or negative based on how the actor on whom the power is expressed responds. Informational power is described as the ability to provide up-to-date information and to demonstrate the logic of suggested actions. It is exhibited by actors' ability to use their knowledge of certain things to influence the behaviour of others and consequently gain competitive advantage in value chains. Coercive power reflects the fear of sanctions such as exclusion or expulsion from a network actor for failure to comply with the requirements. Conventionally, coercion carries connotations of force but French and Raven (1959) found that coercive power improves certain value chain relationships when combined with trust among the actors. Economic power is the ability to control or influence the behaviour of others through the deliberate use of economic assets. This gives the impression of being able to buy or sell more as compared to other collaborating partners.

2.4 Effects of Power and Power Relations on food value chains

Based on French and Raven's (1959) theory of power and its forms, collaborating actors in food value chains often interact on a buyer and seller basis. In this sense, Croom *et*

al., (2000) postulated that power, which is the potential to influence others, is implicit in all buyer-seller relationships. Since vegetable value chains, such as the tomato value chain, usually have many buyer-seller relationships all competing for maximum economic benefits, actors possessing certain forms of power and influence usually attain the most benefits. Therefore, Liu *et al.*, (2017) propose that value chain actors are usually looking for ways to have more power as compared to other actors. As a result, the distribution of power in a value chain is largely determined by actors with more power or with certain forms of power. Hichaambwa and Tschirley (2009) who mapped out vegetable value chains in Lusaka for onions, rape and tomatoes reported that the vegetable chains tend to have many actors and are prone to imbalance due to the struggle for economic benefits and power within the short chain. Bloom and Hinrichs (2010) admit that most food chains do not distribute power equally amongst the actors involved. Mungandi *et al.*, (2012) report that in collaborations, when there is evidence of power asymmetry between collaborating actors, the more powerful actor imposes its will on the less powerful actor. This has the potential to reduce free negotiations and commitments resulting in dissatisfaction of the less powerful actor.

Revoredo-Giha *et al.*,(2012) perceived a food value chain as a network of organizations that have primary economic relationships but also possess social relationships with each other that enable the functioning of the value chain. Belaya *et al.*, (2011) who discussed the role power plays in value chain networks and how it affects value chain cooperation and coordination, concluded that certain forms of power can have an effect on the economic as well as social relationships of value chain actors. The network of organizations found in value chains are found to operate within formal and informal institutions. As suggested by Pascual- Fernandez *et al*; (2005), value chains are highly institutionalized and interactive systems where relations are structured and governed according to various modes and principles with markets and hierarchies as the two extremes of the continuum. They further purport that in the interface between the extremes are located the independent, self-employed, small scale growers and sellers of produce as well as large multinational corporations. The World Bank (2007) describes the characteristics of the informal sector as own-account workers in survival-types

activities, self-employed workers in micro-enterprises and home-based workers in production chains.

North (1990) defines an institution as the rules of the game that guide the behaviour of individuals and provide the structure of incentives to members of the group. Dobler (2011) described institutions as being made up the social, political, legal and economic system of a state thus creating a framework within which social life takes place. According to Pascual-Fernandez, *et al.*,(2005) institutions facilitate economic, political and social interactions thereby creating incentives for different courses of action and guiding the election of the economic actors. Fuentelsaz *et al.*,(2019) propose that within value chains are found formal and informal institutions which provide the operational rules for all members in the chain despite what form of power they hold. Formal institutions imply an official formal enforcement mechanism in case the rules are violated while informal institutions constitute cultural and societal factors which attract societal punishment when the rules are violated (Dobler, 2011).

Rahman *et al.,* (2017) presented an analytical framework to better capture the interactions between formal and informal institutions. They concluded that formal and informal institutions are not in opposition but work together to promote long-term sustainability of a value chain. Similarly, Fuentelsaz *et al.*,(2019), theorized that informal institutions are contingent to the formal institutional environment where new ventures operate. Dobler (2011) posits that the interaction of formal and informal institutions help to make behaviour predictable and greatly reduces transaction costs in value chains. In contrast, Kaplinsky and Morris (2000) suggest that informal institutions promote opportunist tendencies in value chains where actors use the informal institutions to achieve maximal personal utility by arranging institutions to best suit \
their interest which often leads to oppression. Akullo *et al.,* (2018) report that within an unstable environment, people will maximize their individual utility with or without informal institutions.

Informal institutions appear to dominate many agriculture value chains in many developing countries in Africa (Akullo *et al.,* 2018; Macheka *et al.,* 2018; Mungandi *et*

al., 2012). Birthal *et al*., (2017) suggest that informal institutions dominate because of inadequate or inappropriate formal institutions. In the same vein, North (1990) postulates that informal institutions mitigate the effects of some of the formal institutions deficiencies. On the other hand, Fuentelsaz *et al.,* (2019) report that when formal institutions are well-defined, opportunism decreases and trust increases as well as the enforcement of long-term contracts and reduction of transaction costs leading to efficient institutional structure. In this view, there would be little need for informal institutions.

Odera (2013) insists that trust resulting from social networks among actors in a value chain is a product of informal institutions which emerge to mitigate the void left by formal institutions. Similarly, Mungandi *et al.*,(2012) identified social capital stemming from informal institutions as one of the key determinants for the successful inclusion of smallholder farmers in agriculture value chains. Further, social capital was found to increase trust and trustworthiness between collaborating partners. Golgeci *et al.*,(2018) suggest that qualities such as reliability and forbearance of opportunism build trust between partners despite inequalities in power.

The literature reviewed revealed several studies have been done on the factors that affect the tomato value chains in Southern Africa such as a study by Macheka *et al.*,(2018) in Zimbabwe who investigated the factors contributing to post-harvest losses in the tomato value chains. Mango *et al.,* (2015) did a comparative analysis of tomato value chain competitiveness in Malawi and Mozambique and reported a difference in competitiveness between Malawi and Mozambique with Malawi having a higher competitiveness attributed to higher productivity and cost advantage in labour and irrigation costs. In Zambia, Mukololo (2009), after examining the fresh vegetable market supply chain in Lusaka for small scale producers and traders, concluded that supply choice was influenced by age, level of education, location and size of cultivated land. Hichaambwa and Tschirley (2010) found that tomato, rape and onion supply chains in Lusaka were short with many actors occupying the various components of the vegetable supply chains. Mungandi *et al;* (2012) reported on the integration of smallholder farmers

in agriculture food chains and concluded that social capitol is one of the key determinants for the successful inclusion of smallholder farmers in agriculture food chains. Although many value chain scholars have expressed great interest in power imbalances in food value chains, the literature reviewed shows little attention has been paid to how power relations shape vegetable value chains. This research covers this gap by exploring how power relations are shaping the tomato value chain using Lusaka as a case of study.

CHAPTER THREE: DESCRIPTION OF THE STUDY AREA

3.1 Introduction

This chapter describes the physical and socio-economic characteristics of the study area. It describes the location of Soweto market in Lusaka City, Chongwe District, Shimabala and Lusaka West in Lusaka Province. Lusaka Province was selected for this study because of its vibrant tomato trading and its connection to all aspects of the tomato value chain.

3.2 Location

Lusaka Province covers an area of 21,896km^2 (CSO,2012) and is the smallest province in Zambia.

