

**UNIVERSITY OF KWAZULU-NATAL**

**Assessment of the constraints limiting the market participation of smallholder  
farmers in the Umbumbulu area of KwaZulu-Natal Province**

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of Master of Business Administration**

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College of Law and Management Studies**

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## DECLARATION

I, **Gugulethu Ntokozo Ngcobo**, declare that:

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## ABSTRACT

Small scale emerging farmers have a significant contribution towards job creation, human welfare and political stability. Despite the contribution that agriculture is expected to make in any economy through poverty alleviation and job creation, however, these smallholder farmers face enormous constraints and challenges that affect their capability to partake in the agricultural markets, in order to properly market their products. This study therefore assessed the constraints limiting the market participation of smallholder farmers in the Umbumbulu area of KwaZulu-Natal (KZN). The local Department of Agriculture office in Umbumbulu provided the database for the farmers then data was obtained through face to face method using structured questionnaires with a sample size of 100 smallholder farmers. The descriptive analysis tool on the Microsoft Excel data analysis was used first on the data per survey form. The results from data analyses were presented in pie charts, bar charts and tables. Descriptive statistics analysis outcome presented the mean, median, mode, standard deviation and sample variance. The regression model was used to examine the factors that impact marketing access amongst smallholder farmers in the area under study. The results showed that there is a gap with regards to the awareness of the smallholder farmers, as aspects like seminars and trainings that provide adequate valuable information on the trends related to farming are neglected. The participating farmers do not have a clear understanding of how they can be involved in market participation. It can also be concluded that the level of market participation is low, as the participating farmers are also not well acquainted with organisations or cooperatives that enable rural small-scale farmers. There is poor road infrastructure in the Umbumbulu area, which has created a major hindrance to market participation of smallholder farmers in the area and market participation is affected by lack of extension services. Lack of adequate financial funding and grants is a big challenge as it limits the market participation of smallholder farmers in Umbumbulu area. Therefore, this study recommended that reviewing and amending current land tenure rights will encourage more farming activities by these rural smallholder farmers. It was also recommended that government needs to address road infrastructural conditions in order to aid effective transportation of agricultural produce. It was suggested that further studies should be focused on evaluating in details the activities of extension services to smallholder farmers.

**Key words:** Smallholder farmers, market participation and challenges

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# CHAPTER 1 INTRODUCTION

## 1.1 Background of the Study

In many parts of the world, the view that productive agriculture is essential for job creation and poverty alleviation, in line with the development of communities, is grossly shared (Christiaensen and Martin, 2018). The agricultural sector has been one of the industries in South Africa that has the potential to make a substantial contribution to the transformation of the economy (Department of Agriculture, 2012). The effects of poverty reduction in agriculture are the largest for the poorest in society. Thus a primary reason why any strategic government decision must encourage agriculture (Christiaensen and Martin, 2018). Small scale emerging farmers have a significant contribution towards creating employment, human welfare, and political stability. Despite the contribution that agriculture has in any economy through poverty alleviation and job creation, it is necessary to highlight that the small scale and smallholder farmers have an essential role to play. However, these smallholder farmers face enormous constraints and challenges that affect their ability to participate in the agricultural markets, to properly market their fresh produce. This study, therefore, evaluates the restrictions limiting the market participation of smallholder farmers in the Umbumbulu area of KwaZulu-Natal (KZN) Province of South Africa. This chapter provides background on the study, motivation, problem statement, research objectives, and questions. The study limitations, organization of branches, and chapter summary.

Depending on the context, nation and ecological zone, a smallholder farmer can be defined in many ways. Smallholder farmers are seen as farmers that have low base of asset because they farm on an average of two (2) hectares of farmland (Mmbando, 2014). Another view explains smallholder farmers as those with restricted endowment of resources in comparison to other farmers in the sector. They can also be seen as farmers with small- portions of land on which they grow subsistence crops, as well as one or two cash crops depending wholly on family labour (Pienaar and Traub, 2015). It is said that most of the smallholder farmers possess various means of livelihood that are beyond their farm income, even though they are still exposed to the economic and climate challenges in their area of location (Pienaar and Traub, 2015). There are variations in smallholder farmer's enterprises. Some of these differences include; farm sizes, cash crops, distribution of

resources, nature of livestock, hired labourers and selling portion of crops (Mmbando, 2014). Smallholder farmer starts engaging in market participation because it occurs at the level where the farmers advance from mostly subsistence to a more profit-oriented farmer.

There are a number of diverse definitions of market participation suggested by various authors. According to Mmbando (2014), market participation can be defined in relation to sales as a portion of the total production output, for the total of all agricultural production output. Market participation is also defined by using the home purchases and sales, whereby volume of farm produce traded are utilised in estimating market participation (Pienaar and Traub, 2015). Market participation is similar to commercialisation, which implies that market participation denotes evolution from subsistence farming to a market arrangement mode, such that steady use of markets is designed for the goal of trading products and services (Kisake-Lwayo and Obi, 2012).

The smallholder farmers are also classified as subsistence farmers. Subsistence farming have remained major research topics in the past decades, even though different school of thoughts are yet to reach an agreed definitions (Daniela, 2015). Nevertheless, Penrhys-Evans (2019) considers subsistence farmers as those that are not able to generate a market surplus due to the fact that they utilised recycled seed feeds without inorganic fertilisers. The common pattern is for these farmers to grow maize on every recurring season and supply agricultural labour to other farms. This is predominantly their normal means of income (Penrhys-Evans, 2019). These type of farmers are usually candidates for humanitarian support and other safety net programs, as their major farm output is mainly to feed the entire farm family with very restricted surplus. If there are surplus, they consider minor sales (Penrhys-Evans, 2019). In raw terms, the government usually refers to farms of less than 1 hectare as subsistence (Daniela, 2015).

Umbumbulu is located in the former KZN homeland which is made up of traditional forms of land ownership and characterised by small-scale agriculture (King and Ortmann, 2006). Umbumbulu is under the control of conventional authority, which is headed by the Chief (*Inkosi*), who governs the local institutions such as tribal courts, land tenure, and allocation of land rights as well as a local government representative council. As a result of communal tenure and the absence of strong traditional institutions, the study area lacks a formal land rental market. As opposed to commercial farmers who have privately-owned

farmland, small-scale farmers located in traditionally owned land are unable to use their properties to obtain finance/loans (Thamaga-Chitja and Hendriks, 2008). Thus, these farmers can have their land rights can be retreated at any instance because they do not have secure land tenure (Naidoo, 2009). A lot of small-scale farmers in South Africa occupy rural areas that possess reduced agricultural potential, that are small in size, and also lack the infrastructural support to operate a farming operation successfully (Pienaar and Traub, 2015).

Umbumbulu is a humid area in terms of weather patterns, with the annual rainfall averaging to 956 mm and have a plenty of fertile arable land, which makes it very productive (Thamaga-Chitja and Hendriks, 2008). Even though there is rainfall during the year, the rainfall season is between November and March. The mean, minimum, and maximum temperatures for the place are 18.6 °C, 13.4 °C, and 24.0 °C, respectively (Pienaar and Traub, 2015). The climate of Umbumbulu is suitable for planting a wide range of crops, and the area has a year-round growing season.

The main use of land in Umbumbulu, KwaZulu-Natal is for agricultural production of smallholder farmers (Kisake-Lwayo and Obi, 2012). Farmers in the area are mainly smallholders and many of them run through subsistence farming methods (Kisake-Lwayo and Obi, 2012). The area is predominantly used for vegetable production. The vegetables being produced include, cabbage, green beans, tomatoes, potatoes, taro (*amadumbe*), sweet potatoes, green pepper, spinach, beetroot, onions, carrots, butternut and lettuce.

Farming forms a vital part of means of survival for many rural areas in South Africa. Crop production forms the economic backbone of the province of KwaZulu-Natal and is encouraged broadly as an approach to overpowering poverty and food security (Kisake-Lwayo and Obi, 2012). Many of rural smallholder farmers are reliant on organic means of production and basic agricultural knowledge in order to produce for household consumption. A number of these smallholder farmers sell the surplus produce to mostly the informal market (Christiaensen and Martin, 2018). Some of the farmers make use of conventional farming approaches on a small scale with the aid of conservative insecticides and fertilizers which they at times obtain from Department of Agriculture. Farming in the study area is characterized by smallholder activities that are traditionally conducted by women, with the core explanations for farming being their need to increase household food security (Christiaensen and Martin, 2018). Marketing the surplus is only done when the

first need, i.e. food security has been met. Farmers in the study area farm individually while some are organized in farmer groups with varying memberships. Household farming at homestead units is primarily for household consumption with the small surplus being sold for household income. Farming as a collective in farmer groups is at a larger-scale when related to individual farming is mainly done for marketing purposes. In some instances farmer groups have large hectares of land that they own collectively even though they farm the land individually.

Smallholder farmers also face challenges in terms of accessing crucial resources for their farming operations and as a result, they have limited agricultural output which then leads to reduced market participation. Some of the recorded challenges of smallholder farmers in South Africa includes not being able to achieve sustainable agricultural development, due to the lack of access to viable local as well as international market for emerging farmers to sell their produce (Mitiku, 2014). Furthermore, another challenge faced by emerging farmers in South Africa is the lack of institutional improvements which if were in place can assist to stimulate the competitiveness of emerging farmers. Even though South African agricultural industry has policies which are meant to create an environment of more open, unregulated agricultural market, emerging and smallholder farmers still face market related challenges which limit them from being able to enter main stream commercial agriculture (Christiaensen and Martin, 2018). It is perceived that similar challenges are facing smallholder farmers in the Umbumbulu areas. Hence, this study sought to assess the constraints limiting the market participation of smallholder farmers in the Umbumbulu area of KZN province.

The South African agricultural sector was relaxed in 1997, with the aim of making an open and market-oriented atmosphere for boosting the sector. Based on the Agricultural Products Act of 1996, government involvement in agricultural marketing over the use of regulator boards was terminated. This change caused in smallholder farmers and other formerly disadvantaged farmers in output markets being incorporated in agricultural marketing (Meyer *et al.*, 2002). Although the policy is now focused on in favour of smallholder farmers, they still have to race for markets with the already established commercial sector. For this reason, their continued existence in the markets is still at stake. In output markets, smallholder farmers often faced with complications in administering agreements and meeting strict food safety norms, absence of skills, are located in

isolated areas and mostly depend on middlemen. They are also served by poor physical infrastructures and weak institutions in markets (Kherallah and Kirsten, 2001; Makhura, 2001). Understanding such challenges among smallholder farmers is important in identifying areas that need focus and direction for improvement.

In the light of these challenges, suggestions can be made on how to improve smallholder farmers' participation in output markets. The main objective of this study is to identify and assess the technical and institutional factors influencing agricultural market participation behaviour amongst smallholder farmers in the Umbumbulu area of KZN Province in South Africa. The study focuses on the factors that compel smallholder farmers to make certain marketing decisions. Thus, it considers factors that guide farmers in deciding whether to sell produce or not. It further looks at the factors that impact the selection of marketing channels when selling produce.

## **1.2 Problem Statement**

According to Mango *et al.* (2018), rapid urbanization is occurring in developing countries, and its occurrence is going to continue in the following two to three decades due to the rise in global disposable income. The increase in urbanization has presented an opportunity for emerging farmers to enter formal retail markets to market their produce. In South Africa, smallholder farmers have been attempting to enter the mainstream of commercial agriculture, with a focus on market participation (Mango *et al.*, 2018). But due to the modernized local and global retail food system, it has become increasingly challenging for smallholder farmers to enter and participate in the retail market and as a result there are fears that smallholder farmers may be increasingly marginalized. The retail food market in South Africa is in different sectors; the informal sector comprising of mainly hawkers, small stands, spazas, and the formal area which is made up of supermarkets (Dave, 2003). Even though supermarkets have helped in increasing the efficiency of food distribution, smallholder farmers still face difficulties when it comes to participating in the formal market due to various constraints. These constraints include lack of technical knowledge, equipment, physical and marketing infrastructure as well as the incapability to add value and meeting market quality demands (Raphela, 2014). Strict requirements by supermarkets as regards to volumes, quality, food safety systems, consistency, and year-round supplies, make it difficult for small-scale producers to participate in the market (Louw *et al.*, 2008). Such obstacles have affected the exclusion of smallholder farmers in accessing formal

agricultural markets for their produce. Given the above-mentioned constraints in other areas and little is known in South Africa, specifically the KZN province. Therefore, this study assessed the restrictions limiting the market participation of smallholder farmers in the Umbumbulu Area of KwaZulu-Natal Province to achieve the following study objectives.

### **1.3 Objectives of the Study**

The objectives of this study are as follows;

1. To understand the levels of market participation of smallholder farmers in the Umbumbulu area.
2. To assess the significant market participation challenges encountered by smallholder farmers in the Umbumbulu area.
3. To recommend measures that can be utilized to promote market participation of smallholder farmers in the Umbumbulu area.

### **1.4 Research Questions**

This study tries to achieve the research objectives by answering the following research questions:

1. What are the levels of market participation of smallholder farmers in the Umbumbulu area?
2. What are the significant market participation challenges encountered by smallholder farmers in the Umbumbulu area?
3. What are the recommended measures that can be used to promote) market participation of smallholder farmers in the Umbumbulu area?

### **1.5 Significance of the Study**

The agricultural sector plays a major role in creating economic growth in rural areas. It does this in three ways, firstly by value-adding, which is done through agro-processing, secondly by supplying agricultural produce to consumers and thirdly by providing support such as infrastructure, information, quality control, and training. Smallholder farmers'

production can contribute to increasing food security and reducing poverty through generating household income and optimizing the availability of food. Therefore, this study will encourage the KZN provincial department of agriculture in setting up seminar programs that will enlighten smallholder farmers in understanding the benefits of participating in formal agricultural markets.

The integration of smallholder farmers into corporate value chains can make a profitable economic sense because there are excellent opportunities in South Africa that are open for smallholder farmers, which can improve production and delivery of fresh produce to many market arenas (Greenberg and Paradza, 2013). This study will also benefit the KZN government in understanding how poor road infrastructure affects access of smallholder farmers to agricultural markets. Minimizing poverty via the enhancement of road infrastructure development is a core focus for many nations' development agenda. Quality roads are the catalyser in the entire economic development process because it facilitates the economic growth in the rural areas (Kiprono and Matsumoto, 2014).

Funding of smallholder farmers enhance productivity, crop diversification, market access and investment in irrigated agriculture. This study will also encourage provide policy makers in driving innovative partnerships from private to public institutions, that will help smallholder farmers address the challenges facing them from participating in mainstream agricultural markets (Christiaensen and Martin, 2018). It is also expected that this study will encourage the government, by supporting smallholder farmers in getting low interest financial assistance that will enhance their farming operation.

It is also expected that this study will stimulate government policies to assess land policies that will be beneficial to potential farmers who have been discouraged due to the existing farm tenure protocols. The introduction of such reforms will encourage other stakeholders who are interested in supporting smallholder farmers, but have been turned away due to existing land policies that pose potential risk to their business investment.

## **1.6 Limitations of the Study**

This study aims at identifying the constraints limiting Umbumbulu smallholder farmers' in the KwaZulu-Natal province from market participation. The study also highlights how to address such constraints and challenges, in order to improve growth of smallholder farmers in the Umbumbulu area. However, this study was narrowed down to the smallholder

farmers in the Umbumbulu area of KZN province and did not consider other locations in KZN or South Africa. As a result, the outcomes from this study may not be applied to other locations in South Africa.

### **1.7 Structure of the Study**

The layout of the dissertation consists of five chapters. Chapter one provides the introduction, background, significance of the study, research problem and research focus. This chapter also covered study aim, specific objectives, research questions, and limitations of the study. Chapter two outlines the literature review of the study. It provides an inclusive summary of the theoretical and methodological approach to the study, literature sources that were consulted, and trends on various topics relating to the study. This chapter also outlined the research framework for this study. Chapter three reviews the research methodology. The summary of the relevant research theory and concept applicable to the research was highlighted. This chapter also covered aspects such as research design, target population, sampling approach, research instrument design, validity, reliability and ethical stance. Chapter four outlines the outcome and results from the study. It also presents the interpretation of the outcomes by utilising appropriate data presentation tool to highlight these data outcomes. Statistical methods used for analysis is also highlighted using charts and diagrams. This chapter also discusses the findings by aligning it to literatures for possible agreements or disagreements. Chapter five outlines the conclusion of the study, and recommendations necessary for policy making. The scope for future research is also presented.

### **1.8 Summary of the Chapter**

This chapter covered the background of the study where the challenges faced by the smallholders farmers were introduced followed by outlining the research objectives and questions. The significance of the study was also explained which led to the next chapter that will cover the theoretical and empirical review.