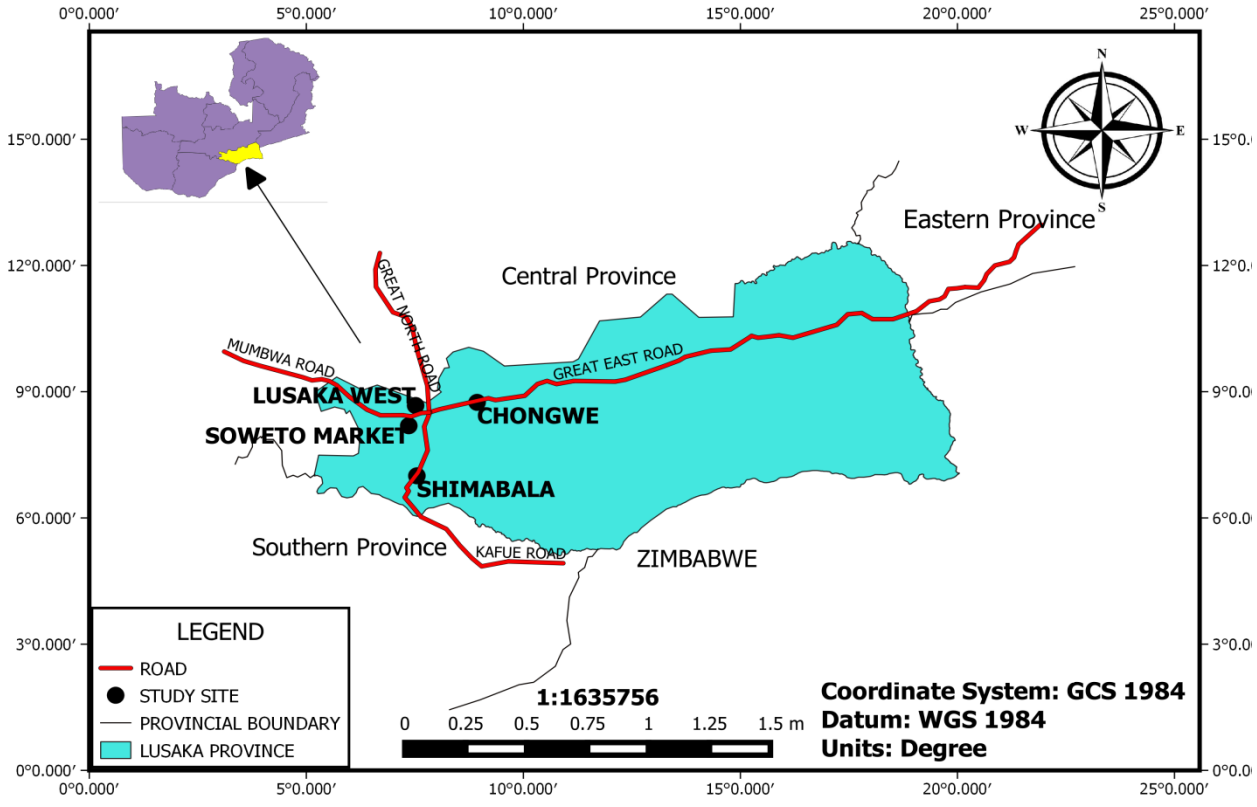

Figure 3.1: *The location of study sites in Lusaka Province*

Source: Author, 2018.

3.3 Physical Characteristics of the Study Area

3.3.1 Rainfall and Temperature

Lusaka Province is located in agro-ecological region (AER IIa) which receives annual rainfall in the range of 800mm to 1000mm. Its growing season is between 100 and 140 days long. It is a plateau region with altitudes of between 900 and 1300 m (GRZ, 2010). It has mean daily temperature range 23-26^{o}C in the hottest month October to 16-20^{0}C in the coldest months June and July (LCC, 2019).

3.3.2 Soils and Rock Systems

The soils common in Lusaka are reddish to brown clayey to loamy soil types that are moderately to strongly leached, with high agricultural potential. They are mainly Haplic Lixisols, Haplic Acrisols and Haplic Luvisols (Eroarome, 1983). The rock system in Lusaka Province is described as a crystalline basement complex that comprises quartzite and schists (Nkhuwa, 2003).

3.4 Socio-Economic Characteristics

3.4.1 Infrastructure

The study area is well serviced by major and minor roads with commuter public buses and taxis transport. The study area is covered and serviced by the local radios and television network. The area is also well covered by telecommunication networks such as Airtel, MTN and Zamtel. Private and public hospitals, schools, universities are well developed in Lusaka. Public sheltered markets as well as open air markets are found all across the province (Hichaambwa and Tschirley, 2010).

3.4.2 Population

Lusaka Province had a total projected population of 3,119,190 as at 2018 (CSO, 2013) and an annual population growth rate of 3.6 percent for 2011 to 2035. The total male population is projected at 1,542,895 (49.5 per cent) and total female population projected at 1,576,295 (50.5 per cent) as at 2018. The provincial average population density is 100.1 persons per square kilometre, with 79 per cent (4853.2 persons per

square kilometre) of the provincial population density located in Lusaka district (CSO, 2013).The high population density has led to many squatter and informal settlements in Lusaka district. The population of Lusaka is predominantly young with up to 70% of the population below the age of 35 (CSO, 2018).

3.5 Economic Activities

Lusaka, being the capital city of Zambia, has numerous economic activities taking place such as manufacturing, quarrying, trading and agriculture. The working-age population, that is all persons 15 years and older stood at 1,935,394 with 937,303(48.4 percent) male population while 998,109 (51.6 percent) female population (CSO, 2018).The employment-to-working age population ratio, the percentage proportion of working-age population that is employed in Lusaka as at 2018 stood at 51.9 which translates into 1,004,469 (CSO, 2018).

The informal sector encompasses traders, small scale entrepreneurs and street vendors. Most farming areas in Lusaka Province are located in areas surrounding Lusaka City with very few farming areas being located in Lusaka West. The districts surrounding Lusaka district have a high concentration of smallholder farmers who are the main suppliers of vegetables, fruits and livestock. These farmers use a combination of rain fed and irrigated agriculture and use manual labour or animal traction for their farming activities. There are a good number of commercial, mechanized farms located within Lusaka Province (FEWS NET, 2014). The farmers grow cash crops such as tomatoes, sweet potatoes, Irish potatoes, onion, beans and groundnuts which they supply for sale at Soweto market. The good road network facilitates access to Soweto market from the other study sites. Soweto market is the largest wholesale and retail market for agricultural produce and products in Lusaka Province. The market attracts potential customers from within Lusaka City as well as from surrounding districts. Fresh fruits, vegetables and dry farm produce such as maize, beans and fish are sold at Soweto Market. Agricultural produce and products are usually heaped on makeshift stalls or on the ground with prices being called out to potential customers. Commercial, smallholder and backyard producers supply a wide variety of produce to the market for sale.

CHAPTER FOUR: METHODOLOGY

4.1 Introduction

Methodology refers to the methods employed in conducting research. It specifies the methods which will be used to collect data and the ways that the data will be analysed in order to achieve the research objectives (Kumar, 2011). This chapter describes the philosophical leanings that form the basis of the methods used in this research and the reasons for adopting these methods. The research strategy used, the sampling techniques utilized, the data collection methods and data analysis methods are outlined. The demographic characteristics of respondents as well as study limitations are outlined. Data was collected between December 2018 and February 2019.

4.2 Philosophical Considerations

The choice of the methodology used in research is influenced by the researcher's ontological and epistemological orientations. Bryman (2012: 32) describes ontology as being concerned with the nature of reality and its characteristics. In the case of social ontology, it relates to whether social entities are viewed as objective entities or subjective entities. This study took on a social constructivist ontology which holds that social entities are subjective and are social constructions built up from perceptions and actions of social actors. Thus this study looked at the 'multiple realities' which are formed through interactions between individuals in the tomato value chain from the varied perspectives of the actors involved.

According to Bryman (2012: 29) epistemological considerations are mainly concerned with the question of what is regarded as "acceptable knowledge in a discipline". This study adopted an interpretivist epistemology which requires that the study of the social reality should be guided by a subjective interpretation and meaning. Thus there is a belief that people within any social setting will create meaning out of their social world and hence act in a way they understand. This was fitting for this study because it sought to establish the meaning that the actors in the tomato value chain attach to power based social relations and how this affects the tomato value chain.

4.3 Research Strategy

This study adopted a qualitative approach using Lusaka Province as a case of study. Qualitative approach to research involves inquiry into the underlying reasons, opinions and motivations of a given phenomenon; it therefore provides deep insights into an identified problem (Silverman, 2010). The advantage of utilizing a qualitative approach is that it focuses on hidden aspects of a community or a system thereby helping the researcher to perceive and understand why things are the way they are. The qualitative approach used in this study sought to achieve the aim by getting the perceptions of the target population on the forms of power at play in the tomato value chain and how these are exhibited in behaviour. Further, the opinions of the target population informed this study of how the power relations are shaping the structure of the vale chain and the economic implication of the interactions of power.

Kumar (2011) purports that in a case study, the total study population should be treated as one entity based on the assumption that the case being studied is not representative of cases of a certain type. Therefore, a single case can provide insight into the events and situations prevalent in a group from where the case has been drawn (Creswell, 2003). Employing a case study research design is appropriate in this study because the tomato value chain can be viewed as a single unit to be intensively investigated (Yin, 1989) and involves the examination of multiple variables (actors) whose interaction is the basis of the investigation (Bryman, 2012).

4.4 Selection of Respondents

A sample size of 223 respondents was selected from the study population. The sample size was not predetermined but was arrived at after reaching the data saturation point. In qualitative research, data saturation is achieved when the researcher is not getting new information or the information acquired is negligible to the research at hand (Kumar, 2011). The sampling designs used were purposive sampling, snowball sampling and convenient sampling.

Purposive sampling is a non-probability form of sampling where respondents in a study are selected strategically so that those sampled are relevant to the research questions

(Seale, 1999). Purposive sampling was adopted for the selection of key informants from Lusaka City Council, Zambia National Farmers Union (ZNFU) and the four agro processors. The key informants were selected on the basis of their knowledge on various components of the tomato value chain.

Snowball sampling is a process of selecting a sample using networks by identifying and selecting a few individuals in a group as respondents then these are asked to identify other people in the group who are then recruited as respondents (Gilgun 1994). This sampling method was used to select farmers and transporters from Shimabala, Chongwe and Lusaka West who supplied and transported tomatoes to Soweto market which was part of the value chain under study. This was achieved by the researcher initially sampling a small group of farmers and transporters at Soweto market. This was the point of recruitment as the market presented an array of farmers from the other study sites. The farmers were asked to propose other respondents supplying tomatoes to Soweto market. Snowball sampling was also used to recruit political agents because this group of respondents could not be easily identified. Contact with the first political agent was made through one of the respondent transporters who knew the political agent. The first political agent to be interviewed was then asked to introduce other political agents who operate from Soweto market. One of the objectives of this study was to map the power-based interactions of the actors in the tomato value chain, therefore snowball sampling of respondents was suitable because as noted by Bryman (2012) this sampling method is fitting when networks of individuals are the focus of attention. Silverman (1999) also recommends this as a technique which can reveal the connectedness of individuals in networks.

Convenient sampling is a process where respondents are selected because of their convenient accessibility and proximity to the researcher (Kumar, 2011).This sampling technique was used to select market agents and retailers by approaching any who were willing to participate in the study as they were trading. This method was used to select the market agents and retailers because they were easy to access and willing to participate in the study. This allowed for the collection of basic data and trends in the tomato value chain.

4.5 Data Collection

Data collection is a process of gathering and measuring information on entities of interest following a systematic procedure that enables the researcher to answer research questions or evaluate outcomes (Kumar, 2011). Data collection for qualitative research usually involves interaction with individuals in a group setting or a one on one basis. This study utilized several methods of data collection which included; key informant interviews, unstructured interviews (Bryman, 2012), unstructured observations and desk analysis.

4.5.1 Semi-Structured Interviews

This is a type of interview where the researcher asks pre-determined questions which unfold in a conversational manner and allows the respondents to explore issues related to the topic that they feel are important. This method of data collection was suitable for this study because it allowed the respondents to express themselves without being restricted by specific questions and allowed the researcher to probe for more detailed information. Using an interview guide(Appendix I), key informant interviews were conducted in English with officials from Lusaka City Council (two), Zambia National Farmers Union (two), and agro processors (four), one respondent each from Freshpikt, Sylva Foods, Rivonia and Gold Whip. Interviews with the key informants on average lasted 25minutes. The focus of the interviews with the officials from the local authority was on the supply of tomatoes to Soweto market and on their role in the tomato value chain. Interviews with ZNFU focused on actors that farmers directly interact with in the tomato value chain. Agro processors were asked on the sources of their raw tomatoes, actors they interact with and whether they encounter any challenges in dealing with other actors in the tomato value chain.

4.5.2 Unstructured Interviews

This method of data collection involves an interview in which there are no pre-determined questions that the researcher asks the respondents. The interview is guided by the general objectives of the study. This method of collecting data was employed in this study because it allowed the respondents to provide more revealing information

depending on the direction the discussion took. This method also put the respondents at ease and many were willing to participate on their own volition. The respondents in this study mainly spoke three languages; the official language, English, and two local languages Icibemba and Cinyanja. The language used to conduct the interviews was dependent on the preference of the respondent.

The collection of data using the unstructured interviews was two-phased. The first phase was the initial contact with the farmers and traders where general questions on the procedures they follow to supply and purchase tomatoes at Soweto market were casually asked. The respondents were asked if there were any barriers or fees to be paid and to whom the fees would be paid. Also the respondents were asked what the roles of the different actors in the tomatoes value chain were. The questions were asked within earshot of other people, without a lot of probing and the respondents activities were not interrupted which was done in order to gain their trust and not disrupt their activities. For this reason, the duration of the interviews in the first phase was about ten minutes.

The second phase included subsequent visits to respondents who were contacted in the first phase. This was done in an informal setting with an 'everyday conversation-like' manner, which allowed for in-depth probing and spontaneity particularly (Gilgun, 1994) on information to do with the role of political agents and market agents in the tomato value chain. The discussions in the second phase were conducted on a one on one basis to allow the respondents to express themselves without reservation. This was especially so when asking the traders, transporters and market agents for information about the role of the political agents. The discussions lasted an average of 20 minutes. These informal discussions, which were recorded using a digital voice recorder with the consent of the respondents, were useful in collection of data on expressions of power among actors in the tomato value chain from farmers, political agents and market agents.

4.5.3 Unstructured observation

This method of data collection involves recording in as much detail as possible the behaviour of respondents with the aim of developing a narrative account of that behaviour. This method was suitable for this study because it allowed the researcher to

watch, follow and record the activities of the actors in the tomato value chain as they happened. Using this method unexpected behaviours, which were not revealed by means of the other data collection methods, were observed.

The objective of this data collection method, using an observation schedule (Appendix II), was for the researcher to observe actors based at Soweto market as they carried on their daily activities. This was informed by Seale (1999) who advise that unstructured observation allows the researcher to watch, follow and record the activities as they are performed then after making a number of observations, conclusions could be drawn from the observations. Being a qualitative study guided by French and Ravens (1959) description of power and its various forms, as observed in behaviour, this study sought to observe different behaviours as described by the theoretical framework.

This observation was done on different days and at different times of the day such as in the early morning as the farmers and transporters from different study sites delivered their tomatoes to Soweto market; as the produce was being sold during the course of day and in the late afternoon as business was winding up at the market. The observation enabled the researcher observe first-hand expressions of forms of power as exhibited in behaviour by the various actors in the tomato value chain.

4.6 Data Processing and Analysis

Data processing is a series of actions performed on data to organize, verify, transform, integrate and extract data in an appropriate output for subsequent use. Data analysis involves actions and methods performed on data that help describe facts, detect patterns, develop explanations and test hypotheses.

The data collected from key informants was checked for errors such as unclear and incomplete responses. After ensuring that the data was cleaned, it was then entered into Microsoft Excel (Microsoft Corporation, 2010) based on research questions. Data inputted into the spread sheet was processed using Microsoft Excel 2010.

The data collected using unstructured interviews was transcribed from the voice recorder into text using Microsoft Word 2010. This data was then entered into a spreadsheet.

Data from unstructured observations was checked for clarity and unclear observations which was compared with responses from respondents during unstructured discussions. The data was entered into Microsoft Word 2010.

The data was coded by highlighting the most relevant words, phrases, sentences and actions. The relevance of the words, phrases, sentences and actions was informed by the research questions and ultimately by the study objectives. Five themes were created from recurrent words and phrases as well as observed behaviour hence the themes emerged from the data collected as guided by the research objectives.

The data was then analysed using thematic and content analyses (Bryman, 2012). Content analysis is a systematic search for patterns to gain full descriptions necessary for shedding light on the research questions to be answered (Creswell, 1994).

Using the themes created during processing, insights into the data was done by comparing responses to key questions from different data sources and relationships between different actors were looked for. Therefore, analysis of data was a continuous process of content analysis, creating themes and revisiting respondents to come up with a clearer picture of forms of power and their expressions.

CHAPTER FIVE: RESULTS AND DISCUSSION

5.1 Introduction

This chapter presents the results and discussion of findings as per research objectives. The characteristics of respondents are presented first followed by the findings on the identity of actors and forms of power among the actors in the tomato value chain. This is followed by presentation and discussion of the interactions of the forms of power and the economic implications of the distribution of power among the various actors along the tomato value chain.

5.2 Characteristics of Respondents

A summary of the respondents involved in this study is presented based on primary information collected from 223 respondents. Information about the age, gender, education level and monthly income is outlined.

The age of the respondents ranged from 19 to 65 years with the average age being 33.7 years. Out of the 223 respondents, there were a total 167 (73.89 percent) male respondents and 56 (26.11 percent) female respondents.

5.2.1 Level of Education

The results show that the majority (>80 percent) of the total sample population did not go beyond secondary school (Figure 4.1). A small fraction (< 3 percent) of the respondents did not have any formal schooling.

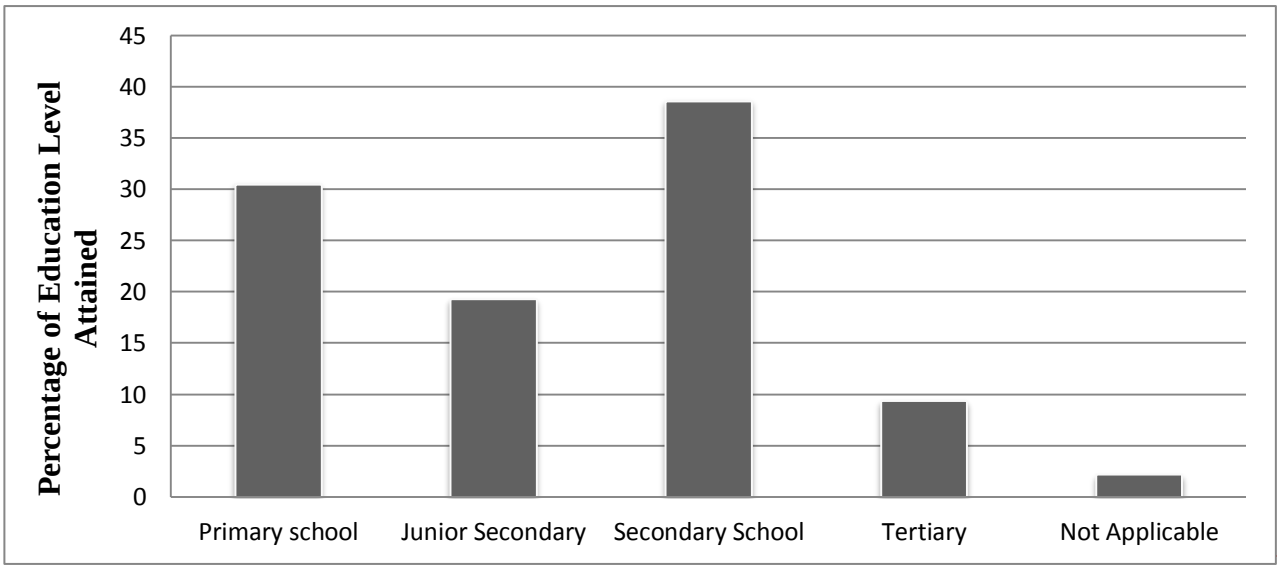

Figure 5.1: *Level of Education of Respondents*
(Source: Field Data, 2018)

5.2 .2 Monthly Income

The distribution of monthly income among the respondents excluding key informants which translates into 215 respondents is depicted in Table 4.1.