## **CHAPTER 2      LITERATURE REVIEW**

### **2. 1 Introduction**

This chapter discusses the literature review of the study. It provides a discussion of the theoretical review and empirical review of the factors limiting market participation of smallholder farmers.

### **2.2 Theoretical Review**

#### **2.1.1 Constraints to Agricultural Output Markets**

Markets are important because as they are a mechanism for exchange. They are particularly important to the poor, because their involvement in the use of markets results in co-ordination and allocation of resources, goods and services. In other words, markets are very important in reducing poverty and improving livelihoods of households. It follows that market participation is important amongst smallholder farmers because households derive benefits such as income and open opportunities for rural employment (Dorward et al., 2003; Macheche, 2004). In addition, marketing activities such as processing, transportation and selling can provide employment for those willing to exit the farming sector. At the national level, Lyster (1990) identified that market participation is important both for sustainable agriculture and economic growth and for the alleviation of poverty and inequality. Unfortunately, smallholder farmers face difficulties in accessing markets, as a result, markets fail from effectively performing their duty. It is central to this paper to identify barriers that hinder markets from serving the interests of smallholder farmers, giving special attention to institutional and technical factors. In South Africa, less developed rural economies and smallholder farmers find it difficult to participate in commercial markets due to a range of technical and institutional constraints. Factors such as poor infrastructure, lack of market transport, dearth of market information, insufficient expertise on grades and standards, inability to have contractual agreements and poor organisational support have led to the inefficient use of markets, hence, commercialisation bottlenecks.

#### **2.1.2 Institutional aspects in smallholder agricultural markets**

Institutions are defined by North (1990) as rules of the game that facilitate coordination or govern relationships between individuals or groups. North (1990)

divided institutions into formal and informal institutions. Institutional aspects and their role in marketing and economic development revolve around transaction costs, market information flows and the institutional environment. It is affirmed that smallholder farmers in developed rural economies lack adequate market information and contractual arrangements, lack lobbies in the legal environment and are not easily receptive to changes (Delgado, 1999; Kherallah and Kirsten, 2001). These factors result in high transaction costs, hence difficulties in formal market participation. This line of argument is substantiated by Makhura (2001) who explained that when smallholder farmers are faced with high transaction costs, they will either stop participation in marketing or resort to other means of marketing such as spot markets. The use of spot markets may not be as rewarding to the farmers as formal markets are, mainly due to traders' opportunistic behaviour. In addition, spot markets are becoming less popular in the liberalised environment. To sum up, owing to institutional aspects, smallholder farmers face difficulties in accessing formal markets. This calls for institutional development among this group of farmers.

### **2.1.3 Technical aspects in smallholder agricultural markets**

Technical changes in marketing can be viewed as those transformations that allow goods to be available on the market at lower costs and diversification of markets. Technical changes are usually influenced by the organization, and regulation and advances in technology, but technical changes are closely linked to technological development. In agricultural production and marketing, smallholder farmers are still lagging in the use of improved technology (Carre` and Drouot, 2002). Machethe (2004) pointed out that most small producers in South Africa lack appropriate transportation facilities and road infrastructure, communication links and storage infrastructure. Further, smallholder farmers have limited ability to add value to their produce. Lack of such facilities usually constrains farmers supply response to any incentives in both agricultural production and marketing (Dorward et al., 2003).

Moreover, poor roads and poor telecommunication networks results in high transaction cost (Fenwick and Lyne, 1999). Sometimes these costs are too high for farmers and traders to get any meaningful benefits from their trading activities, thus discouraging farmers from marketing activities. For this reason, institutional development has to be accompanied by technological changes, in order to sustain market participation among smallholder farmers.

Market participation of farmers is deemed as the cause and the result of economic development. The market participation of farmers is a major access for the assurance of an improved income and enhanced food security to local and rural farmers. According to Kyaw, Ahn, and Lee (2018), the presence of markets and enhanced access to markets are crucial for smallholder farmers, as it draws agricultural and economic resources that aids community development. A better access to market has huge importance in accelerating the market participation of smallholder farmers because this increases their degrees or levels of participation (Kyaw *et al.*, 2018). The previous chapter presented the introductory chapter of the study. This chapter outlines the applicable literature underpinning this study. It provides the overview of theoretical, empirical review and methodological reviews surrounding smallholder farming and the challenges that face smallholder farmers globally. Various case studies of different views on smallholder farming were reviewed, an African concept based on previous studies was presented and the gaps from these literatures are highlighted. This chapter also assess the factors or constrains that affect the market participation of smallholder farmers.

#### **2.1.4 Smallholder Agriculture Impact on Food Security**

According to Zhou *et al.*, (2019), Sub-Saharan Africa is faced with a big challenge of feeding an ever increasing population. Over 90% from the rural areas in Africa are still suffering from problems related to food security, which is primarily due to low productivity and aggressive agro-ecological factors (Zhou *et al.*, 2019). South Africa has a long history with regards to food security. Many issues from colonialism resulted in the created the Bantu homelands in 1951 which consequently led to dualistic agricultural sector, with the white farmers possessing majority ownership of the land (von Loeper *et al.*, 2016). After change over to democracy in 1994, the focus has been to change the large inequalities that were embedded in the society as a result of colonialism and apartheid through agriculture transformation initiatives and also provision of support for smallholder and black emerging farmers (von Loeper *et al.*, 2016).

In the last 20 years, the concern regarding food security has continued to produce series of challenges in Southern Africa (von Loeper *et al.*, 2016). One of the views highlights that it is not logical to address food security issues by focusing on increasing the production of commercial farmers (von Loeper *et al.*, 2016). Another view is that small-scale farming is

not ancient or non-productive, but can be deemed as having the potential with good possibility of being efficient as big scale farming (Popescu, 2014). Again, the South African government still need to address the huge tasks of reducing transactional costs and minimising the number of constraints facing smallholder farmers (von Loeper et al., 2016). Over 3 million households in SA are involved in subsistence agriculture while about 250 000 farmers are into semi-subsistence farming. However, both groups only receive a restricted focus from policymakers (von Loeper et al., 2016). In essence, there is a crucial need to optimise the productivity of these farmers in order to address long-term food security (Owoo, 2018). Smallholder production will help to increase the quantity of food supplied in the households, thereby increasing their disposable income, while at the same time enhancing food security (Popescu, 2014).

## **2.2 Empirical Evidence**

Senyolo *et al.*, (2009) did a study based on the data collected from 500 emerging farmers that were randomly selected from nine provinces of South Africa, this study examined the patterns of access and utilization of output market by emerging farmers in South Africa. Factor analysis was applied on twenty components of output markets in South Africa. The results show that there are patterns that are observable in terms of access and use of output market by emerging farmers. The most commonly used output markets by emerging farmers are family and friends, the fresh produce markets as well as public stores. The study reveals that farmers tend to sell their produce to public stores as most of these stores are close to the farming communities. Friends and family also provide an important market outlet for produce by emerging farmers. Improving road conditions and transport services in rural areas will not only improve accessibility of external markets, but will also improve accessibility of local output markets.

Ayinde and Agboola (2013) examined willingness to take agricultural insurance by cocoa farmers in Nigeria. A three-stage sampling procedure was used to select 120 cocoa farm households and structured questionnaire was used to elicit data from the respondents. The data were analysed with descriptive statistics and probity regression model. Results showed that 77.5% of the farmers were aware of Agricultural Insurance but only 50% were willing to take it. The average willingness-to-pay (WTP) for Agricultural Insurance by the respondents was N11,087.5/ha (\$69.85/ha). The significant variables influencing willingness to take agricultural insurance by the farmers were age of household

head, educational level, access to extension service and farm income. The study therefore recommends encouraging young well educated people to engage in cocoa farming, overhauling agricultural extension services as well as provision of insurance services to farmers at affordable rate.

Ortmann and King (2007) investigated whether agricultural cooperatives can facilitate smallholder farmer access to input and product markets. Farmers in two case study communal areas of KwaZulu-Natal face high transaction costs as reflected primarily in their low levels of education and literacy, lack of market information, insecure property rights, poor road and communication infrastructure, and long distances to markets. Analysis of the reasons why cooperatives were originally established in various parts of the world suggests that most of the causes (such as poverty, market failure and high transaction costs) also apply to the study farmers, as do the seven international principles of cooperation. Smallholder farmers in both case study regions have the potential to grow high-value crops such as vegetables, fruit and cut flowers. In the supply chain from farm to market, the optimum boundary for each organization involved in the chain (e.g. Cooperative and investor-oriented firm) depends on the minimum operational and transaction costs for each business.

Poulton, Jonathan and Dorward (2006) postulated that in sub-Saharan Africa, there is fairly broad agreement that increased investment in key public goods such as roads and communications infrastructure, agricultural research and water control will be required if revitalised agricultural development is to take place. However, it has proved more difficult to reach agreement on what needs to be done to improve the performance of agricultural markets. In their study, they came out with an agenda for investment and policy reform in this area, providing a brief theoretical examination of the co-ordination problems involved before examining in turn demand and supply constraints affecting smallholder farmers, and policies for price stabilisation and the co-ordination of support services. They also argued that increased attention needs to be paid to governance issues.

It is said that barriers exist basically due to market failures that stop solutions, which could involve hindering microcredit from getting to the rural African communities and populations (von Loeper et al., 2016). Many of the credit facilities are either imperfect or lack as an accessible service provider for smallholder farmers (Popescu, 2014). In addition

to credit, high transactional costs in the market value chain participation are also affected as a result of issues in language. A good number of the farmers have indicated that not having access to credit was the key reason why they were not able to get access to water and irrigation systems. An example towards access to credit is in Lesotho, where these farmers do not have any type of insurance (von Loeper *et al.*, 2016). Therefore, this section highlights several constraints and challenges that affect market participation of smallholder farmers. Even though the lists are exhaustive, they are not limited to the following outlined below.

### **2.2.1 Transaction Costs**

The core argument in many literatures that come up regarding smallholder market participation in growing economies is the impact of transaction costs (Mmbando, 2014). Market participation is negatively affected by transaction costs. This is because they inflict more cost related burdens that affect the smooth entry of smallholder farmers into available markets (Mmbando, 2014). The location of smallholder farmers is predominantly in the rural areas that have poor infrastructure. As a result, they usually stay away from market participation due to the increasing transaction costs that are required. According to Mmbando, Wale and Baiyegunhi (2015), transaction costs which are seen as one of the biggest limitations to market participation by smallholder farmers, are also utilised as a definitional feature of smallholders and as drivers that result in many market failures in growing economies. The variations that exist in transaction costs in addition to other different levels of access to assets and services to reduce these transaction costs are likely the driving factors that lead to mixed market participation among smallholders (Mmbando *et al.*, 2015).

Mmbando *et al.* (2015) argued that transaction costs greatly deprive market participation while more access to market information enhances it. For instance, obtaining markets and the existence of good road infrastructure by smallholder farmers is expected to minimise marketing costs, hence support market participation. Mmbando (2014) highlighted that a study reviewed the function of marketing costs in restricting the level of smallholder market participation. The outcome of the study showed that distance to market being investigated acts as a substitute for transaction costs as this resulted in a negative effect on market participation. In other words, more distance to the market raises the transaction costs (Mmbando, 2014).

Another view showed that the likelihood of market participation and marketed surplus is a direct result of how close the smallholder farmer is to the markets (Mmbando et al., 2015). On the contrary, absence of market information obstruct market participation by increasing search, screening and bargaining costs (Mmbando *et al.*, 2015). Poor state of roads also influence market participation. For instance, during rainy season many communal roads are inaccessible leading to high transportation costs. For instance, previous studies in the Asia Pacific region highlighted that high transaction costs were a major determinant in the decision market participation involving smallholders' producers of livestock (Mmbando *et al.*, 2015).

### **2.2.2 Household Characteristics**

Household characteristics deals with age, education, family size and gender. The core argument previously in the past has shown that market participation is strongly determined by the household characteristics (Mmbando, 2014). Even though transaction cost is essential in strengthening market participation, empirical studies has shown the strong relationship between age and market participation (Mmbando, 2014). Age has a strong role to play in market participation because older heads of household possess more experience as they have stronger contacts that encourages trade opportunities to be uncovered at a lower cost (Mitiku, 2014). The connection between participation and age is parabolic. This is because after a certain age, farmers generate less output and their market participation drastically reduces (Mitiku, 2014).

Agricultural production is not only enhanced by age and education, they also moderate transaction costs as they improve the ability of farmers to gather better market information (Mmbando *et al.*, 2015). A study was carried out to assess the determinants of participation of tobacco contract farmers in the Zambezi Valley of Mozambique. It was uncovered from the study that education play a positive role on smallholder farmers' participation in markets; which is due to the fact that more educated homes are considered to have better skills and better access to information (Mango *et al.*, 2018). A more educated household are more poised to understand market dynamics and hence improve decisions about the quantity of agricultural outputs sold in the market (Mmbando, 2014). Another study carried out in Tanzania and Ethiopia also showed that the levels of education estimated in years of schooling had a positive impact on entry to markets and marketed surplus, implying that a higher level of education enhances productivity and creates greater opportunity of

producing surplus of marketed products (Mango *et al.*, 2018). Smallholder farmers that are more educated are also equipped with a certain degree of ability to negotiate better.

According to Fredriksson *et al.*, (2016), the size of the household also provides family labours capacity that increases domestic consumption, thereby minimising market participation. Hence, household with larger members are ideally deemed to produce more marketable output or keep the output in storage for household consumption (Fredriksson *et al.*, 2016). The more the consumption requirement, the lesser product that household is able to sell. It was further highlighted that the propensity to actively participate in the market decreases with increased household members (Fredriksson *et al.*, 2016).

Previous literature also shows that another determinant of market participation is gender, with the female headed households considered to be significantly disadvantaged with regards to participation and the degree of participation (Jayne *et al.*, 2010). According to Alexandri, Luca and Kevorchian (2015), a good number of female led households in sub-Saharan Africa are disadvantaged due to the unequal distribution of resources, in addition to other cultural barriers that sees the male as being the most superior. Many of the female headed homes are considered to be net buyers instead of net sellers. Hence, it is less likely that women will be part of markets as sellers, as they are more likely to participate as buyers. Genders study in this regard has shown that gender plays a core role in the intensity of market participation (Alexandri *et al.*, 2014). It was uncovered that men have more propensity to sell more grain at the start of the season at higher prices, while women are more prone to storing more output for household independence.

### **2.2.3 Product Characteristics**

The name product characteristics refers to output prices, which plays an important part in market participation. A previous study uncovered that output prices affect positively the market participation by maize and banana farmers in Uganda and Kenya respectively (Alexandri *et al.*, 2014). It was argued that output price acts as an incentive for sellers to supply more in the market. For example, it was estimated that one percent growth in farm gate price multiplied the possibility that a household would participate in agricultural market by almost one percent (Fredriksson *et al.*, 2016). Another study also uncovered that price has an influence on the degree of farmers' market participation in cassava markets, as

this is sustained by economic theory because of the fact that price encourages increased supply (Alexandri *et al.*, 2014).

#### **2.2.4 Household Assets**

Household assets such as land, livestock, labour, equipment and machinery are powerfully completely connected with crop market participation (Mmbando, 2014). It is said by different school of thoughts that household asset holdings have been identified as key determinant and a major factor that affects market participation in many empirical studies (Mmbando *et al.*, 2015). When they are absent, they can serve as major constraints that limit the market participation of smallholder farmers. Some farmers have been excluded as producers of new and prospective market opportunities due to the lack of assets (Gwala, 2016). Assets in farming enhances the capacity of the smallholder farmers to access and take advantage of market opportunities (Mmbando, 2014).

A previous study showed that assets empower the rural poor farmer as it increases their incomes and shield their household from being vulnerable to economic shocks. This therefore encourages market participation (Hittersay, 2013). If farmers own more livestock, they will participate more in markets because the ownership of livestock serves as a security for risk of market failure, which in turn contributes to productive assets (Mmbando, 2014). Higher production can also be increased due to ownership of cultivation equipment, which means that such increased production will also increase market participation (Mmbando *et al.*, 2015).

Mechanised farming enables farmers to produce more in a smaller space of time, thereby enabling them to meet the market demands (Daniela, 2015). In essence, a smallholder farmer with mechanised equipment can easily guarantee output in the market because such outputs are not affected by other external human conditions in terms of workers issues and challenges (Hlomendlini, 2015). Previous reviews uncovered that the levels of basic mechanised equipment for smallholder farmers are very small in Umbumbulu area, which is almost the same for many of the rural areas in South Africa (Daum and Birner, 2017).