Table 5.1 *Monthly Income Levels*

Monthly Income (ZMW)	Percentage (%)
Below 1 000	28.8
1 000 to 4 000	37.7
Above 4 000	33.5
Total	**100.00**

(Source: Field Data, 2018)

5.3 Actors in the tomato value chain

This study identified seven main actors in the tomato value chain in Lusaka Province (Table 5.2).

Table 5.2: *Description of actors in the tomato value chain in Lusaka.*

S/N	Actor	Role	Description of Activity
1.	Farmers	Production	Produce an average of 4 acres of tomato.
		Assembling and	Assembly and transportation of tomatoes from

2.	Transporters	transportation	various farms to Soweto market.
3.	Market agents	Wholesaling	Sell tomatoes on behalf of farmers at a commission.
4.	Retailers	Bulking and trading	Bulk buying of tomatoes which they retail to street vendors and other traders who sell at open air markets.
5.	Lusaka City Council	Custodians of Soweto market and activities which take place there.	Collect market levy from all entities operating at the market and are responsible for waste management at the market.
6.	Political agents	May decide who has access to the market	Take control of parts of the value chain operating at Soweto market and impose their own rules.
7.	Agro processors	Value addition	Purchase tomatoes from farmers or transporters and produce various tomato products such as jams, sauces and pastes.

(Source: Field data, 2018)

Results indicate that these actors may collaborate with one another by choice, though in some instances the collaboration is as a result of the value chain structure. The farmers from areas surrounding Lusaka City, such as Shimabala, Lusaka West, Chongwe and Kasisi are the main suppliers of tomatoes at Soweto market. The production and supply stages of the tomato value chain in Lusaka are dominated by smallholder farmers as well as other 'backyard' producers whose tomatoes are from smaller gardens.

On average most of the farmers deliver tomatoes to Soweto market 3-5 times a week in-season (from August to October) and 1-3 times a week off-season (November to March). The farmers indicated that there is no limit of the quantity or frequency of delivering tomatoes. A key informant from Lusaka city council indicated that:

> "*There is no prior registration required for a farmer to supply their tomatoes to Soweto market. Therefore anyone is free to access the market as long as they pay the necessary fees to the city council and market committee which are charged daily"* (Personal communication, 2018).

These findings are in line with Hichaambwa and Tschirley (2010) who found that 70% of the tomato supplied to Soweto market come from smallholder farmers surrounding districts while the remaining 30% is shared between garden producers and commercial farmers (Hichaambwa and Tschirley 2006). The low levels of excludability in the frequency of tomato supply and access to the trading area were also reported by Match Maker Associates (2012) who found that open markets in developing countries, like Zambia, have very few supply barriers.

The transporters, who take up the role of rural assemblers, were found to be the link between the farmers (producers) and the market agents. A key informant from ZNFU revealed that it was common for the transporters to collect several smaller lots of scattered rural production and combine them into a single load at one location. Similar reports were made by Hichaambwa and Tschirley (2006) that the assembly of tomatoes by the transporters usually occurs in a decentralized process from within 20-30km of Lusaka City. Mukololo (2009) reports that transporters are the rural assemblers who take agriculture produce from production sites to marketing sites. Match Maker Associates (2012) also report that transporters in agriculture value chains in developing countries have common assembly points for agriculture produce and then transport it to the markets.

About 25 out 68 transporter respondents revealed that some of the farmers do not physically deliver the produce to the market themselves but entrust transporters to deliver the tomatoes to the market agents who sell the tomatoes on their behalf. Results further indicate that once delivered to Soweto market, the boxes of tomatoes are not offloaded from the vehicles which transported them but are sold from the vehicle itself at a fee charged to the farmer by the transporter. When asked why this was so, one farmer intimated that:

> "*This gives the impression that the tomatoes are being sold by the farmer himself and that no market agent has been engaged. This is done to attract customers both retailers and consumers"* (Personal communication, 2018).

The market agents (wholesalers)located at Soweto market play a major role in the tomato value chain because 95% of the tomatoes sold at Soweto market are sold by the

farmers through the agents at an agreed upon commission. The commission charged per box ranges between 10 and25 per cent of the going price. The market agents usually contract sub-agents who call out to potential customers as well as look out for potential suppliers of tomatoes to direct to specific market agents. Site observations revealed that potential clients were approached as many as three or four times by different sub-agents seeking tomato farmers to sell on behalf of. Due to the nature of the research questions, even the researcher was asked on several occasions if she wanted to supply tomatoes to Soweto Market by the market agents. This shows that there is competition among the market agents for farmers to sell for.

The researcher did not come across any female market agents at the time of the study. The market agents sell the tomatoes on behalf of the farmers at a marked up price and are therefore more expensive than the farmers. Similarly, Hichaambwa and Tschirley (2006) in their assessment of vegetable value chains in Lusaka found that the mark-ups on vegetables by the market agents range from 30-80% over the original purchase price. This trend is similar in Mozambique where market agents (called vendors) offer very low prices to smallholder farmers and sell at very prices to the consumers (Mango *et al.*, 2015).

The retailers purchase their produce from the market agents and on very rare occasions directly from the farmers themselves. Out of 72 retailers who participated in this study, 40 revealed that they have specific market agents whom they purchase tomatoes from. The major reason that was given for this was that the specific market agents from whom they purchase have good quality tomatoes which the retailers would manage to sell within the same day. It was revealed that the retailers purchase tomatoes for retail on a daily basis and aim to sell all their tomatoes that very day because the tomatoes are perishable and there are no storage facilities at Soweto market. Similar trends were reported in Zimbambwe by Macheka *et al.*,(2018) where lack of storage facilities at open air markets lead to daily purchase of tomatoes by retailers (called traders).

When asked about their role in the tomato value chain, the political agents responded that they ensure that the market operates smoothly. They indicated that they are part of their political party structures which have agents in all sectors of society so as to represent their party and mobilize party members as well as help the council to run Soweto market by taking charge of activities such as cleaning and security. Farmers and retailers who took part in the study confirmed that the political agents had control over all and any business conducted at the market because they are from the ruling political party. Farmers disclosed that the market agents in collaboration with the political agents did not allow them to sale their own produce unless they did so through the market agents.

One retailer confided that:

> *"The political agents and market agents work together in ensuring that tomatoes are only sold through market agents. Any farmer who insists on not engaging a market agent to sell their tomatoes is chased from the market"* (Personal communication, 2018).

The literature reviewed reveals that Agriculture value chains and by extension the tomato value chain is made up of activities such as production, transportation, processing, distribution and trading of the produce (Cotula and Blackmore, 2014). These activities attract a number of different actors whose aim is to acquire economic benefits. Some of the roles that the identified actors play are socially constructed because of the economic benefits to be attained. For example the role of the market and political agents does not fit into any of the nodes of the tomato value chain but have most of the influence. The political agents, due to the influence they possess as members from the ruling political party, have the authority to determine who can conduct business at the market. It is in this vein that farmers are not allowed to sale their own produce unless they do so through the market agents (Macheka et al., 2018; Mukololo, 2009).

Lusaka City Council was found to be the sixth actor in the tomato value chain, it is the local authority appointed by the state to ensure that Soweto market operates according to

the standards set by the law. The Market Act No. 13 of 1994 of the Laws of Zambia, provides for the establishment and management of markets, stipulates that the local council is mandated to monitor which goods are sold, specify the trading area, and collect levies and fees, waste management and creation of by-laws for regulatory purposes. In this regard, Lusaka City Council is a part of the value chain. Site observations found that the City Council only appeared around midday to collect market levy from the retailers, the farmers and transporters. A key informant from the city council disclosed that:

> "*The council does not have enough personnel. Therefore, we can only manage waste management and collection of market levy while other duties such as monitoring the activities at the market, daily cleaning of the market area and regulatory interventions are left to market committees"* (Personal communication, 2018).

Interviews with traders, market agents and tomato farmers revealed that the Market Committees were made up of the chairperson and his deputy, the secretary, the treasurer and other committee members all of whom were elected from among the different groups operating from the market such as the traders and the market agents. The Market Committees seemed to operate independently but further probing showed that the market committees usually operated under the influence of the political agents.

Agro processors, who make up the processing component of the tomato value chain, add value to the tomatoes by packaging and processing them into various products such as jam, paste and sauces. Farmers may deliver tomatoes to the agro processors or the processors may purchase the tomatoes from Soweto market. A key informant from Freshpikt food processors revealed that:

> "*We have an open door policy, where farmers can supply tomatoes to our organization as long as the farmers meet the set standards such as specific cultivars; the water and fibre content which determine how fast the tomatoes can cook during processing"*(Personal communication, 2018).

Another key informant from Sylva Foods revealed that they have a network of farmers who supply them with tomatoes but these are sometimes unable to meet the demand hence anyone is free to supply tomatoes. Key informants from Rivonia Foods reported their institution grow their own tomatoes but when need arises they purchase the tomatoes from Soweto market. A key informant from Gold Whip Processors disclosed that:

> *"The smallholder farmers are able to meet our demand for tomatoes but they want fast money which they can get from open markets so their supply is inconsistent. When tomatoes are scarce we buy pre-processed tomatoes and package it"* (Personal communication, 2018).

5.4 Forms of power exhibited by actors in the tomato value chain

The results indicate the distribution of the forms of power according to the actors as shown in Figure 5.2.

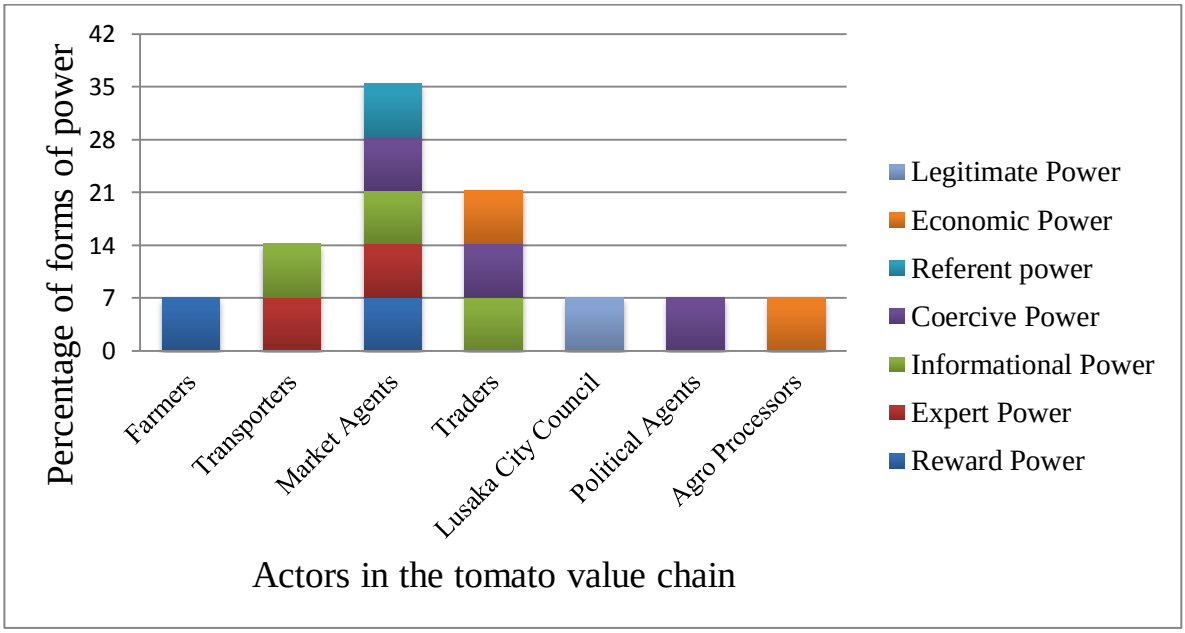

Figure 5.2: *Distribution of the forms of power among actors in the tomato value chain. (Source: Field data, 2018)*

The expression of different forms of power among the actors is shown in Table 5.3.

Table 5.3: *Expressions of Forms of Power among Actors in the Tomato Value Chain*

S/N	ACTOR HOLDING POWER	FORM(S) OF POWER	WHO IS INFLUENCED	EXPRESSION OF POWER
1.	Farmers	Reward power	Agents	The farmers offer the agents a commission to sell tomatoes on their behalf.
2.	Transporters	Informational and Expert power	Farmers and market agents.	The transporters have informational and expert power expressed towards the farmers in terms of information about how the market operates and which agents to use when selling the tomatoes.
3.	Market Agents	Coercive, Informational, Expert, Referent, Reward	Farmers, traders and transporters	(i) The agents know how to price the tomatoes so they express expert power towards the farmers. (ii) The agents use their knowledge (information) of the 'market politics' to engage farmers. (iii) The agents have expert power on dealing with traders, transporters, political agents. (iv)The agents show referent power by their ability to attract traders to buy from them and by their ability to attract farmers for whom they sell tomatoes. (v)The agents exhibit reward power towards the traders by reserving good quality tomatoes if they buy from them in groups of five or more. (vi) The agents exhibit coercive power towards the farmers by not allowing the farmers to sell their tomatoes without engaging the market agents.

4.	Retailers	Coercive, informational and Economic power	Agents and farmers	The retailers approach the farmers and market agents in groups of 6-8 and negotiate for a lower price.
5.	Lusaka City Council	Legitimate power	Farmers, transporters, traders and market agents	They are legally appointed authorities in charge of the market who collect market levy and responsible for waste management.
6.	Political Agents	Coercive power	Farmers, transporters, traders and agents	The political agents charge farmers for entry into the market. They also charge traders for selling space and fees for cleaning. Failure to comply leads to exclusion or expulsion from the market.
7.	Agro processors	Economic power	Farmers, traders and market agents	They purchase large quantities of tomatoes from farmers at once disadvantaging the market agents and traders. They can negotiate with the farmers for a price reduction below the market price because they can buy in bulk.

(Source: Field data, 2018)

Results indicate that farmers hold reward power by offering the market agents a commission to sell the tomatoes on their behalf. Based on French and Raven's (1959) definition, reward power entails offering rewards to another entity in exchange for advantages in collaboration. The farmers pay the market agents a commission as a reward for selling their tomatoes and they benefit by getting their produce sold. The farmers and market agents agree on a commission ranging from 10-25% of the going price per box of tomatoes on a given day. A study conducted in Russia by Belaya and Hanf (2011) views expressions of reward power as ones that foster cooperation among actors in a value chain as both actors attain gains. Alternatively, Pieterse (2005) argues that there is very little distinction between coercive power and reward power by suggesting that reward power can be a form of coercion or a way of engineering consent. In the case of the tomatoes farmers in Lusaka Province, the 'cooperation' is not by

choice because they are have with no alternative but to engage the market agents. The farmers therefore do not have any choice but to engage the market agents if they want to sell their tomatoes at Soweto Market.

The transporters were found to exhibit expert power and informational power towards the farmers, traders, market and political agents. The transporters were also found to express information power towards the market agents about farmers who need market agents to sell the tomatoes on their behalf. Some of the retailers (40%) reported that the transporters sometimes inform the political and market agents of farmers who insist on selling their tomatoes without involving the market agents. This may result in the market agents and political party cadres chasing the farmer from the selling area. The transporters tend to only reveal information when the situation fits them, similarly, He *et al.,* (2013) report that actors in value chains with more informational power tend to hoard information so that it can only be used when it benefits them.

The results indicate that the market agents have the largest combination of different forms of power among all the actors in the tomato value chain. The market agents use their expert power, which is their knowledge and experience, to influence the pricing of the tomatoes and in dealing with retailers and political agents. One market agent reported:

> "*The farmers do not know how business is done at Soweto market, so the farmers need the market agents to sell the tomatoes on their behalf"* (Personal communication, 2019).

A farmer from Chongwe seemed to agree with this view as he revealed that:

> *" Azi mai bogula bamabvuta kumvelana nao mitengo so bamene aba ma agent baziba vonvelana nao. Ine nima shota ngati nagulisa neka"*(Personal Communication, 2019).
>
> Which means when translated, "the female retailers are difficult to negotiate pricing with, so these market agents know how to negotiate with them. I have shortages if I sell the tomatoes myself".

This implies that some of the farmers have difficulties dealing with the retailers so they would rather engage market agents. Mukololo (2009) attributes the engagement of market agents to perishability of tomatoes as the farmers would want to sell their produce quickly.

The market agents also use coercive power towards the farmers by not allowing any farmer to sell the tomatoes without engaging a market agent. When asked why farmers this is so, a 47 year old tomato farmer from Chongwe who has been selling his produce through Soweto market for the past 6 years reported that:

> *"It has always been like this, we are not allowed to sell the tomatoes without the market agents"* (Personal communication, 2019).

A market agent defended his role in the tomato value chain by reporting that the role of the political agents and market agents in tomato trading was not new but was there even the previous regime (1991- 2011). A study commissioned by Diakonia Zambia on political governance in Zambia reported that the idea that the ruling party owns the State and its institutions tends to give ruling party cadres the power to illegally usurp powers and functions of legally-established governance institutions such as local government authorities. This is the reason why Soweto Market is basically controlled by the political agents.

Farmers who initially resist engaging market agents are forced to given in eventually. This is because they have already transported their produce from their farms which they have to sell within the same day since the tomatoes are perishable and there are no storage facilities at Soweto market. The market agents were found to exert expert power, informational power and coercive power on the farmers as compared to the reward power expressed by the farmers on the market agents. This indicates that the market agents exert more power on the farmers, thus the market agents are in a position where they influence the operations of the tomato value chain.