Earlier this year, AGCO Corporation which is a worldwide manufacturer and distributor of agricultural equipment, unveiled the Farm in a Box (FIAB) initiative for Africa at Germany's International Green Week (Agency, 2019). FIAB has proposed to provide an offering of basic farm equipment, which comprises of a tractor together with parts,

workshop tools, training and know-how, in order to stimulate viable and useful machinery operations (Agency, 2019). In most part of sub-Saharan Africa, humans supply about 65% of the energy required for land preparation and FIAB has proposed to provide small-scale farmers opportunities to access the machinery required to transform the farming operation. It is recommended that this kind of approach is what the department of Agriculture in the nation and in the KZN province should be exploring, as it will remove the barriers such as affordability, availability, maintenance/repair services, and inadequate skills and training (Agency, 2019).

### **2.2.5 Social Capital**

Social capital comprises of personal networks that consists of farmer's organisation/associations, farming groups, cooperatives and extension groups, which are aimed at encouraging market participation (Mmbando, 2014). These networks enable the development of trust that helps cooperation and continuous exchange of ideas (Mmbando, 2014). These kinds of networks also links up farmers with markets as it encourages market participation. Such networks are used to circulate information that assist in the transmission of resources. Also, existence of trust enables cooperative behaviours that are dependent on those networks (Mmbando *et al.*, 2015).

According to Ekepu, Tirivanhu and Nampala (2017), farmers association are broadly seen to be one of the ways of improving smallholder farmers' entrance to agricultural markets. This enables the collection of farmers' outputs and distribution in the market environment for efficient market participation. Rural producer organisations are some of the forms of groups that carryout production and marketing of products for members (Ekepu *et al.*, 2017). Rural producer groups enable farmers to maintain an improved access to markets for their products at a better price (Ekepu *et al.*, 2017). Some of the assistance they provide include helping members by averaging the volumes of produce over a group of smallholder producer farmers, sourcing a buyer that is interested, discussing the price with them, evaluating quality of the products and collecting the products for the delivery date, as well as the agreed quantity (Mmbando *et al.*, 2015). They also assist in pulling together the payments, paying the farmers and retaining a small margin for the organisation to cover its expenses (Mmbando, 2014).

Farmers group or cooperative associations also enhance the market supply participation of households. This is done by improving the access to market, market participation and reduced transaction costs, which helps with supplying information (Mmbando et al., 2015). Under cooperative association, households can be advertised under one umbrella as this helps to reduce the transportation costs of smallholder farmers to markets (Mmbando, 2014). The approach of cooperatives also helps in reducing market delivery cost, as the fixed cost is somehow divided among all the participating smallholder farmers' households price (Ekepu *et al.*, 2017). A review uncovered an evidence that farmers and cooperative groups provide ways for smallholder farmers to efficiently and profitably engage in market participation (Ekepu *et al.*, 2017). When they work together, smallholder farmers are in a better stead to minimise transaction or operational costs used in gaining access to inputs and outputs. They also help in the gathering of market information, obtaining newer access to newer technologies and tapping into more beneficial markets for the smallholder farmers price (Mango *et al.*, 2018).

The participation of farmers in extension groups positively affects smallholder market participation in agricultural markets (Mmbando, 2014). Extension services and support in farming are essential as they help in enlightening the farmers regarding proper advertising of their agricultural produce and the dissemination of precise and more current market information (Adebayo, 2015). Extension services also help in acting as advisory agents that watch out for the well-being and welfare of rural farmers. The extension services help farmers in utilising the latest scientific advances on their farm, which will likely result in improved productivity, profitability and reduced risks (Mmbando *et al.*, 2015). In South Africa, agricultural extension services are challenged to improve food security, cultivate the rural areas via continuous agricultural activity and to build sustainable jobs in the agricultural sector (Maoba, 2016). A survey study on extension services in the department of Agriculture and Rural Development in Germiston, Gauteng uncovered some necessary observations show in Table 2-1 below.

Table 2-1: Frequency of Farm Visit

Visit	Frequency	Percentage
Very Often (fortnightly)	19	24.36
Often (once a month)	33	42.31
Occasionally (irregular)	26	33.33

(Source: Maoba, 2016)

The feedback from the survey showed that only 24.36 % of farmers were visited very often, 42.31 % visited once a month and 33.33 % were visited occasionally. The study showed that the farmers' feedback was that irregular visits in the farm results in complaints from farmers and therefore implies that extension services are likely to fulfil their role to smallholder farmers (Maoba, 2016). Even though this study did not address impact of extension services to the market participation of farmers in Umbumbulu, this still is aimed at assessing it as one of the factors that affect market participation.

### 2.2.6 Education

The level of education when it comes to agricultural production plays a significant role in the agricultural industry especially in the formal market which is competitive, as it includes smallholder farmers, emerging farmers and commercial farmers (Reinhardt, 2018). Many of the subsistence farmers have the potential to improve their production output in comparison to what they are currently producing. It is said the reason for low output can be attributed to their lack of skills and knowledge about useful inputs that a farmer could use to maximize their productivity (Reinhardt, 2018).

According to Harvey *et al.*, (2014), education is considered a vital key for the equipping of rural farmers, in order to profitably and sustainably manage their businesses. Poor management, shortage of training, clashes among members and not having access to funds were important significant factors to the smallholder not being able to participate in formal markets. It is believed that this could be directly or indirectly linked to lack of adequate education (Harvey *et al.*, 2014). Knowledge regarding agriculture could assist smallholder farmers with understanding and interpreting market information properly (Harvey *et al.*, 2014). Such level of knowledge and education can also help them to network and market their businesses, manage their farm business effectively and also help to upgrade their

financial management (Harvey *et al.*, 2014). Education therefore results in farmers being willing to adopt new technologies and more efficient ways of agriculture, which will assist their level of production and market participation (Mmbando, 2014).

For other parts of sub-Saharan Africa like Nigeria, it was uncovered that there are positive effects for schooling mostly when farmers are utilising new technologies (Ferreira, 2018). On the contrary, another study estimated the return of education in Nepal because of using cognitive ability of the farmers (Ferreira, 2018). It was uncovered that education did not have a significant effect on rice production but it had impact on wheat production (Ferreira, 2018). It was discovered that farmers with at least 7 years of education recorded about 31.1 % increase in wheat production on average without controlling their cognitive skills (Ferreira, 2018). In view of these variations, some view has been summarised which shows that the success of smallholder farmers is not entirely dependent on the education but on the ability of the farmer to have some level of literacy (Pienaar and Traub, 2015).

### **2.2.7 Transportation and Road Infrastructure**

According to Kassali *et al.*, (2012), transportation mode is the means of movement utilised in carrying goods and persons from one location to another destination, which is usually from village to the farm and market. Small scale farmers find it challenging to deliver their harvest to the buyers during the time at which they need to be delivered. This has led to the wastage of the fresh produce and damages to the harvested stock (Kassali *et al.*, 2012). The impact is likely due to not having a reliable form of transport as public transport is not easily available in the rural areas (Harvey *et al.*, 2014). Smallholder framers also do not have agreements between themselves as a good number of them work in isolation, so that they can transport their produce as a collective group (Harvey *et al.*, 2014). The absence of reliable forms of transport results in increased transport costs, hence increased transaction costs for smallholder farmers (Mmbando, 2014).

Most of smallholder farmers in the Southern Africa package their fresh produce in bags, after which they are transported to the market place by means of public transport (Mmbando, 2014). Due to the movements that occur during public transportation, the produce experience bruises and damages which significantly reduce the quality of such produce. The resultant effect is that much returns is not obtained from such sales and they end up losing instead of making profit. A number of smallholder farmers decide to utilise hired vans from their networks or neighbours, who usually charge high rates. The cost of

hiring transport then becomes too expensive for producers to derive significant economic profits from market participation. This further discourages them from marketing their produce in the surrounding and available markets (Mmbando *et al.*, 2015). Some smallholder farmers are able to make use of their own vehicles, in order to deliver their fresh produce to the retail hubs. It was noted that farmers that have their own vehicles are in a better position to search for more lucrative markets, and their produce is of a better quality which enables them to get a better price for their produce (Maoba, 2016). Inadequate transformation is a major constraint and challenge for smallholder farmers and this study will assess the degree to which it affects smallholder farmers in the Umbumbulu area (Mitiku, 2014).

The entire development and growth of smallholder farmers depend largely on the condition of the rural road infrastructural facilities. Tamene and Megento (2017) clearly highlights that developed road infrastructure also contributes significantly to the degree and quality of rural development. It was further stated that countries or areas that have developed their rural infrastructure have better and higher market participation than those behind in terms of infrastructures (Tamene and Megento, 2017). Rural roads that are in bad condition, poor and inadequate roads have been the key concern of smallholder farmers and consumers (Kassali *et al.*, 2012). It is said that the rural Africa has only 34% of road access in good condition in comparison to 90% in the rest of the world (Tamene and Megento, 2017). Although this statistics may vary from one African country to another, the underlying truth is that much work is still required with regards to infrastructure in many parts of Sub-Saharan Africa.

### **2.2.8 Post-Harvest Handling Facilities**

There are various factors that may make the quality of produce which is to be delivered to the market, to be of a poor quality. For example, the bruising of the produce or some fresh produce being exposed to high temperature (Garikai, 2014). The deterioration of the produce typically happens as a result of poor handling of the produce on the farm and the market, poor storage facilities as well as poor packaging when the produce is being transported to the market (Garikai, 2014).

Vegetable fresh produce are very prone to perishing quickly. As a result of this, there is the need for the safe handling which requires specific production methods, packing methods and refrigerated vehicles which need significant capital, of which smallholder farmers do

not have the ability to manage (Louw and Jordaan, 2016). These are major constraints that are facing smallholder farmers. In view of the financial situation of the smallholder farmers, it is expedient for the farmer to devise means of handling fresh produce in order to maintain them in good condition, thereby maximising on market participation (Garikai, 2014). In the Umbumbulu area, it is yet uncertain how smallholder farmers are addressing this issue as it is possible to be creating their inability to participate in markets. This study will review and assess the degree of impact in this regards.

### **2.2.9 Financial Grant and Funding**

In addition to other factors that affect the market participation of smallholder farmers, agricultural production credit is considered a core aspect because it determines access to most of the farm resources required by farmers (Oladele and Ward, 2016). Credit is the supply of credit facilities to borrowers and it is defined as a supply side due to the fact that it is the creditor that makes the decision to approve credit or not. Smallholder farmers usually face constraints when it comes to accessing credit in order to acquire larger farms, making improvements on their farms, etc (Semenya and Mabila, 2019). Agricultural credit can be used in 3 main ways; that is, for buying agricultural inputs such as fertilizer, labour, seeds and water expenses. It can also be utilised for the buying of equipment such as irrigation, implements, delivery truck, irrigation equipment, tractors, as well as for farm acquisition and for farm improvements (Semenya and Mabila, 2019).

Smallholder farmers face challenges when accessing credit due to the fact that financial institutions find it difficult to fund them, because they cannot ascertain affordability and repayment ability. In addition, smallholder farmers lack or own contribution to reduce credit risk for financial institutions (Louw and Jordaan, 2016). Hence, the traditional (formal or informal) credit use remains especially low, with farmers primarily financing modern input use purchases with cash from non-farm activities and crop sales (Adjognon *et al.*, 2017). To increase agricultural productivity and assist households in sustaining food security, many governments in developing countries started credit programmes so that farmers will have access to formal sources of credit without collateral acceptable to the banks, high administrative costs and perceived high risks associated with agricultural and small scale farmers (Dadson, 2012). A number of views on funding suggest that it makes more sense for lending institutions to lend money to the end user of a group of smallholder farmers instead of lending to an individual smallholder (Mathelemusa, 2018).

### **2.2.10 Land Tenure**

Dispossessions and forced removal of African people under colonialism and apartheid resulted in not only physical separation of people along racial lines, but also extreme land shortages and insecurity of tenure for much of the black population (Garikai, 2014). Land tenure security is defined as the person's view of the rights that they have pertaining to a piece of land that they occupy on a constant basis. The piece of land is free from any burden or free from imposition or interfering from outside parties, and the person has the right to gain all the benefits of the labour or capital that they have invested in their land, whether they are using it or have abandoned it (Zwelendaba, 2014). This definition contains three components which are; breadth, duration and assurance, as well as with legal and economic dimensions (Zwelendaba, 2014). Many farmers in developing countries hold customary rights when it comes to the tenure of the land. This is thought to be highly secure in terms of local social arrangements even though these rights are not given legal status in the country's legal property systems (Garikai, 2014). As stated by Aliber & Hall (2011), there are 49.9% small-scale farmers who farm in tribal authority land, whereas 1.8% of the households lease the land. The lack of property rights in a lot of developing countries has inhibited economic growth in those countries, and secure land tenure will facilitate economic development (Gwala, 2016).

A sense of security of land tenure could encourage diversification of production and economies of scale, thus lowering transaction costs (Gwala, 2016). Furthermore, it can also encourage on-farm investments, and this could include the procurement of movable assets such as tractors and vehicles (Gwala, 2016). Better land access could also result in a rise in harvest production in rural areas, thereby assisting the small scale farmers that are currently producing to increase their production (Sikwela, 2013).

## **2.3 Chapter Summary**

According to Mutero, Munapo and Seaketso (2016), it is acknowledged by a number of reviews that smallholder farmers are considered to be the key future drivers of the African economy. There are about 500 million farms which are operated by smallholder farmers (Mutero *et al.*, 2016). Food security is a major challenge faced by many sub-Saharan African countries and it is agreed by many writers that smallholder farming is a major source of alleviating such poverty and food security issues (Thamaga-Chitja and Morojela 2014). As for South Africa, policymakers should be looking intently at any means of

leveraging on smallholder farmer. This can be done by addressing the constraints that limit their market participation. This chapter reviewed literatures related to the topic, reviewed different perspectives of challenges and constraints that face smallholder farmers and ended with a direction regarding the conceptual framework of this study. The next chapter presents the research methodology.

## CHAPTER 3 RESEARCH METHODOLOGY

### 3.1 Introduction

This chapter outlines the broad research methodology and philosophy that was utilised in addressing the study objectives applicable to this study. This chapter covers areas like research design, research area, and population of the study, sample size, design of the questionnaire, data collection and analysis. This chapter also reviewed the reliability, validity and applicable ethical considerations to this study. This chapter is very essential as it outlines the specific procedures and techniques that was applied in analysing the information regarding the topic of this study. Out of the many of the identified constraints and challenges, this study will critically assess six (6) of them that the researcher considered as major ones. These include poor road infrastructure, impact of extension services, funding and grants, land tenure rights and inadequate post-harvest facilities.

The study was done in Umbumbulu area which is located in the province of KwaZulu-Natal. This area is located South-East of Durban. Umbumbulu is located forty kilometres away from Durban, and one of several rural areas located in EThekweni municipality. Umbumbulu is made up of 25 smaller districts and has a population of quarter of a million people.



Figure 3-1: Location of the Study

The framework and techniques that is selected by the researcher to align different aspects of research in an orderly manner is known as research design (Bhat 2018). It is also known as a step-wise plan of action that outlines an orderly direction towards the researcher's effort, thereby helping the researcher to carry out the study in a systematic manner in order to obtain quality results (Dinnen 2014). A quality research strategy enables the focus and time saving of the resources by the researcher (Dinnen 2014). Research strategy can take the form of qualitative or the quantitative method. These methods were assessed by the researcher to ensure the suitability and to guarantee that the study results are of good quality. These methods are described in the sections below.

### **3.1.1 Qualitative Research**

According to Saunders, Lewis, and Thornhill (2012), qualitative research is normally related with an explanatory philosophy, as the researcher needs to understand the subjective and constructed implications, put forward by the participants in the research regarding the phenomenon being studied. The qualitative research approach makes use of the interpretive method, which normally works on explaining a happening and extracting information that connects to the main topic (Creswell and Creswell 2018)

### **3.1.2 Quantitative Research**

The quantitative research is usually used in evaluating close ended questions within the subject matter (Creswell and Creswell 2018). This approach employs a scientific approach to decision making and comprises of describing the problem, building the desired mode, accumulating input data, developing a solution, solution testing, evaluation and implementation of the results (Cooper and Schindler, 2011). Quantitative design was utilised for this study as it is important for the researcher to have a statistical deduction, in order to gather actionable insights (Bhat, 2018). The nature of quantitative research provides an exact measurements of something and it utilises the numerical measurements and statistical evaluation of measurements to examine social phenomenal (Kenton, 2018).