A woman retailer who has been selling tomatoes from Soweto market for the past two years revealed that farmers that do not want to engage the market agents are reported to

the political agents who then charge such farmers as much as ZMW350 for selling their tomatoes without engaging the market agents. When asked why this is so, a market agent pointedly responded that:

> *"The role of the farmer is production not selling the tomatoes, the farmer cannot have two roles, that of selling and production"* (Personal communication, 2019).

The presence of the market agents at the trading component of the tomato value chain is not uncommon as this has been reported by Kiambi *et al.,* (2018) in Kenya who mapped the dairy value chain as well as Mango *et al.,* (2015) in Malawi and Mozambique. What may seem unusual in this case is that the market agents use a combination of different powers to practically call all the shots at the trading area which may lead one may question the source of the influence. Site observations revealed that political agents are behind the influence that the market agents have. The political agents draw their power from their political party which currently forms government. This would explain why the majority of the farmers seem to have accepted the status quo without any question. This acceptance seems to indicate a form of power identified by Pieterse (2005) as ideological or conditioning power, where actors accept a situation or a way of doing things because that is the way it has always been. In this case the market agents, with full backing from the political agents, have taken advantage of the status quo to dominate the trading component of tomato value chain in Lusaka Province. This scenario could be an example of how the concept of power, as defined by French and Raven (1959) gives a better understanding of relations of domination between different actors who need to collaborate in a value chain. Kaplinsky (2000) views value chains as repositories of rent seeking behaviour which can arise from power imbalances within a value chain with less powerful actors being disadvantaged. This view is consistent with conclusions drawn by Liu et al., (2017) who found that actors in value chains with controlling power influence other actors to give in to demands which usually benefit the actors with controlling power. It would appear then, that the market agents, with full backing from the political agents, utilize the different powers they hold for rent seeking behaviour, thereby disadvantaging the farmers and traders.

The study found that 90 percent of the retailers interviewed were women aged between 20 and 65, while the other actors in the other components of the tomato value chain were pre-dominantly men. The women often move in groups of about six to eight and approach the market agents as a group thereby coercing, by negotiating for a price reduction, the market agents and farmers. The findings revealed that referent power influences persons the retailers purchase tomatoes from. About 55 percent of the retailers revealed that some market agents have ' good luck' such that when retailers buy tomatoes from them the tomatoes will be sold quickly no matter how bad business is, while others have do not have this 'ability'. When asked if they would rather purchase their tomatoes from market agents at a marked up price or directly from the farmers without the mark up, mixed responses were expressed. One retailer indicated that she would like to deal with the farmers directly but it is not allowed by the political and market agents. Another retailer had a different view, her response was:

> *"If the market agents are cut off by me buying tomatoes directly from the farmers, then what will our friends (market agents) eat? That is how they earn a living because there are no jobs out there"* (Personal communication, 2019).

The Lusaka City Council which is the local authority appointed by law, express it's legitimate power by defining the selling area, collection of rents, tolls and fees as well as inspection of the selling area to ensure the approved goods are sold at Soweto market. Direct observations revealed that the council authorities only visit the market when collecting market levy and when collecting waste from designated areas around the market.

The political agents use coercive power on the farmers by ensuring that the farmers engage market agents to sell the tomatoes on their behalf. They (political agents) then charge the market agents random, depending on how one negotiates, fees ranging from ZMW100 to ZMW200 for operating at the market. How frequently the fees are charged depends on how long a market agent has been operating from Soweto market and the personal relationship an individual has with the political party cadres. Market agents who had operated from Soweto market for more than two years were charged lower

amounts and less frequently. The market agents revealed that they have to pay these charges or risk being expelled from the market by the political party cadres. One farmer indicated that the political agents sometimes prevent entry into Soweto market for over half a day for reasons such as cleaning the selling area. They then charge the farmers varied amounts ranging ZMW50-ZMW350 for bringing produce to the market on a cleaning day. The political agents have usurped the role of the City Council due to their having political influence as members of the ruling political party. The political party gives the political agents the backing to do as they wish. One political agent intimated that:

> "*emalipilo yesu pakucita campaign nokufwaya ama members yacipani"* (Personal communication, 2019)

Which means when translated, "this is our reward for campaigning and mobilising members for the ruling party".

The council being part of the local government cannot resist the influence of the political agents since they have the backing of the ruling political party.

The agro processors were found to exhibit economic power expressed towards the farmers, market agents and traders. A key informant from Rivonia processing reported that when tomatoes are scarce, their organization purchase tomatoes directly from the farmers at Soweto market and they are able to negotiate a lower price than the going rate since they buy in bulk.

One farmer from Shimabala revealed that:

> "*I would rather sell my tomatoes at a lower price to the agro processors when they come to Soweto market because then I would not pay the market agents* (Personal communication, 2019)".

Out of the 32 market agents interviewed, 23 (72 per cent) indicated that they are not affected by the agro processors buying tomatoes from Soweto market because have many farmers they deal with. Some retailers (29 per cent) viewed the agro processors as disadvantaging them when they purchase the tomatoes from Soweto market because

they choose the good quality tomatoes and buy at a lower price since they buy in larger quantities than the retailers do.

5.4 Mapping of the forms of power in the tomato value chain

A power mapping framework was drawn showing the interactions of forms of power among the actors in the tomato value chain (Figure 5.3).

The findings indicate that the interactions of forms of power in the tomato value chain are not linear but form a network of power relations. The results showed that there are three operational institutions, that is; the formal institutions, informal institutions and the interface between the formal and informal institutions. The power mapping indicates that Lusaka City Council, which falls under the formal institution region, exerts legitimate on a number of actors in the tomato value chain. Results suggest that most (>90 per cent) of the actors in the tomato value chain operate in the formal-informal interface, where the retailers, the farmers, the transporters, the market agents and agro processors are located.

Similar findings were reported by Hachaambwa and Tschirley (2010) who mapped vegetable value chains in Lusaka and found many interactions between individuals operating in the formal and informal institutions. Kiambi et al., (2018) identified numerous inter-linkages across an agricultural value chain profile demonstrating significant interactions and interdependency between the formal and informal institutions.

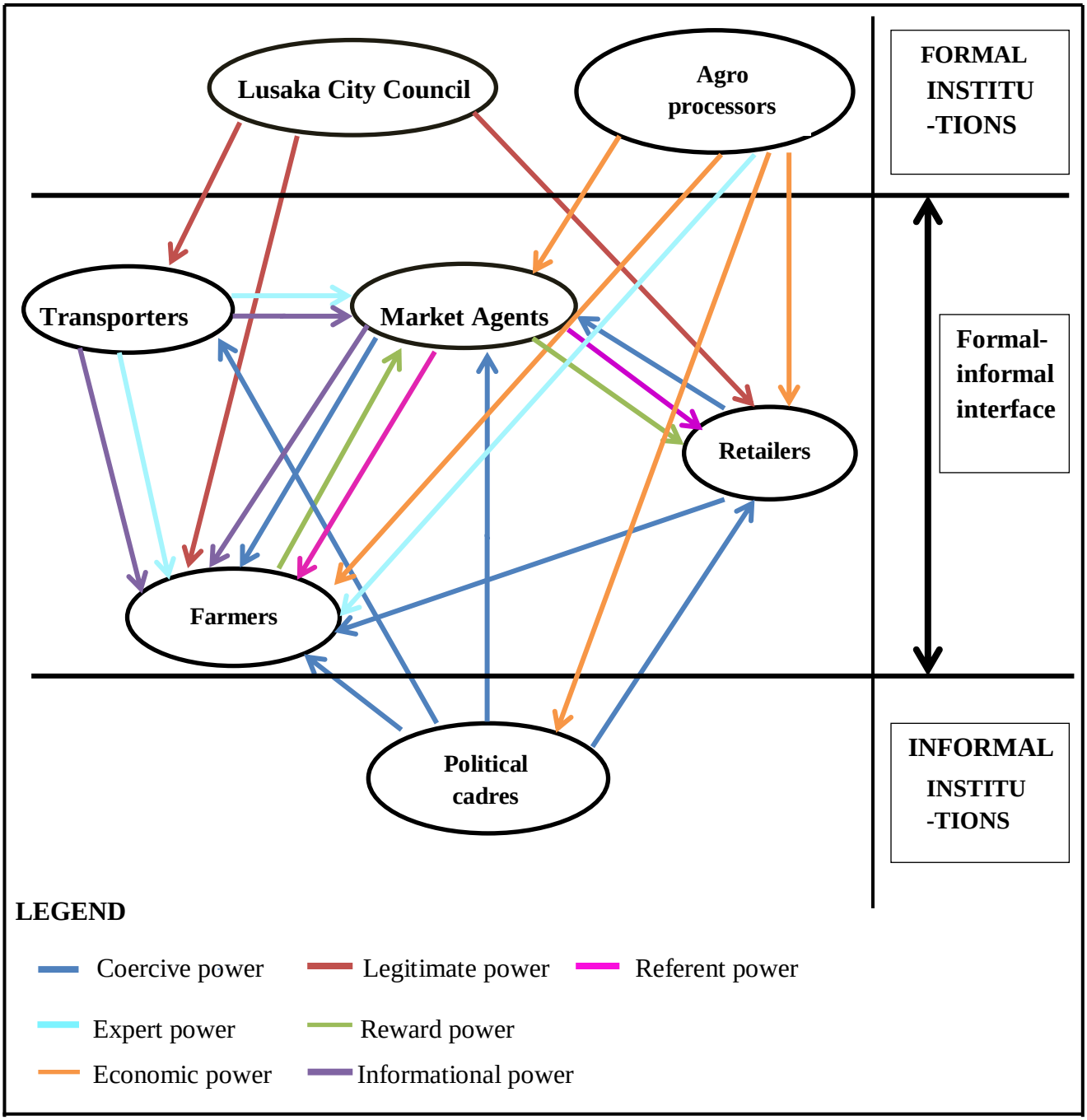

Figure 5.3: *Power Mapping Framework showing interactions forms of power among actors.*

Source: Field data, 2018

The transporters subject the market agents to informational power about which farmers have not only large quantities of tomatoes but good quality tomatoes as well. A transporter from Lusaka West reported that:

> *"When tomatoes are scarce, the market agents usually depend on us to tell them which farmers have large quantities of tomatoes ready for sell. We then link the market agents to farmers with tomatoes and as long as the market agents can offer us a good tip then this becomes a standing arrangement"* (Personal communication, 2018).

The findings show that the market agents or brokers hold five forms of power; coercive, informational, expert, referent and reward power which are expressed towards different actors in the tomato value chain. Further, the farmers seem to be the focus of activities in the formal-informal interface.

The results further show that in some instances the market agents collaborate more closely with the transporters and farmers. One market agent reported that:

> "*I have an agreement with the farmers I sell tomatoes for; the farmers give the tomatoes to the transporters then the transporters hand over the tomatoes to me. After selling the tomatoes I just deposit the money in the farmers' bank account and get my commission"* (Personal communication, 2018).

Jain et al., (2016) suggest that open market policies have influenced a paradigm shift in value chains which has seen the emergence of informal collaborations, and by extension informal institutions, among actors as a response to this change. In this view, Porter and Lyon (2006) assert that informal institutions emerge as a response to formal institutions that fail to function to the benefit of the majority or when formal institutions leave a void (Birthal et al., 2017). Going by the preceding views, it is possible that the informal institutions in Lusaka's tomato value chain have consolidated their influence due to a void left by the City Council as the formal institution. Alternatively, Humphrey and Schmitz (1998) found evidence that informal institutions have an intimate relationship with formal institutions, implying that formal institutions exist, and maybe most effective, when they codify informal norms that are

already widely accepted. At the same time, some informal institutions have been found to emerge from formal institutions as well as from tradition, norms and culture (Bear and Field, 2008). It appears that in the tomato value chain in Lusaka actors who fall under the informal institutions region are products of clientism. Clientism entails a social order which depends on relations of patronage by members of the ruling political party.

By relying on informal institutions, some actors, such as the market agents, transporters and political agents were found to collaborate more closely than others, or align their interests through informal contracting thereby building personalized relationships in the tomato value chain through repeated transactions (Belaya and Hanf, 2011). These collaborations greatly affect the shape of the tomato value chain as shown in Figure 5.3. This is consistent with conclusions drawn by Fuentelsaz et al., (2019) who report that the informal institutional environment is a determinant of the structure of a value chain. Similarly, Bukowski et al., (2014) assumed that the interaction of formal and informal institutions determines the shape of a value chain and its effectiveness. Case studies of food value chains conducted in Zambia, Mozambique and Malawi (Mango et al., 2015 and Mungandi et al., 2012) found the presence of a well-organized but informal cartel of vendors (transporters, market agents and traders) operating in the formal-informal interface. This is similar to what the results show (Figure 5.3) and is consistent with findings by Jain et al., (2016) who reported a high concentration of activities in the formal-informal interface where value chain intermediaries are the most powerful and dominant actors in fresh food value chains.

5.5 Economic implications of the distribution of power among the actors

Respondents were asked to mention activities which make them incur costs as they interact with other actors in the tomato value chain and to describe any benefits they get from such interactions. The findings are summarized as shown in Table 5.4.

S/N	ACTOR	FORM(S) OF POWER	DESCRIPTION OF COST	DESCRIPTION OF BENEFIT
1.	Farmers	Reward power	Pays market agents and the local council. Pays the market committee for the vehicle transporting the produce.	Produce enters the market area and is sold
2.	Transporters	Expert and Informational power	None	Use of their vehicles as temporary stalls. Paid for linking market agents and farmers. Paid for sorting the tomatoes.
3.	Market Agents	Coercive, Informational, Expert, Referent, Reward	Pay political agent for trading Pay per farmer he sells for to bring tomatoes per trip to committee. Pay committee to sell tomatoes	Gets commission from sales
4.	Retailers	Coercive and Economic power	Pay levies to the council for trading	Purchase good quality tomato Trading space
5.	Lusaka City Council	Legitimate power	None	Fulfill their mandate of revenue collection
6.	Political Agents	Coercive power	None	Collect money from market agents, retailers and farmers
7.	Agro processors	Economic power	None	Acquire produce at reduced price.

Table 5.4: *Economic implications of power distribution*
Source: Field data, 2018

The farmers, who were found to hold reward power, indicated that they incur costs when they pay the market agents a commission for selling their tomatoes. The farmers also pay a levy to the City Council for trading at Soweto Market. Farmers who opt to have their produce sold from transporters vehicles incur a cost but at the same time benefit by having their produce sold quickly. Though the smallholder farmers dominate the role of supplying tomatoes in the value chain in Lusaka Province they hold a form of power which does not give them a lot of control in terms of pricing and additional marketing costs. The role of the smallholder farmers at the marketing stage is shaped by other collaborating actors such as the market and political agents. The extent of the profit gained by the farmers partly depends on how they relate and negotiate with these actors thus the profitability is shaped by social relations. Similarly Mango *et al*., (2015) in a comparative study on tomato trading competitiveness in Mozambique and Malawi concluded that the profit margins gained by the farmers are greatly influenced by the relationship the farmers have with other actors.

The expression of reward power by the farmers towards the market agents, who hold coercive power, was found to be flexible, where the farmers do not restrict the market agents from contracting other farmers therefore the market agents benefit from multiple payments. Reward power was also found to be as form of motivation for the market agents to sell at a better price so that their benefits can increase, which is reminiscent of Golgeci et al., (2018) who suggest that, reward power, results in willing submissive behaviour, as a power-based behaviour, characterized by intrinsic motivation and very low resistance.

The transporters, who were found to hold expert and informational power, do not incur any costs as they operate but benefit by being paid for transporting the tomatoes. One transporter revealed that he gets paid for sorting tomatoes according to size and quality. This is despite the tomato farmer having sorted the tomatoes themselves. Direct observations revealed that the farmers use the transporters' vehicles as stalls for wholesaling as shown in Plate 5.1.

Plate 5.1: *A hired truck being used as a temporary stall for selling tomatoes.*
Source: Field data, 2018

This adds to the costs incurred by the tomato farmers as they have to pay the transporters to use their vehicles as temporary stalls which further reduce their profit margins. The form of power held by the tomato farmers directly affects the costs and benefits. If the costs associated with the market agents and political agents were cut off then the farmers as the primary actors in the tomato value chain would increase their profits. A key informant from Zambia National Farmers Union suggested that because the markets are run by the political agents and there is very little the farmers and other affected actors can do to resist the demands of the political agents because of the political influence that the political agents hold.

The market agents, who hold coercive, informational, expert, reward and referent power, were found to incur costs which include paying a fee to the tomato market committee so that they can trade as market agents and also paying to the market committee every time a farmer they sell tomatoes for delivers the tomatoes to the market. Within the costs and benefits attributed to actors based on the various forms of power, some components of the value chain appear to be nested. The farmers using reward power pay the agents a commission then the market agents also pay to the tomato market agents committee for operating as an agent and every time the market agents' contracted farmers deliver produce to the market. Market agents who took part in the study reported that the funds collected were used as a social security system which the market agents use as a

revolving fund and are useful in case a member suffers personal shocks such as funerals, sickness or other personal challenges.

The market agents are required to pay the political agents random amounts. A market agent revealed that:

> *"We are sometimes told to pay random amounts to the political agents for trading space. The amounts we pay depend on how well one can negotiate with the political agents"* (Personal communication, 2018).

Further probing revealed that the frequency of paying the political agents depended on how good business was. If the prices of tomatoes was high then the political agents would demand to be paid every day a market agent conducts business but when the prices were low then payment was done two or three times a week. The market agents revealed that to become an agent an individual paid ZMW 250 to the tomato market agents committee. Upon further probing it was revealed that the tomato market committee links its members to tomato farmers and every time a farmer of a particular market agent is linked to supplies tomatoes to Soweto market the market agent pays a fee to the tomato market committee. The money collected by the tomato market committee serves a revolving fund for registered and paid up members. The benefit the market agents acquired was that they got paid commission by the farmers and they largely determined the selling price of the tomatoes for a given day.