## **3.2 Data Description**

Kenton (2018) explains that population is an array of units from which a sample is gathered or collected, whereas sampling is means of selecting specific units from an interested Population. Population can be defined as the total group of people or subjects

that the researcher intends to examine (Sekaran and Bougie, 2013). The target population should be distinctive with regards to elements, physical limits or time (Sekaran and Bougie 2013). The target population for this study is 150 smallholder farmers in the Umbumbulu area.

### **3.2.1 Data Collection Method**

The questionnaire was distributed to the entire population which took a lot of time because of the study area to be covered. To ensure that the forms are completed, the researcher had to hire field assistants. This was to aid in distributing the questionnaires, explaining to the participants both in IsiZulu and English for proper clarification of the questions and also to ensure that their feedbacks are properly captured.

The research instrument used to carry out the study was survey method known as a questionnaire. According to Saunders, Lewis and Thornhill (2015), the use of questionnaire helps in collecting information in a standardized manner and is usable for data analysis. The questionnaire was designed to address the objectives of the study. It was broken down into sections A, B, C and D. The section A deals with the demographics of the participants which covered aspects like gender, marital status, age, educational status, farmers' status and years of farming. The section B deals with the first objective, section C deals with the second objective while section D deals with the last objective. Details and contents of the survey form is provided on the appendix section of this dissertation. To measure the responses, a Likert-type scale (five-point) was used for Question 8 to 21 and comprised the following: Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree.

The figure 3-2 below summarises the two major types of sampling design which are probability and non-probability sampling.

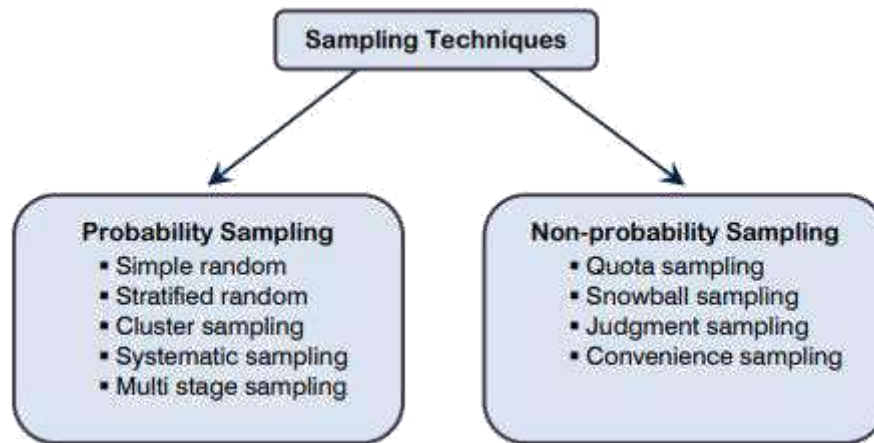


Figure 3-2: Sampling Techniques (Adapted from Taherdoost, 2016)

The probability sampling has some define it as having a non-zero likelihood of being selected while the non-probability sampling does not have a scheduled likelihood of being selected as subjects (Sekaran and Bougie, 2013). Data was collected from a sample of smallholder farmers who are producing a marketable surplus in the Umbumbulu area. A questionnaire was administered to the sampled household heads through face-to-face interviews. In the absence of the head, the spouse or any family member who is directly involved in the farming activities and management was interviewed. For this study, a random sampling method was used with a sample size of 100 following the study done by Jari and Fraser (2009) which had a sample size of 86 smallholder farmers therefore this study had a slightly larger sample. This sample approach was used because qualitative data was collected using questionnaires which requires more time to write down the responses from the farmers

### 3.2.2 Validity

The extent to which the research design and questionnaire efficiently evaluates an aspect of the study is known as validity. The validity of the research instrument ensures that the concepts that are to be used, test matches the expected outcome from the study (Creswell & Creswell , 2018). An instrument’s validity also outlines how good an instrument is set up and measures the ideal concept in line with study expectation (Sekaran & Bougie, 2013). Sekaran and Bougie (2013), validity testing is grouped under three types of validity, which are content validity, criterion-related validity, and construct validity.

### **3.2.3 Reliability**

The consistency of a measure is referred to as reliability. Reliability is a test of how consistent a measuring instrument like a questionnaire checks the information the questionnaire is expected to measure (Heale & Twycross, 2015). According to Saunders, Lewis and Thornhill (2015), the reliability of a measure underpins the fact that the measuring instrument should produce the same array of results under varying conditions. Therefore, a measuring instrument is considered dependable when it is steady and unchanging with regards to how it measures the concept (Saunders, *et al.*, 2015). The measuring instrument used for this study was checked to ensure that it is reliable by the use of Cronbach's alpha.

### **3.2.4 Elimination of Bias**

The comprehension of research bias is essential for various reasons: firstly, most research comes with some degree of bias; secondly, bias can happen at each stage of the research process; lastly, bias affects the validity and reliability of the study findings and misinterpretation of data can have damaging consequences (Smith & Noble, 2014). Bias could refer to when the researcher asks the wrong question that can lead to a discrepancy between the objectives of the study and the outcomes (Saunders *et al.*, 2015). The questions on this study were not extracted from former studies, hence the researcher safeguarded that there was no bias in the arrangement of the questions. The study also safeguarded against asking deceptive questions that confused the participants.

### **3.2.5 Ethical Considerations**

Ethics can be defined as norms or standards of conduct that guides the moral selections about human behaviour and association with others (Cooper & Schindler, 2011). There are important implications for research ethics as it affects access to objects, people, organisations and the gathering of information data (Saunders *et al.*, 2015). The aim of ethics in research is to certify that none of the participants will be hurt or encounter hostile consequences due to research activities (Bawa, 2014). Activities that are unethical are ubiquitous and comprises of dishonouring non-disclosure agreements, exposing respondent privacy, twisting results, misleading participants. This is in order to avoid potential legal liabilities (Cooper & Schindler, 2011). The research proposal was submitted to the University of KwaZulu-Natal's Ethics Committee as part of the protocol with the

university requirement. This was done in order to obtain approval of the ethical clearance certificate. This was done by ensuring that the research instrument (questionnaire) was structured such that no potential harm is caused to the participants. The participants were also free to withdraw at any stage of the study. Ethical clearance was obtained from UKZN's ethical committee and gate keeper's letter was also provided by the Agriculture and Rural Development office. After the collection of the ethical certificate, the researcher continued with the study. To ensure proper participation of the participants, the researcher obtained a gate keeper's letter from Agriculture and Rural Development, in order to collect information necessary for the study from the participants. The first section of the questionnaire includes a consent form, which shows that the participant involvement in the research is voluntary and that they are free to discontinue with the study at any stage.

### **3.3 Data Analysis**

The first approach in data analysis was to transfer the data from manual forms into Microsoft Excel sheet for proper classification. The data was then reviewed and tabulated in readiness for data analysis. The descriptive analysis tool on the Microsoft Excel data analysis was used first on the data per survey form. The feedback from data analyses were presented in pie charts, bar charts and tables. Descriptive analyses was also done on the data as well. Descriptive statistics analysis outcome presented the mean, median, mode, standard deviation and sample variance. T-testing was utilised for the inferential statistics evaluation.

#### **3.3.1 T-testing Analysis**

The data was evaluated using the hypothesis testing for one sample tool. This was estimated by using the t-Test analysis tool from the Microsoft excel data analysis. One sample t-test is used when a sample mean is being compared to hypothesized mean, and when the variable is presumed to be normally distributed. The critical value calculation entails estimating if or not the perceived test statistics is more extreme than expected if the null hypothesis were true (Massey & Miller, 2006). In other words, it involved comparing the observed test statistics to some cut off value known as the critical value. If the t-value (t-statistics) is greater than the t-critical, then the null hypothesis is rejected in favour of the alternative hypothesis. Another method of arriving at a decision or conclusion is the use of p-value.

### **3.4 Chapter Summary**

This chapter reviewed the research methodology that this study followed. Some of the aspects covered in this chapter includes; study location, population, sample selection and questionnaire design. This chapter also covered econometric methodology (data analysis), validity and reliability, elimination of bias and ethical considerations applicable to the study. The next chapter outlines results, discussions and interpretation of results.

## CHAPTER 4 DATA ANALYSIS AND EMPIRICAL RESULTS

### 4.1 Introduction

This chapter shows the results and findings from this study which was extracted from the respondents data that was analysed. The data was reviewed descriptively and inferentially. The results from the data analysis were presented using histograms, pie charts, bar charts and tables. The presentation of the graphs were supported with discussions that are related to the study objectives. The next section starts by presenting a survey statistical report.

### 4.2 Survey Statistical Report

For the study, simple random sampling method was used such that all subjects of the 150 population were given equal chance to participate in the study. Table 4-1 below shows that out of the 150, a total of 100 respondents completed the distributed questionnaire. The response rate based on the completed questionnaires was therefore 67%.

Table 4-1: Survey Summary Statistics

DESCRIPTION	COUNT
Number of respondents	150
Number of respondents who completed the questionnaire	100
Response rate	67%

### 4.3 Section A: Demographics Features of Farmers in the Study

This section provides a summary on the demographics. This covers aspects like gender, marital status, age range, literacy level and education, farming status, farm finance, and years of farming.

#### 4.3.1 Gender

The Figure 4-1 below shows the gender summary of the study participants.

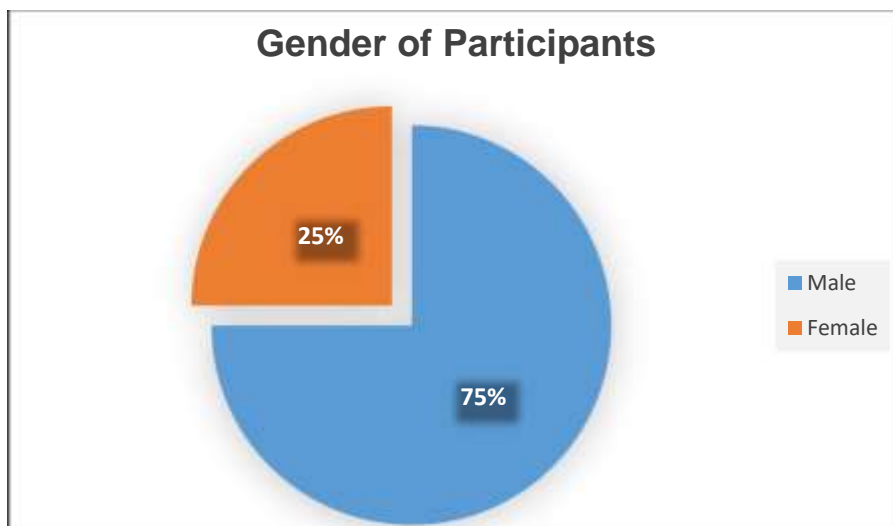


Figure 4-1: Gender of Participants

The figure above showed that 75% of the participants are female while the remaining 25% are male. This showed that in comparison to males, households that were headed by female participants are actively involved in farming. It was revealed in a previous study that women represent over 65% of farmers involved in smallholder farm and those involved do it predominantly for agricultural purposes, that is in order to fend for their families (Hart and Aliber, 2012). According to Abass (2018), women are transforming major aspects in Africa with a good proportion involved in farming. This outcome is in line with studies that have shown that women generate nearly half of the world's smallholder farmers and cultivate over 70% of the food in Africa (Abass, 2018). This shows that females should be encouraged by governments considering this finding and previous literatures.

#### 4.3.2 Marital Status

The Figure 4-2 below shows the proportion of the farmers involved in the study that are married and those that are unmarried.

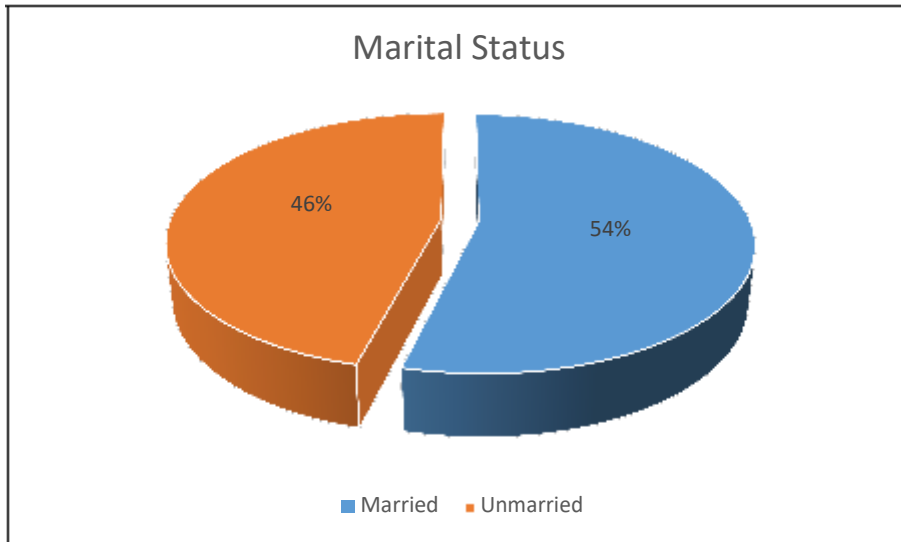


Figure 4-2: Marriage Category

The figure above showed that slightly above half of the participants are married. However, this does not encompass the portion of the smallholder farmers that are single parents. Nevertheless, this outcome shows that a good proportion of the farmers are family oriented, hence they would be involved in farming to meet family needs.

### 4.3.3 Age Category

The Figure 4-3 below presents the age category of the participants.

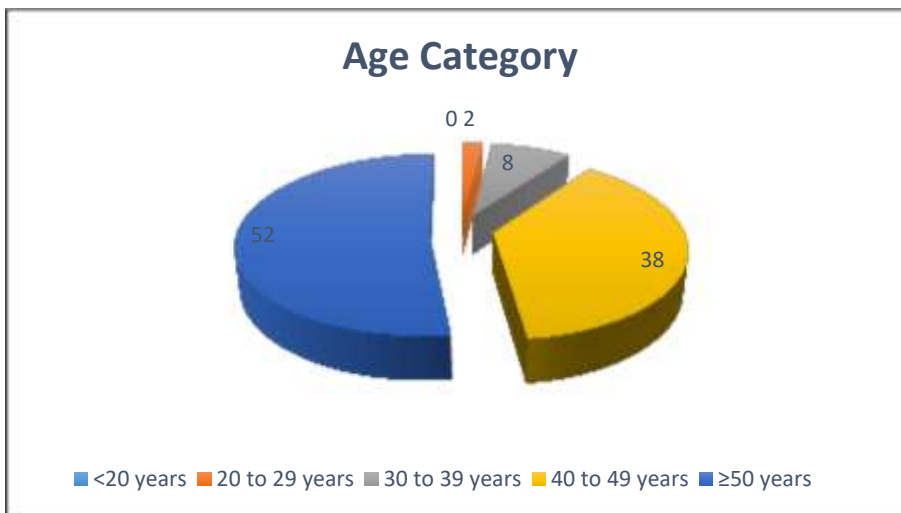


Figure 4-3: Age Category of Respondents

From the figure above, majority of the farmers were over 40 years old. This result shows that most of the farmers are sort of mature in age. It is unusual to find young farmers in smallholder agriculture regardless of the future support and awareness by government on farmers. A review by Help Age International showed that smallholder farmers are more concentrated on the older generation above 40 years than younger generation, i.e below 40 years(Mis and Esipisu, 2016) In addition to the feedback from this category, it is said that younger generations whose parents are farmers do not find farming appealing (Mis and Esipisu, 2016)

#### 4.3.4 Literacy Level

The Figure 4-4 below presents the literacy level of the respondents in the study.

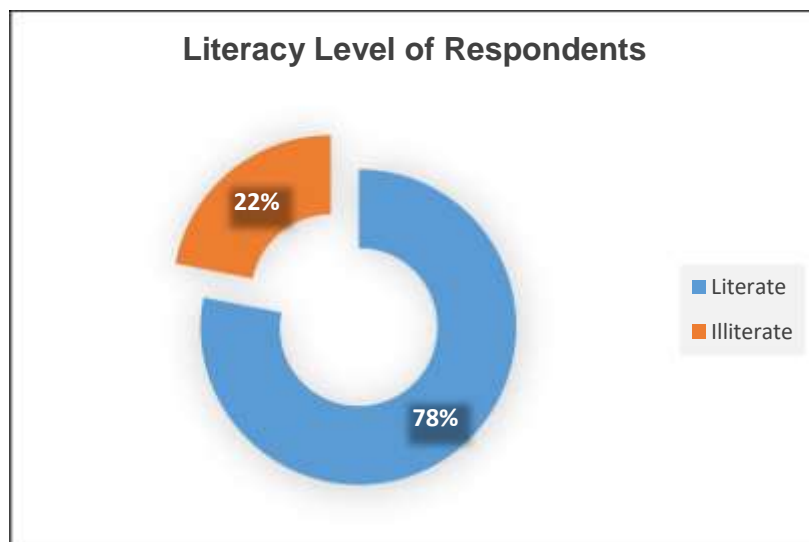


Figure 4-4: Literacy Levels of Respondents

From the figure above, 78% of the participants were found to be illiterate while 22% were deemed literate. According to Amir, Khadim and Bilal (2015), the educational level of farmers in the rural areas is an essential element to obtain improved agricultural productivity. Education and literacy level of smallholder farmers enable the improvement of their productivity via the enhancement of the labour quality (Naimasia, 2015). Literacy has been acknowledged as a vital driver for guaranteeing sustained human development, even though it remains neglected by some government (Iftikhar *et al.*, 2015). The feedback from the figure above shows a significant level of literacy among Umbumbulu farmers.

However, there is need for the government to address this gap by facilitating literacy or rural educational programmes that are sponsored by the Department of Agriculture or other government initiatives. A study carried out in Tanzania and Ethiopia also supported this view, and showed that improved literacy level has a positive impact on the market participation of smallholder farmers (Mango *et al.*, 2018).

#### 4.3.5 Part Time or Full Time Farming

The Figure 4-5 below shows whether the respondents were part-time or full-time farmers.

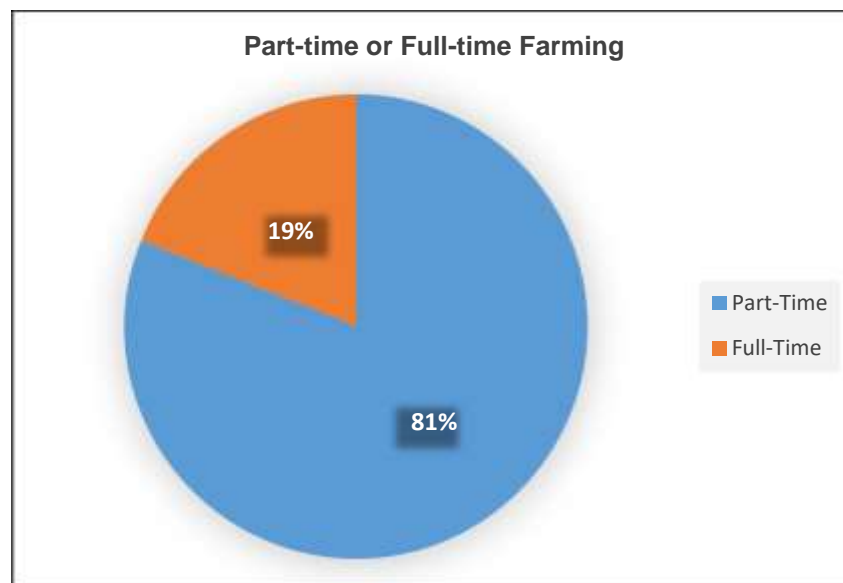


Figure 4-5: Part-time or full-time farming

The figure above summarises the farming frequency of the smallholder farmers, this was done by assessing whether they are part-time or full time farmers. The figure revealed that 81% of the smallholder farmers are into part-time farming while 19% are into full-time farming. The decision to farm on a full-time basis is usually a big decision for many farmers, hence many farmers start up on a part-time basis (Duffy, 2013). Previous studies have in rural farming revealed that many of the smallholder farmers are not interested in full-time farming, instead they prefer to start with part-time farming (Khapayi and Celliers, 2016). Hence, the feedback of the respondents are in line with existing literatures. It is possible that the level of support received by smallholder farmers could motivate them to move into full-time farming. If proper support is provided by the government, this could end up benefiting the South African economy if embraced by all smallholder farmers.

#### 4.6.6 Financing for Smallholder Farmers in Umbumbulu area

The Figure 4-6 below presents the respondents feedback on financing for smallholder farmers.

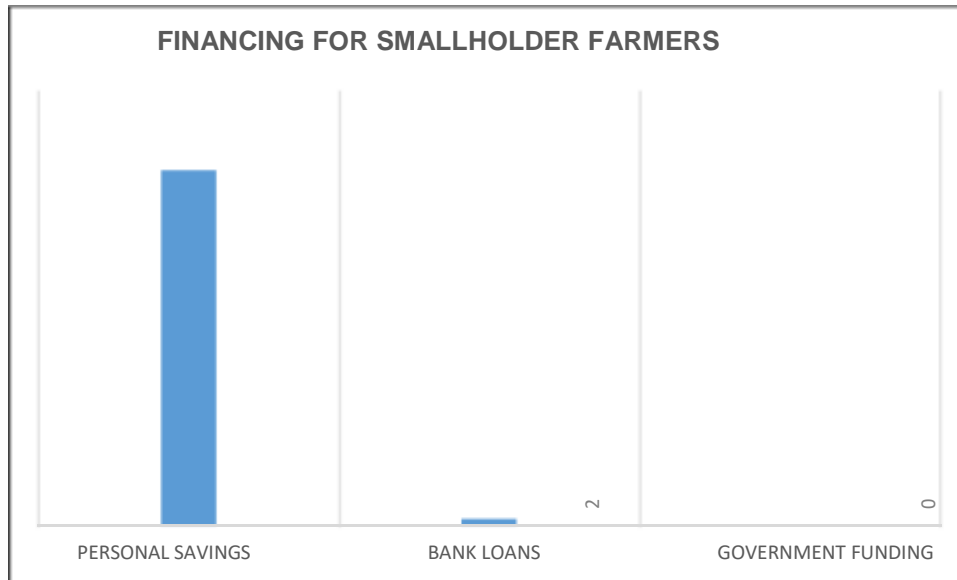


Figure 4-6: Financing for smallholder farmers

The figure above revealed that 98%, which is the majority of the smallholder farmers utilise their personal resources for farming while only a meagre 2% have some form of loans. A limitation on the study is that it does not unveil more on the nature of bank loans from the 2%. The finding from the respondents from Figure 4-6 above shows showed that most of the smallholder farmers rely on personal sources to finance their farm businesses. The absence of access to agricultural credit is a major constraint to the growth of the smallholder agricultural farmers (Qwabe, 2014).

#### 4.3.7 Years of Farming

The Figure 4-7 below shows the number of years that the smallholder farmers have been involved in farming.

5

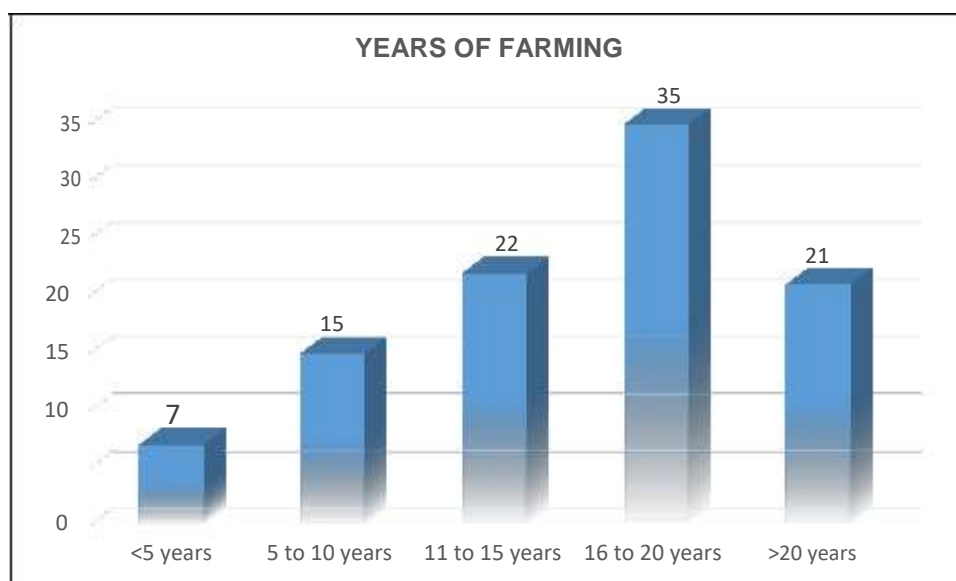


Figure 4-7: Years of Farming

The figure above showed the number of years that the smallholder farmers have been involved in farming. The feedback shows that majority of the farmers (57%) have been in farming between 11 to 20 years, while about 21% have been in farming for more than 20 years. The remainder of 22 % have been in farming between zero and 10 years.

#### 4.4 Section B: The Level of Market Participation of Smallholder Farmers in Umbumbulu area

This section sought to evaluate the level of market participation of smallholder farmers in Umbumbulu area. The sub-sections is arranged in line with the question under objective 1.

##### 4.4.1 Provision of Seminars in Umbumbulu Area to Educate on Market Participation

This sub-section sought to evaluate the response of the respondents to **Question 8**. From the Table 4-2 below, the respondents disagreed with the statement that KZN department of Agriculture provided seminars in Umbumbulu area to educate smallholder farmers on market participation (mean = 2.97, p-value = 0.1824), since the p-value was greater than 0.05.

Table 4-2: KZN Department of Agriculture on providing seminars

One-Sample Statistics				One-Sample Test against mid-point of scale (3)	
	N	Mean	Std. Deviation	t	P-value (1-tailed)
KZN department of Agriculture provide seminars in Umbumbulu area to educate smallholder farmers on market participation.	100	2.97	0,763	0,9105	0.1824

The Figure 4-8 below shows the feedback of the respondents with regards to whether the KZN department of Agriculture provided seminars to educate smallholder farmers.

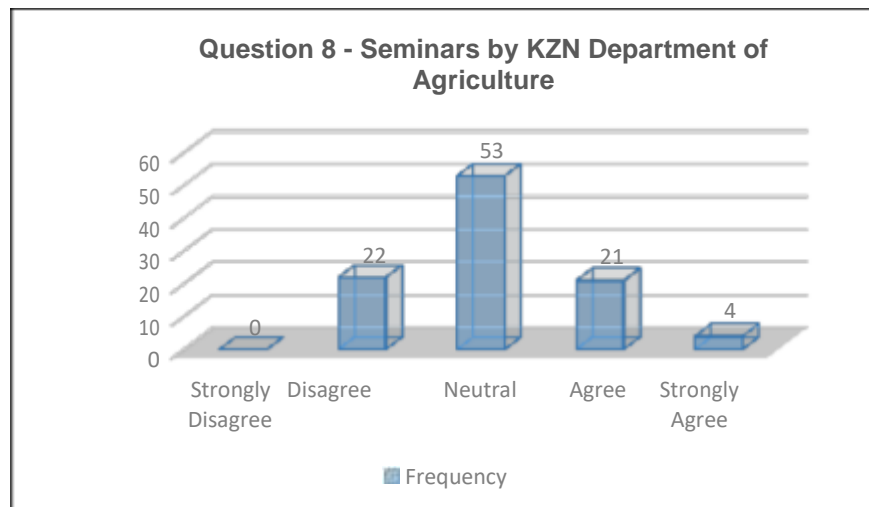


Figure 4- 8: Seminars by KZN Department of Agriculture

The figure above clearly showed that a similar proportion of the participants (22%) disagreed while 25% agreed. 53% of the participants were neutral to the question and could be that they were unclear on the question. One of the means by which rural farmers improve their knowledge of farming is through seminars provided by the government (Agency, 2019). Market participation for smallholder farmers enable households to

improve their income through farming, hence the need for the government to intensively create such awareness (Greenberg and Paradza, 2013). The feedback from the participants is not clear as to whether adequate awareness is made to enhance smallholder farmers' knowledge on market participation. The feedback from the respondents clearly shows that more effort should be put in by the Department of Agriculture in the province to address this gap.

#### 4.4.2 Responses on How Smallholder Farmers can Actively Participate in Markets

This sub-section sought to assess the response of the respondents to **Question 9**. From the Table 4-3 below, the respondents disagreed with the statement that the smallholder farmers have a clear understanding of how they can actively participate in markets as smallholder farmers (mean = 2.29, p-value = 0.1321), since the p-value was greater than 0.05.

Table 4-3: Clear Understanding of How Farmers can participate in Markets

One-Sample Statistics				One-Sample Test against mid-point of scale (3)	
	N	Mean	Std. Deviation	t	P-value (1-tailed)
I have a clear understanding of how I can actively participate in markets as a smallholder farmers	100	2.29	0,555	-12.773	0.1321

The Figure 4-9 below shows the feedback of the respondents in response towards if the smallholder farmers have a clear understanding of how they can actively participate in markets as smallholder farmers.

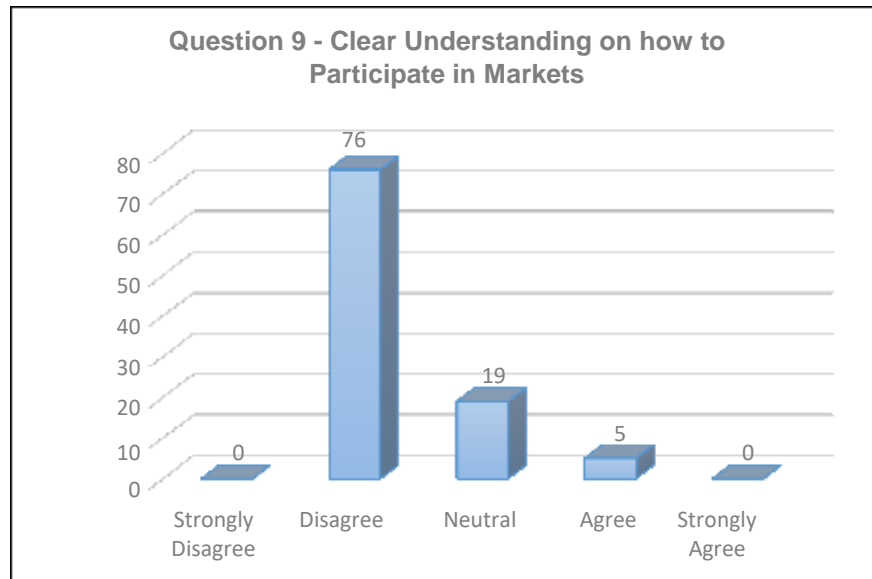


Figure 4-9: Clear Understanding on how to participate in markets

The figure above showed the feedback of participants with regards to a clear understanding on how smallholder farmers are to participate in markets. A staggering 76% of the respondents disagreed that they have a clear understanding on how to participate in markets while only 5% agreed. Cloete (2016) outlines that it is important for smallholder farmers to participate in agricultural markets, but even better for them to have a clarity on market participation. Market participation is all about how smallholder farmers can access the nearby markets in order to sell their products (Hlomendlini, 2015). It is necessary for the farmer to know what to do, how to price their products and how to follow it through to the market.

#### 4.4.3 Information on Agricultural Product Pricing

This sub-section sought to assess the response of the respondents to **Question 10**. From the Table 4-4 below, the respondents disagreed with the statement that access to information on prices of agricultural products in markets around the smallholder farmer is known (mean = 2.18, p-value = 0.1143), since the p-value was greater than 0.05.

Table 4-4: Information on Agricultural Product Pricing

One-Sample Statistics				One-Sample Test against mid-point of scale (3)	
	N	Mean	Std. Deviation	t	P-value (1-tailed)
I have access to information on prices of agricultural products in markets around me.	100	2.18	0,968	-8.4713	0.1143

The Figure 4-10 below shows the feedback of the respondents to whether they have access to information on prices of Agricultural products in markets around them.

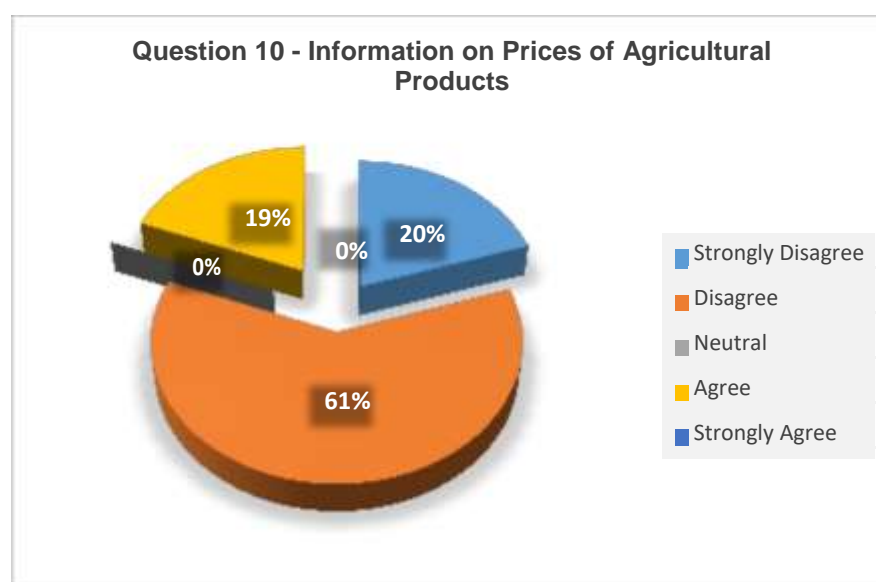


Figure 4-10: Information on Prices of Agricultural Products

From the figure above, 80% of the participants disagreed that they have access to information on prices of agricultural products in markets around them, while only 20% agreed. This feedback shows that the smallholder farmers are lacking with regards to information on market participation. It is the responsibility of the government through various services to make smallholder farmers knowledgeable enough to grow their businesses (Duffy, 2013). Through literacy programmes, these farmers increase in their ability to access information which ultimately helps their level of market participation (Daum and Birner, 2017). Therefore, the response of the respondents are in line with

existing literature. There are still gaps with regards to market participation knowledge of smallholder farmers in the rural areas (Hlomendlini, 2015).