The retailers, who held coercive and economic power, were found to incur costs related to trading space and sanitation which they pay to the local council. They benefitted by being assigned either permanent or temporary trading spaces. One of the retailers reported that, though allocation of trading spaces is said to be done by the council, it was actually the political agents who allocated the spaces to those who paid them.

Another retailer revealed that:

> *"If a retailer wants to have a sheltered trading space then they have to pay a little extra to the political agents because the sheltered trading spaces are not enough"* (Personal communication, 2018).

The retailers used coercive power to negotiate a lower price from market agents and hence benefit by acquiring slightly larger profit margins. The retailers were observed to approach the market agents in groups of six to eight and negotiate as a group hence coercing the market agents to sell the tomatoes at a lower price. The retailers confided that since tomatoes are perishable, the market agents aim to the sell the tomatoes as early in the day as possible so they would rather sell at a slightly lower price if the retailers approach as a group.

The City Council representatives reported that they do not incur any costs in their interactions with other actors in the tomato value chain. They are able to collect market levy and manage waste from the fees they collect.

The political agents benefit by collecting money from the retailers, the market agents and the farmers. The agro processors reported not incurring any costs in their interactions but are able to purchase tomatoes in bulk at a reduced price due to their economic power.

The results in Table 5.4 indicate how the different forms of power interact based on economic costs and benefits. Legal costs, which are informed by the legitimate form power held by formal institutions, are incurred by farmers, market agents and traders every time the actors access the market. Other costs incurred result from informal institutions in the form of informal rules, such as the market agents paying to their committee for each farmer they have a contract with or the traders paying the council or political agents to get a better trading space. Mango et al., (2015) and Macheka et al., (2018) found similar trends of informal costs in tomato value chains in Zimbabwe and Malawi, were actors interacting in the value chains pay for such things as trading spaces and access to the trading area itself.

The results suggest that social capital is being maintained by reciprocity among actors; where some the traders have specific market agents they purchase from, some of the farmers entrust transporters and market agents with their produce and political agents "speak on behalf" of actors who usually give them a little something on the side and transporters direct new farmers to specific market agents. Mungandi et al., (2012) found

that social capitol consisting of trust, mutual understanding and shared behaviours bind members of human networks and hence make cooperative actions possible. This also results in increased benefits as resources are exchanged and combined more effectively. Transaction costs which are mainly specific investment, uncertainties and opportunism are greatly reduced by trust among the actors (Yeung et al., 2009) as observed when farmers reduce the cost of travelling to the trading place themselves. Bloom and Hinrichs (2010) admit that most food chains do not distribute power equally amongst the actors involved but they assert that most actors maintain some sort of procedural justice (fairness in allocation of resources) which involves trust in the fairness, stability, and predictability of the way things are done and agreements among strategic partners in the food value chain.

Mungandi *et al.*, (2012) argues that even though power is unevenly distributed, social capitol resulting from cooperation gives the actors in the value chain sense of belonging and form of insurance in case of shocks both personal or as a group.

The study has shown that the forms of power being expressed in the tomato value chain in Lusaka Province are legitimate, expert, economic, referent, reward, coercive and informational power as an answer to the first objective about the forms of power at play in the tomato value chain in Lusaka Province. The second objective was achieved by the mapping of the interactions of forms of power shown in Figure 5.3. One of the main economic implications of the distribution of power was found to be social capitol upon which the informal institutions in the tomato value chain are based.

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

This study aimed at examining the influence of power relations on the tomato value chain using a case of Lusaka Province and Soweto market. This study concludes that coercive, informational, legitimate, referent, reward, economic and expert powers are exhibited in the tomato value chain. The powers which affect the interactions of the actors the most are those which lie in the informal institutions in particular the forms of power held by the market agents and political agents. The actors in the tomato value chain display a combination of the powers identified towards each other as they interact. The interactions of the actors at the trading component of tomato value chain favour actors with closer collaborations with political agents. The conclusion then would be to remove the political agents from the trading component of the tomato value chain so that the other actors would have more economic gains especially the farmers. The study further concludes that most of the power interactions occur on the formal-informal interface where the farmers, traders, transporters and market agents operate from. By utilizing the status quo actors such as the transporters and market agents fashion their activities to lean on both formal and informal institutions in order to maximise their benefits. Therefore this study concludes that the distribution of particular forms of power influences the economic benefits and costs by the actors in the tomato value chain.

6.2 Recommendations

Based on the conclusion, this study recommends the following:

i. Government should strive to formulate and implement policies aimed at improving tomato value chain management which recognize specific power relations shaping the value chains especially those that exist in the formal and informal interface. For example formalising arrangements between farmers and market agents willing to collaborate where farmers entrust market agents and transporters with their produce.

ii. The government in conjunction with Zambia National Farmers Union should educate and emphasize the importance of value-addition as an alternative to trading in raw tomatoes.

iii. The government through the Ministry of Agriculture and Cooperatives should encourage farmers to collaborate among themselves so that they can be price setter and not price takers.

iv. To reduce the unequal distribution of costs and consequently increase the evenness of economic benefits the government should remove the political agents from the trading component of the tomato value chain. This would change the interactions of the other actors on the tomato value chain. The market agents, the retailers, transporters and farmers would then have a choice of whom to collaborate with.

6.3 Future Research

This study examined the effects of power relations on the tomato value chain in Lusaka Province but it did not explore the cost-benefit analysis of the tomato value chain to determine the economic benefits attained by the actors involved. This aspect can be studied by other researchers.

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APPENDICES

APPENDIX A

Key Informant Interview Schedule: The effects of power relations on the tomato value chain in Lusaka.

SECTION A- BIO DATA

Name of the organization: ……

Position of respondent: ……

SECTION B- ACTORS IN THE TOMATO VALUE CHAIN

The tomato value chain is the set of individuals/groups of individuals and activities that are involved in producing, distributing, processing and trading of food ending with consumption.

1. What are the sources of raw tomatoes in Lusaka?

2. What supply choices are available for tomato producers in Lusaka?

3. What distribution procedure/s do tomato suppliers follow when supplying tomatoes?

4. Which individuals/groups of individuals do you know that are involved in tomato trading in Lusaka?

SECTION C- INTERACTIONS OF ACTORS IN THE TOMATO VALUE CHAIN

5. What is your organizations role in tomato value chain?

6. Which individuals/groups of individuals involved in the tomato value chain does your organization deal with directly?

7. Please specify the dealings your organization has with the identified individuals/groups of individuals.

8. Is anyone free to supply their tomatoes to Soweto market/to your organization?

9. Who determines:

(a) Access to the market for trading purposes?

(b) The number of times per week farmers/transporters/traders can access the trading area?

(c) Where to sale the tomatoes in the market area?

(d) The price of tomatoes on any given day?

10. Is there a systematic way of getting customers? How are customers (wholesalers/retailers) attracted?

11. What challenges has your institution encountered in the tomato value chain?

12. Do you think smallholder farmers are able to meet the demand of supplying raw tomatoes?

13. What changes would you like to see in the tomato value chain management?

SECTION D- ECONOMICIMPLICATIONS OF POWER DISTIRBUTION

14. Do you incur any costs as you interact with other actors in the tomato value chain?

15. If yes, what costs do you incur?

16. Do you acquire any benefits as you interact with other actors in the tomato value chain?

17. If yes, what benefits do you acquire?

The End.

Thank you

APPENDIX B

Observation Schedule for forms of power at play in the tomato value chain.

S/N	FORM(S) OF POWER	EXPRESSED BY	EXPRESSED ON	DESCRIPTION OF EXPRESSION
1				
2				
3				
4				
5				
6				
7				

APPENDIX C

Semi-structured Interview Schedule.

SECTION A- BIO DATA

Age: ……

Gender: ……..

Occupation: ……

SECTION B- ACTORS IN THE TOMATO VALUE CHAIN

1. Where is your farm located (farmers)/ from where do you transport the tomatoes from (transporters)/ where do you purchase your tomatoes from (traders and market agents)?
2. What is the procedure for supplying tomatoes for sale to Soweto market?
3. Who is in charge of the sale of tomatoes at Soweto market?
4. Is anyone free to supply their tomatoes to Soweto market?
5. Who determines;
   (a) Where to sale the tomatoes in the market area?
   (b) How many times a farmer/transporter can sale their tomatoes at the market?
   (c) The price of the tomatoes?

SETION C- INTERACTIONS OF ACTORS IN THE TOMATO VALUE CHAIN

6. Is there a systematic way of getting customers? How are customers (wholesalers/retailers) attracted?
7. Have you ever supplied tomatoes to agro processing companies? If yes, how did it compare with selling them directly at the open market? If no, what is the reason?
8. Do you know of any programmes that encourage value addition to tomatoes? If yes, what do the programmes involve?
9. What measures are put in place to deal with lack of cold storage facilities at the market?

10. How do you deal with losses which result from tomatoes going bad?

11. Have you ever considered value addition as a means of dealing with post-harvest losses?

SECTION D- ECONOMIC IMPLICATIONS OF POWER DISTRIBUTION

12.Do you incur any costs as you interact with other actors in the tomato value chain?

13. If yes, what costs do you incur?

14. Do you acquire any benefits as you interact with other actors in the tomato value chain?

15. If yes, what benefits do you acquire?

The End.

Thank you