#### 4.4.4 Awareness of Organisations or Cooperatives Helping the Farmers

This sub-section sought to assess the response of the respondents to **Question 11**. From the Table 4-5 below, the respondents disagreed with the statement on awareness of organisations or cooperatives helping farmers with periodic awareness on market participation (mean = 2.38, p-value = 0.1433), since the p-value was greater than 0.05.

Table 4-5: Awareness of organisations or cooperatives

One-Sample Statistics				One-Sample Test against mid-point of scale (3)	
	N	Mean	Std. Deviation	t	P-value (1-tailed)
I am aware of organisations or cooperatives helping farmers with periodic awareness on market participation	100	2.38	0,788	-7.8625	0.1433

The Figure 4-10 below shows the feedback of the respondents on whether they were aware of organisations or cooperatives helping farmers with periodic awareness on market participation.

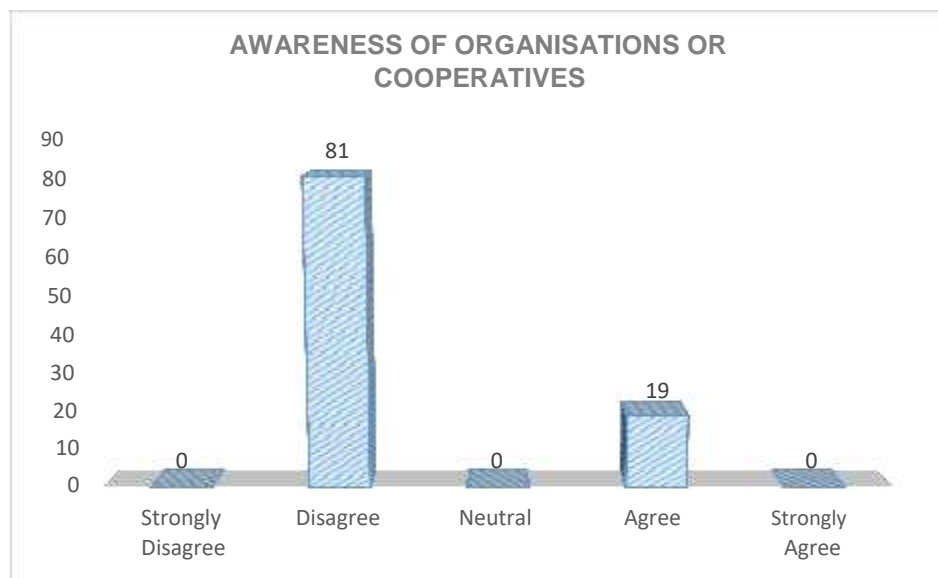


Figure 4-11: Awareness of organisations or cooperatives

The figure above shows the feedback of the respondents towards the smallholder farmers' being aware of organisations or cooperatives helping farmers with awareness on market participation. 81% of the participants strongly disagreed that they were not aware of such cooperatives or organisations while only 19% agreed to the statement.

In small-scale farming, there is a growing interest from a number of donors and researchers in cooperative producer organisations to enhance the performance of smallholder (Verhofstadt and Maertens, 2014). Their sole goal is to create awareness through market participation, thereby increasing business profitability of smallholder farmers (Verhofstadt and Maertens, 2014). However, observations have been made that many smallholder farmers in the rural areas are unaware of such awareness to assist smallholder farmers (Verhofstadt and Maertens, 2014), which is in line with the feedback from the respondents. It is essential for smallholder farmers to be aware of the role of cooperatives and organisations, as this will enable them to increase their product output, thereby increasing their market participation (Gashaw and Kibret, 2018). Ekepu *et al.* (2017) clearly highlighted that farmers associations are broadly seen to be one of the ways of improving smallholder farmers' entrance to agricultural markets, enabling the collection of farmers' outputs and distribution in the market environment for efficient market participation. Rural farmers' association enable farmers to continue an improved access to markets for their product at a better price (Ekepu *et al.*, 2017). It was also revealed that farmers and

cooperative groups provide ways for smallholder farmers to be engaged in market participation more efficiently (Ekepu *et al.*, 2017).

#### 4.5 Section C: The Major Market Participation Challenges Encountered by Smallholder Farmers in the Umbumbulu Area

This section sought to assess the major market participation challenges experienced by smallholder farmers in the Umbumbulu areas. The sub-sections is arranged in line with the question under objective 2.

##### 4.5.1 Poor Road Infrastructure

This sub-section sought to evaluate the response of the respondents to **Question 12**. From the Table 4-6 below, the respondents agreed with the statement that poor road infrastructure was a hindrance to them on market participation (mean = 4.34, p-value = 1.708E-38), since the p-value was less than 0.05.

Table 4-6: Poor Road Infrastructure

One-Sample Statistics				One-Sample Test against mid-point of scale (3)	
	N	Mean	Std. Deviation	T	P-value (1-tailed)
Poor road infrastructure is a hindrance to me on market participation	100	4.34	0,636	20.966	1.708E-38

The Figure 4-10 below also shows the respondents frequency spread on poor road infrastructure.

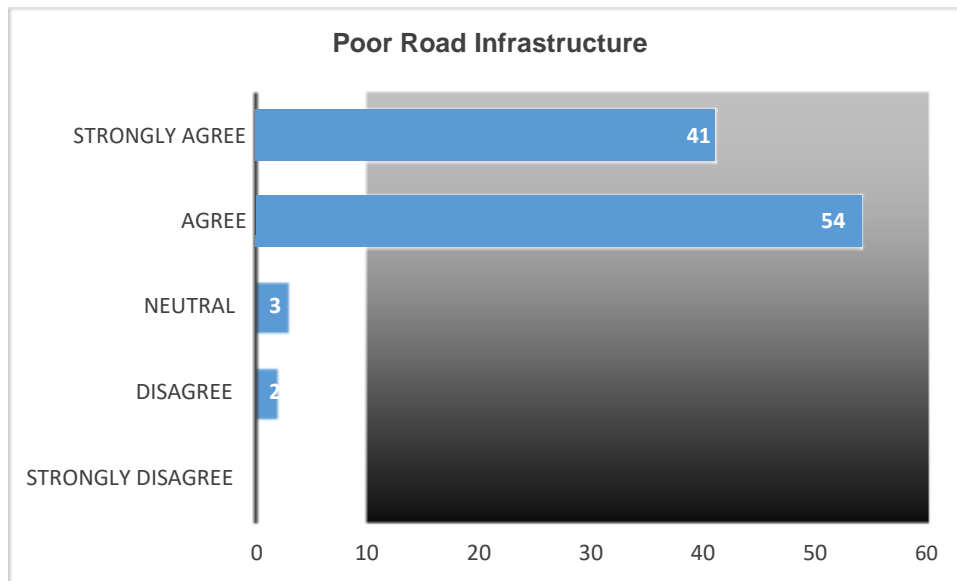


Figure 4-12: Poor Road Infrastructure

From the figure above, 95% of the respondents agreed that poor road infrastructure was a hindrance to their market participation, 3% remained neutral while 2% disagreed with the statement.

Kassali *et al.* (2012) pointed out that smallholder farmers in the rural areas encounter challenges in delivering their farm output to buyers due to poor road infrastructure. Harvey *et al.* (2014) also supported the view that difficulty in transportation is heightened by bad rural road conditions. A different literature pointed out that countries or locations that have developed their rural road infrastructures have better and higher market participation than those that are yet to be developed and improved upon (Tamene and Megento, 2017). In rural Africa, about 34% of road access are in good condition in comparison to 90% in the rest of the world (Tamene and Megento, 2017). Even though this statistic may vary from one nation to another, there is still room for improvement in the development of rural road infrastructure in the rest of Africa and South Africa. The findings from the respondents clearly showed that there is a need to address this gap in the Umbumbulu area, so that market participation can be improved for the smallholder rural farmers.

#### 4.5.2 Lack of Extension Services

This sub-section sought to evaluate the response of the respondents to **Question 13**. From the Table 4-7 below, the respondents agreed with the statement that lack of extension services affect their market participation (mean = 3.73, p-value = 1.1E-15), since the p-value was less than 0.05.

Table 4-7: Lack of Extension Services

One-Sample Statistics				One-Sample Test against mid-point of scale (3)	
	N	Mean	Std. Deviation	t	P-value (1-tailed)
Lack of extension services affects my market participation	100	3.73	0.776	9.3998	1.1E-15

The Figure 4-13 below also shows the respondents feedback on lack of extension services.

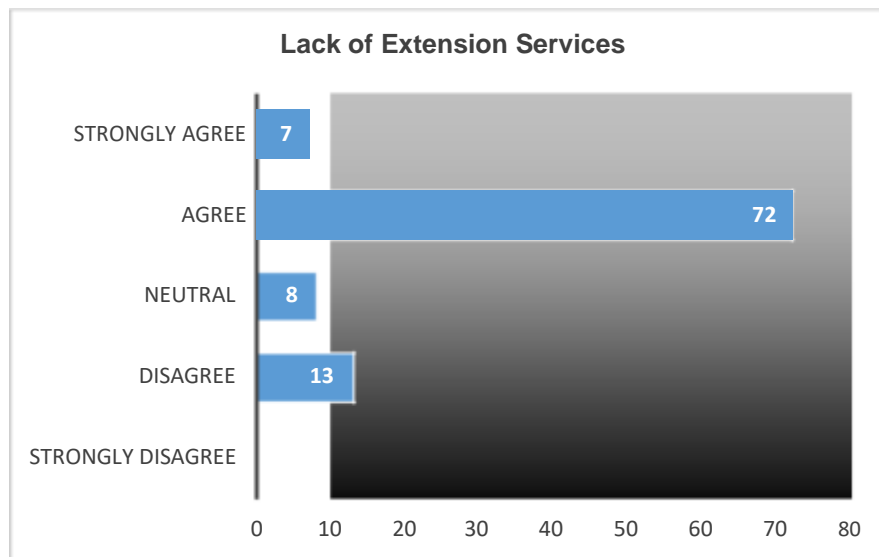


Figure 4-13: Lack of Extension Services

From the figure above, 79% of the respondents agreed that lack of extension services affects their market participation, 13% disagreed while 8% remained neutral to the statement.

The involvement of farmers in extension groups positively affects smallholder market participation in agricultural markets (Mmbando, 2014). It is vital to have extension services as they assist in enlightening the farmers regarding proper advertising of their agricultural product and the spread of valuable market information (Adebayo, 2015). Extension services which are usually provided by the Department of Agriculture act as

advisory representatives that look out for the welfare and well-being of rural farmers (Adebayo, 2015). The agreement of the respondents to the fact that lack of extension services affect their market participation is in line with existing literatures and shows the need for extension services for the smallholder farmers in Umbumbulu area.

### 4.5.3 Lack of Adequate Financial Funding and Grants Affects

This sub-section sought to evaluate the response of the respondents to **Question 14**. From the Table 4-8 below, the respondents agreed with the statement that lack of financial funding and grants affects their level of market participation (mean = 4.23, p-value = 9.9E-28), since the p-value was less than 0.05.

Table 4-8: Lack of Extension Services

One-Sample Statistics				One-Sample Test against mid-point of scale (3)	
	N	Mean	Std. Deviation	t	P-value (1-tailed)
Lack of adequate financial funding and grants affects my level of market participation	100	4.23	0.814	15.0976	9.9E-38

The Figure 4-14 below also shows the respondents feedback on lack of financial funding and grants.

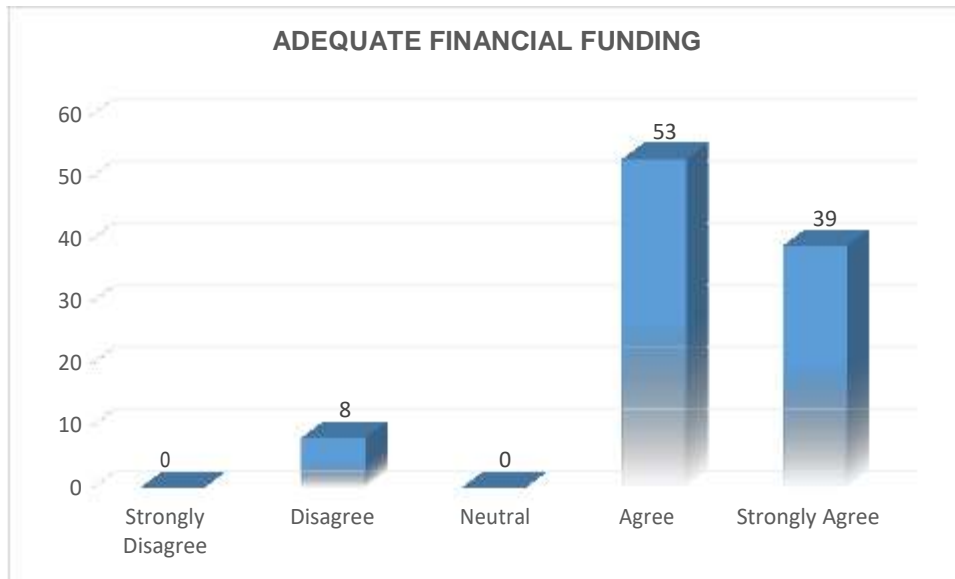


Figure 4-14: Adequate Financial Funding

From the figure above, 92% of the participants agreed that lack of adequate financial funding and grants affects their level of market participation while 8% disagreed with the statement.

Sufficient financial funding and some form of grant is vital for smallholder farmers. Financial institutions face difficulty in providing credit that meets the demand of the entire sector of agriculture (Qwabe, 2014). A number of reviews showed that financial institutions require long-term strategic involvements, in order to properly partner with smallholder farmers, which requires the involvement of clear framework before embarking on funding (Mathelemusa, 2018). Agricultural credit can be utilised in form of buying agricultural inputs like fertilizer, labour, seeds to mention a few. It can also be used for buying equipment such as irrigation equipment, delivery truck for farm improvements (Semenya and Mabila, 2019). Therefore, the lack of funding makes it difficult for the smallholder to strengthen the business thereby improving market participation.

#### 4.5.4 Land Tenure Rights Challenges

This sub-section sought to evaluate the response of the respondents to **Question 15**. From the Table 4-9 below, the respondents agreed with the statement that land tenure rights affects the market participation of the smallholder farmers (mean = 3.4, p-value = 0.00064), since the p-value was less than 0.05.

Table 4-9: Impact of Land Tenure Rights

One-Sample Statistics				One-Sample Test against mid-point of scale (3)	
	N	Mean	Std. Deviation	t	P-value (1-tailed)
As a smallholder farmer, land tenure rights challenges affects my market participation	100	3.4	1.198	3.317	0.00064

The Figure 4-15 below also shows the feedback of the respondents on whether land tenure rights challenges affect their market participation.

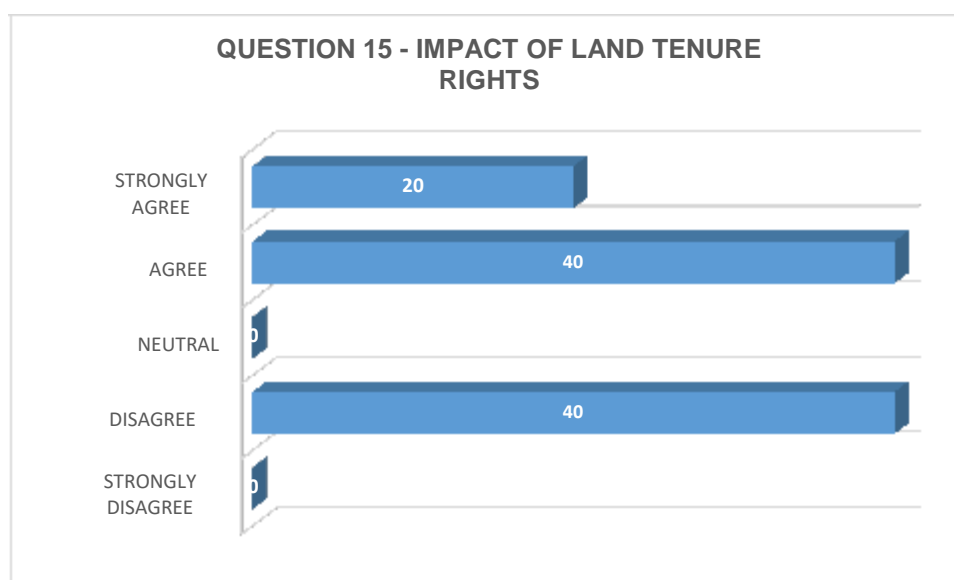


Figure 4-15: Impact of land tenure rights

The figure above clearly shows that 60% of the participants agree that land tenure rights affects their market participation while 40% disagreed that it affects them. Many of the lands used by local smallholder farmers are owned by traditional rules of the locality (Abass, 2018). In Africa, many farmers hold customary rights when it comes to tenure of the land, which is considered to be highly secure in terms of local or social arrangements. However, these rights are not given legal status in the country’s legal property system (Garikai, 2014). The feedback of the respondents showed that some of the smallholder farmers are affected by land tenure right, even though a sizeable proportion disagreed that this affects them.

#### 4.5.5 Post Harvest Handling Facilities

This sub-section sought to evaluate the response of the respondents to **Question 16**. From the Table 4-10 below, the respondents agreed with the statement that inadequate post-handling facilities discourages me from expanding farming activities to participate in agricultural markets (mean = 3.42, p-value = 0.00035), since the p-value was less than 0.05.

Table 4-10: Inadequate Post-Harvest Handling Activities

One-Sample Statistics				One-Sample Test against mid-point of scale (3)	
	N	Mean	Std. Deviation	t	P-value (1-tailed)
Inadequate post-harvest handling facilities discourages me from expanding farming activities to participate in agricultural markets	100	3.42	1.198	3.5025	0.00035

The Figure 4-16 below presents the respondents feedback on inadequate post-harvest handling facilities.

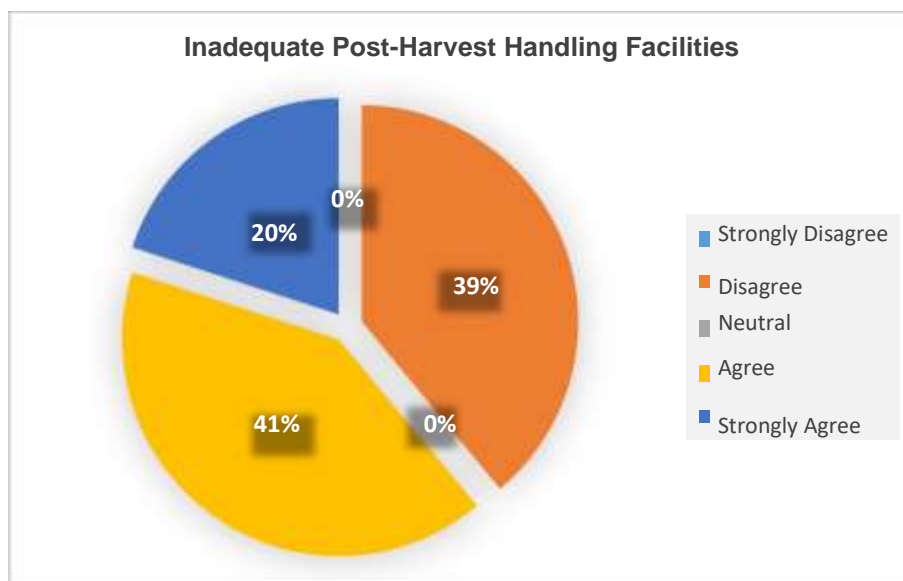


Figure 4-16: Inadequate Post-Harvest Handling Facilities

The figure above shows that 61% of the respondents agreed that inadequate post-harvest handling facilities affects the smallholder farmers while 39% disagreed with the statement. Post-harvest handling deals with the factors that could affect the quality of the output of the farm produce (Garikai, 2014). The absence of post-harvest facilities constrains the farmer from participating in the available markets. The reason for this is that their fresh produce face the potential of getting damaged, thereby resulting on not having the interest to explore market participation (Louw and Jordaan, 2016).

#### 4.6 Section D: Appropriate Measures which can be Utilised to Promote Market Participation

This section sought to assess the appropriate measures which can be utilised to promote market participation of smallholder farmers in the Umbumbulu area. The sub-sections are arranged in line with the question under objective 3.

##### 4.6.1 Improvement of Road Infrastructure

This sub-section sought to evaluate the response of the respondents to **Question 17**. From the Table 4-11 below, the respondents agreed with the statement that the improvement of road infrastructure in Umbumbulu area will enhance market participation (mean = 4.28, p-value = 2.05E-31), since the p-value was less than 0.05.

Table 4-11: Improvement of Road Infrastructure

One-Sample Statistics				One-Sample Test against mid-point of scale (3)	
	N	Mean	Std. Deviation	t	P-value (1-tailed)
Improvement of road infrastructure in Umbumbulu area will enhance market participation	100	4.28	0.750	16.9947	2.05E-31

The Figure 4-17 below also shows the respondents feedback on whether the improvement of road infrastructure will enhance market participation.

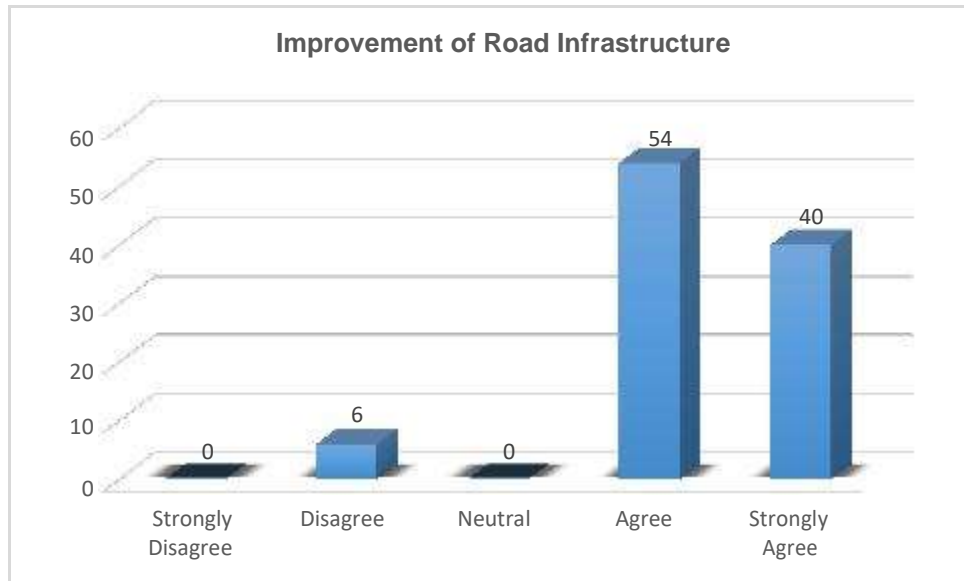


Figure 4-17: Improvement of road infrastructure

The Figure 4-17 above revealed that 94% of the respondents believes that the improvement of road infrastructures in Umbumbulu area will enhance market participation while only 6% disagreed with the statement. The overall condition of roads at Umbumbulu is that that improvement is required as the rural roads need attention. Kassali *et al.* (2012) agrees that many rural roads are nightmares to rural farmers because of their bad and poor conditions. In addition, inadequate roads have been the key concern of smallholder farmers and consumers (Kassali *et al.*, 2012). It is vital for the provincial government to focus on this, as better road infrastructure are known to assist in improving market participation of smallholder farmers (Tamene and Megento, 2017). The agreement of the respondents to the statement shows that KZN policy makers need to channel focus on the road infrastructures in Umbumbulu area.

#### 4.6.2 Access to Financial Funding and Grants

This sub-section sought to evaluate the response of the respondents to **Question 18**. From the Table 4-12 below, the respondents agreed with the statement that access to financial funding and grants with reasonable terms will improve market participation (mean = 4, p-value = 5.5E-15), since the p-value was less than 0.05.

Table 4-12: Provision for Financial Funding and Grants

One-Sample Statistics				One-Sample Test against mid-point of scale (3)	
	N	Mean	Std. Deviation	t	P-value (1-tailed)
Access to financial funding and grants with reasonable terms will improve market participation	100	4	1.101	9.083	5.5E-15

The Figure 4-1 below also shows the respondents feedback on whether accessing funding and grants with reasonable terms will improve market participation.

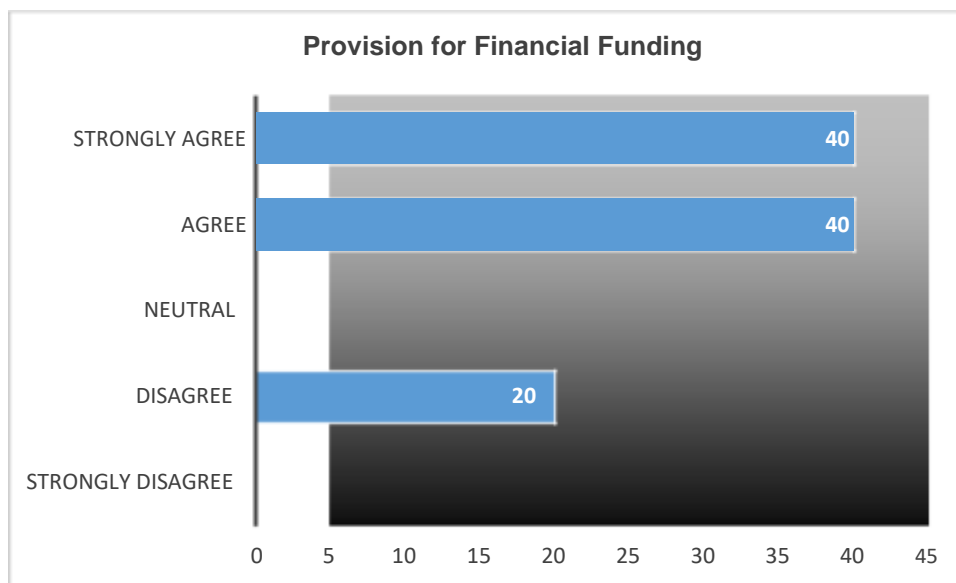


Figure 4-18: Provision for Financial Funding

The figure above showed that 80% of the respondents agreed that access to funding and grants will improve market participation while 20% disagreed. The study did not explore further why they disagreed. This feedback agrees with recent comments by the Minister of Agriculture, who highlighted that the land bank will obtain a major cash injection to enable increased funding to farmers in the nature of soft loans (Harper, 2018).

The idea of this approach by the Minister is to stimulate the economy which definitely requires the market participation of smallholder farmers (Harper, 2018). Critics have also argued that there is high risk involved for many financial institution in just giving loans, which calls for the need for careful review in order to ensure that the economy sees the benefit in the long run (Dadson, 2012)

#### 4.6.3 Redistribution of Land Policy

This sub-section sought to evaluate the response of the respondents to **Question 19**. From the Table 4-13 below, the respondents agreed with the statement that redistribution of land policy will benefit smallholder farmers and will promote improved production and market participation (mean = 4.37, p-value = 1.7E-15), since the p-value was less than 0.05.

Table 4-13: Redistribution of Land Policy

One-Sample Statistics				One-Sample Test against mid-point of scale (3)	
	N	Mean	Std. Deviation	t	P-value (1-tailed)
Redistribution of land policy to benefit smallholder farmers will promote improved production and market participation	100	4.37	1.205	11.1556	1.7E-19

The Figure 4-19 below also shows the respondents feedback that redistribution of land policy to benefit smallholder farmers will promote improved production and market participation.

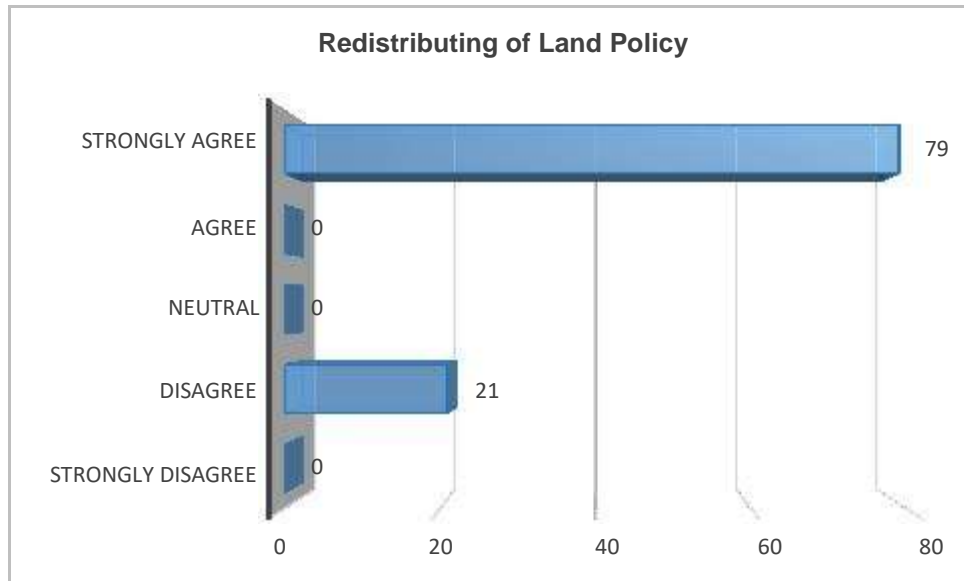


Figure 4-19: Redistribution of land policy

The figure above showed that 79% agreed that redistribution of land policy to benefit smallholder farmers will enhance improved production and market participation while 21% disagreed with the statement.

It has been highlighted that the absence of property rights in many growing nations has limited economic growth and the improvement of secure land tenure will enable the improvement of economic development (Cousins, 2018). An improved feeling of security of land tenure will inspire diversification of agricultural production, economies of scale, thereby minimising transaction cost (Sikwela, 2013). The feedback of the respondents is line with literature because it will also encourage smallholder farmer investment. Improved land tenure and favourable land policy will also lead to an increased harvest production in rural areas by enabling the small scale farmers that are presently in agricultural production to increase their production (Sikwela, 2013).

#### 4.6.4 Market Awareness Seminars by Department of Agriculture

This sub-section sought to evaluate the response of the respondents to **Question 20**. From the Table 4-14 below, the respondents agreed with the statement that market awareness seminars by Department of Agriculture will improve market participation (mean = 4.4, p-value = 9.9E-50), since the p-value was less than 0.05.

Table 4-14: Awareness Seminars by Department of Agriculture

One-Sample Statistics				One-Sample Test against mid-point of scale (3)	
	N	Mean	Std. Deviation	t	P-value (1-tailed)
Market awareness seminars by department of agriculture will improve market participation	100	4.4	0.491	28.4341	9.9E-50

The Figure 4-20 below also shows the respondents feedback on whether awareness seminars by department of agriculture will improve market participation.

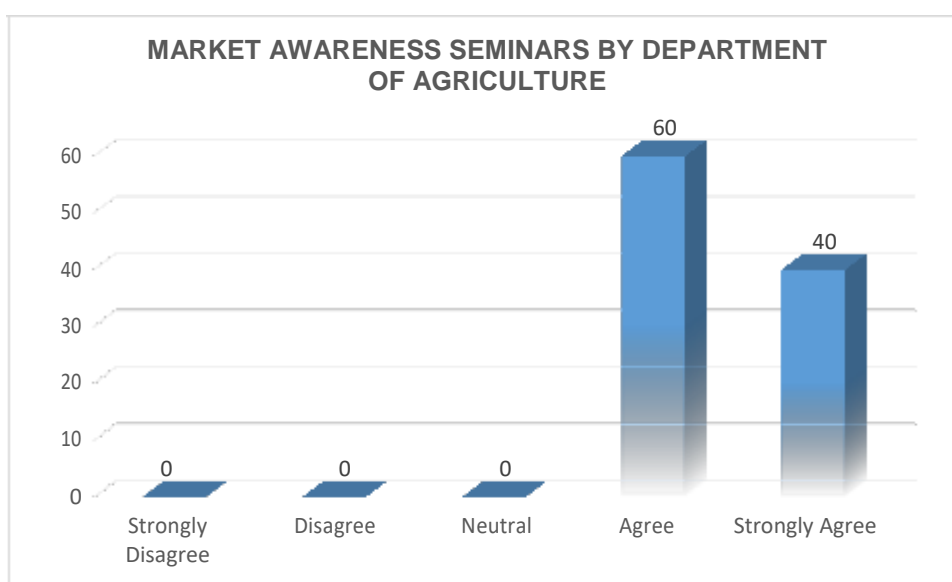


Figure 4-20: Awareness Seminars by Department of Agriculture

The figure above showed that 100% of the participants collectively agreed that market awareness seminars by the department of agriculture will improve market participation.

One of the ways of keeping rural farmers updated on new trends that relates to agricultural production is through extension services (Gashaw and Kibret, 2018), extension services help in fostering dynamic and agricultural development that are sustainable, which has remained a huge concern to government and priority of discuss in the policy arena. Many times smallholder rural farmers are discouraged on seeking extension services as there is

increased unavailability with them (Muktar *et al.*, 2016). A similar study in this regard in Gauteng Province showed that extension services were inconsistent in terms of their visit to these farmers (Maoba, 2016). The benefit of the extension services is that they create forums and seminars that help in educating smallholder farmers on scientific advancements, trends and changes in the agricultural environment (Gashaw and Kibret, 2018). This is to ensure that smallholder farmers remain relevant, thereby improving agricultural production over a period of time. Therefore, it is essential for policy makers to focus on closing this gap.

#### 4.6.5 Essential Trainings and Seminars by Department of Agriculture

This sub-section sought to evaluate the response of the respondents to **Question 21**. From the Table 4-15 below, the respondents agreed with the statement that essential training and seminars by department of agriculture on mechanised farming will also encourage participation of smallholder farmers in agricultural markets (mean = 4.4, p-value = 6.4E-55), since the p-value was less than 0.05.

Table 4-15: Essential Trainings and Seminars by Department of Agriculture

One-Sample Statistics				One-Sample Test against mid-point of scale (3)	
	N	Mean	Std. Deviation	t	P-value (1-tailed)
Essential training and seminars by department of agriculture on mechanized farming will also encourage participation of smallholder farmers in agricultural markets	100	4.6	0.489	32.496	6.4E-55

The Figure 4-21 below also shows the respondents feedback on the fact that essential training and seminars by the department of agriculture on mechanised farming will also encourage participation of smallholder farmers in agricultural markets.

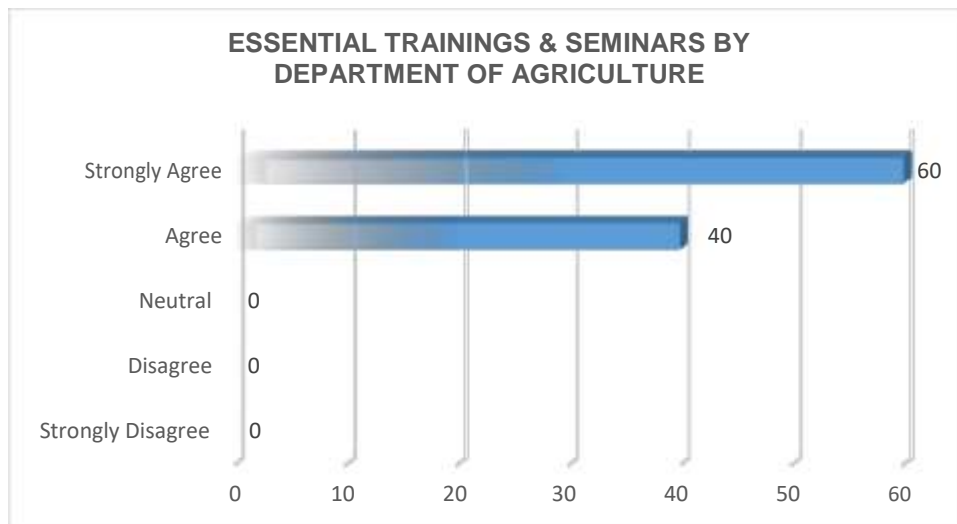


Figure 4-21: Essential Trainings and Seminars by Department of Agriculture

From the figure above, it is clear that all the respondents overwhelmingly highlighted that essential trainings and seminars by the Department of Agriculture on mechanised farming will also encourage market participation, as 100% agreed to the statement

Mechanised farming enable farmers to produce more in a smaller space of time and help them to meet market demands (Daniela, 2015). This means that smallholder farmers with mechanised equipment can easily guarantee output in the market because such outputs are not affected by other external human conditions in terms of workers issues and challenges (Hlomendlini, 2015). Previous reviews uncovered that the levels of basic mechanised equipment for smallholder farmers are very small in Umbumbulu area, which is almost the same for many of the rural areas in South Africa (Daum and Birner, 2017). However, it essential for the Department of Agriculture to put together trainings and seminars that will improve the general or specific awareness of smallholder farmers. For instance, the Department of Agriculture can organise series of trainings in quarter one, two and three of 2019 centred on areas like organic farming, mango production, vegetable production to mention a few. The continuance of such initiatives will help improve the market participation of smallholder farmers.

#### 4.7 Discussion of the Findings

This section is broken down into three parts which covers findings from this study under each of the objectives.

#### **4.7.1 Understanding the levels of market involvement**

Under this section, it was observed that the provision of seminars in Umbumbulu area to educate smallholder farmers on market participation was not very encouraging, as the respondents disagreed with the statement. This implies that the farmers were not exposed to adequate knowledge that is obtained via such seminars. It is necessary to have routine seminars to improve the general awareness of the farmers. For instance, an updated awareness on the trends in agricultural markets will enhance their awareness.

Additionally, the respondents indicated that they do not have a clear understanding of how they can actively participate in markets as smallholder farmers. Cloete (2016) stated that it is imperative for smallholder farmers to have a clarity on market participation. Market participation is all about how smallholder farmers can access the nearby markets in order to sell their products (Hlomendlini, 2015). This study further revealed that the smallholder farmers are limited in terms of their access to information regarding prices in the markets around them. Respondents' feedback also showed that a big gap still exists regarding the awareness that the Umbumbulu smallholder farmers have with regards to cooperatives and associations. Verhofstadt and Maertens (2014) alluded that many rural smallholder farmers are usually not aware of activities on market participation around them. In essence, the level of awareness on market participation for smallholder farmers is very low. There is need for the Department of Agriculture to strategize and come up with approaches that will be used in creating more awareness. This is a major gap that needs to be addressed by the Department of Agriculture, in order to motivate and stimulate smallholder farming in the Umbumbulu area.

#### **4.7.2 Major Market Participation Challenges Encountered**

This study revealed that there is a major challenge in the road infrastructure around the Umbumbulu area. Kassali *et al.* (2012) alluded that rural smallholder farmers struggle in delivering farm output to buyers as a result of poor road conditions. Tamene and Mengento (2017) emphasised that countries and rural areas that have developed their road infrastructure usually have better and higher market participation than those that are yet to address their own condition. The situation in Umbumbulu is not that there is zero road infrastructure, but that a lot of improvement is required in bettering the condition of the road infrastructure, as this will help rural farmers in the area.

Extension services enable rural smallholder farmers as they act as advisory services that look out for the welfare and well-being of rural farmers (Adebayo, 2015). This study revealed that lack of extension services is a challenge affects market participation of the farmers. Extension services also help in transferring related agricultural technical development that will boost production output and market participation.

This study also assessed the impact of financial funding on market participation. The findings revealed that financial funding is a limitation for smallholder farmers as it hinders them from buying agricultural inputs like labour, fertilizer, seeds; what if they do not have, will make market participation only a dream without realisation. The respondents strongly agreed that there is a gap in this area, which implies that rural smallholder farmers require assistance over funding. In relation to land tenure rights as a challenge to market participation of smallholder farmers, some of the respondents agreed that this limits them while a sizeable number revealed disagreed that it affects them. Smallholder farmers also face challenges with regards to inadequate post-harvest handling activities. This is due to the fact that their produce gets damaged, limiting their flexibility of keeping their goods fresh and bringing them to the markets.

#### **4.7.3 Measures to Promote Smallholders' Market Participation**

The findings from this study revealed that improving the road infrastructures will enhance market participation. Most of the rural roads are not in the best of condition because it usually limits transportation from such location to the market areas, thereby limiting the market participation of the farmers. The respondents clearly indicated that policy makers should focus on driving adequate steps that will improve road infrastructures in the Umbumbulu area. It was also uncovered from this study that adequate financial funding and grants with reasonable terms will enable smallholder farmers' market participation. Even though critics have argued that there is a high risk involved for many financial loans to smallholder farmers (Dadson, 2012). It is still believed that a careful review will help overcome these hurdles. It was also highlighted that the redistribution of land policy will create some form of easiness, thereby enabling to improve the smallholders' farmers' capability for market participation. Efficient approach on redistribution of land policy will motivate land tenure which will encourage diversification of agricultural production and increased economies of scale that will help to minimise transaction cost. Improve seminar approach will also enable to promote market participation of smallholder farmers (Gashaw and Kibret, 2018).

#### **4.8 Chapter Summary**

This chapter covered the results from the study and discussion of these results in view of the literature reviewed in this study. This chapter also covered the findings under the demographics. The discussions in this chapter further covered the questions in the survey form which were aimed at address the objectives of the study. The presentation of the results was presented in form of frequency distribution as well as inferential statistics. The next chapter presents the summary of the findings under each objective, conclusions and recommendations from the study.

## **CHAPTER 5            CONCLUSIONS AND RECOMMENDATIONS**

### **5.1        Introduction**

The previous chapter presented the results and outcomes from the study. It also assessed and discussed them in view of the literature that was presented in chapter two. In this final chapter, the conclusions and recommendations of this study are presented in a view to respond to the main aims of the study and the research questions. This chapter therefore covers the findings and the inferences from the study. The recommendations and opportunities for further studies are also presented in this chapter. This study was guided by the following objectives below;

- a. To understand the levels of market participation of smallholder farmers in the Umbumbulu area.
- b. To assess the major market participation challenges encountered by smallholder farmers in the Umbumbulu area.
- c. To recommend measures which can be utilised to promote market participation of smallholder farmers in the Umbumbulu area.

### **5.2 Conclusion of the Study**

This study concluded that there is a gap with regards to the awareness of the smallholder farmers, as aspects like seminars and trainings that provide adequate valuable information on the trends related to farming are neglected.

The participating farmers do not have a clear understanding of how they can be involved in market participation. This shows that more need to be done as it results in a low level of market participation.

It can also be concluded that one of the reasons for the low level of market participation is due to the the participating farmers not being well acquainted with organisations or cooperatives that enable rural small-scale farmers.

There is poor road infrastructure in the Umbumbulu area, which has created a major hindrance to market participation of smallholder farmers in the area and market participation is also affected by lack of extension services.

Lack of adequate financial funding and grants is a major challenge as it limits the market participation of smallholder farmers in Umbumbulu area. Lastly the study also revealed that land tenure rights was also a major challenge for smallholder farmers.

### **5.3 The implication of the study and recommendations of the study**

The implications of this finding that it is important for policy makers to know that emerging farmers do have access to output market though there are some challenges that they are facing. Road condition to the output market is a challenge problem as most of the emerging farmers use gravel roads, which tend to deteriorate under bad weather conditions and increase the cost of transportation of produce. The role of output market access will stimulate agricultural and rural development which cannot be overemphasized. Improved road between out-put markets and rural areas and within rural areas them-selves will serve many purposes by giving farmers better access to family and friends, public stores, local fresh produce market and other output markets.

The outcomes could provide useful guidelines for smallholder farmers (who are eager to gain access to markets), IOFs (who may see profit opportunities in participating in the supply chain), and advisers (e.g. extension agents, NGOs, and other development consultants) who could assist in developing an efficient product supply chain. Should cooperatives feature in such a supply chain, other research could ascertain the degree of knowledge among government departments, smallholder farmers, NGOs and other advisors on agricultural development, of cooperative principles, potential benefits and inherent problems of cooperatives, and potential support from government for smallholders who wish to establish cooperatives. The outcome of this study may point to the likely education and training needs among various parties interested in forming cooperatives. Policymakers may also then wish to reconsider their strategies regarding support for cooperatives serving small-scale farmers. It is highly recommended for the Department of Agriculture to improve the market exposure of smallholder farmers in Umbumbulu area. This can be done in form of trainings, seminars and other event platforms. This will also increase their awareness, enhance their market understanding and also improve their level of market participation.

It is recommended that the KZN provincial government should improve the road infrastructural conditions in Umbumbulu area. This will make agricultural business

transactions in the area easier, as the farmers will have reduced limitation towards the transportation of agricultural outputs.

Another recommendation is that the government in conjunction with the Department of Agriculture, should try and come up with a proper framework on assisting rural farmers with funds and grants. This can be done by consultations with the banks and other financial institutions. A review of the land tenure policy in the direction that it can benefit rural smallholder farmers should also be explored.

#### **5.4 Study limitations**

This study was only restricted to the rural smallholder farmers operating in the Umbumbulu area of KwaZulu-Natal. As a result, the outcome from this study should not be utilised for other provinces in SA. The aspects reviewed under each of the objectives, needs to be looked into at a deeper level in order to uncover additional information from the respondents.

#### **5.5 Study Recommendations for Further Studies**

This study paves way for several opportunities for research. Identifying the patterns of access to output markets by emerging farmers lends an opportunity for further investigating the extent to which access to these output markets impact on agricultural profitability by these farmers, and also for investigating the transaction costs that farmers are faced with in accessing the output market that are available. Other studies can also compare the extent to which differences in agricultural productivity and profitability in different regions can be explained by the level of infrastructure development. Further research on the appropriate organizations that could help promote access of smallholders to input and product markets in the two study areas - and in South Africa in general.

#### **5.5 Chapter Summary**

The findings from the study, conclusions drawn from this study and the recommendations were presented in this chapter. This chapter also outlined the limitations from the study and suggestions for future study. This study showed that there are challenges facing rural smallholder farmers in Umbumbulu area which hinder their level of market participation. This study also showed that there are lots of focus required by the Department of Agriculture with the support of the provincial government to address existing gaps. The

researcher considers this study a valuable study and believes that further studies should be explored as suggested.

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## APPENDIX B GATEKEEPER'S LETTER



agriculture  
& rural development

Department:  
agriculture  
& rural development  
PROVINCE OF KWAZULU-NATAL

To whom it may concern

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Miss Gugulethu Ngcobo (student number 207522072) is a Master of Business (MBA) candidate at the University of KwaZulu-Natal's Graduate School of Business & Leadership. She has proposed a study towards her MBA project entitled; **'The Challenges and Constraints That Limit the Entrance of Smallholder Farmers In Umbumbulu Area Kwa-Zulu Natal into The Retail Market'**

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Miss Gugulethu Ngcobo seeks the permission to interview the emerging farmers in our database to assist for the completion of the study. Informed Consent Letters will be sent to emerging farmers for voluntary participation to the study.

The study should be conducted within the ambit of good research and ethics as laid down by the University and include confidentiality and anonymity where necessary.

We wish you well in your research endeavour.



Langelihle B Ndwandwe

Agricultural Advisor-Umbumbulu Local office

Cell: 0768217657

## APPENDIX C TURNITIN REPORT

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### ORIGINALITY REPORT

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12%

SIMILARITY INDEX

9%

INTERNET SOURCES

3%

PUBLICATIONS

8%

STUDENT PAPERS

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### PRIMARY SOURCES

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1

Submitted to University of KwaZulu-Natal

Student Paper

4%

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2

[researchspace.ukzn.ac.za](http://researchspace.ukzn.ac.za)

Internet Source

2%

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3

Submitted to Mancosa

Student Paper

2%

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4

[hdl.handle.net](http://hdl.handle.net)

Internet Source

1%

## **APPENDIX D INFORMED CONSENT**

Dear Farmer

This questionnaire forms part of a research study being performed titled “Assessment of the Constraints Limiting the Market Participation of Smallholder Farmers in the Umbumbulu Area of KwaZulu-Natal Province. The research will be submitted to the University of KwaZulu-Natal to achieve a master’s in business administration.

Specific Objectives;

- a. To understand the levels of market participation of smallholder farmers in the Umbumbulu area.
- b. To assess the major market participation challenges encountered by smallholder farmers in the Umbumbulu area.
- c. To recommend measures which can be utilised to promote market participation of smallholder farmers in the Umbumbulu area.

Farmers’ free will and consent for their participation in the study will be respected.. Each farm’s information will be managed privately. As the participant, you have the right to withdraw from the study at any time you wish to. If at any time you have a query towards the research, kindly contact the researcher on 081 285 3596

## APPENDIX E QUESTIONNAIRE

### Section A: Demographic Information

1. What is your gender? Please tick the appropriate box.

1.	Male	
2.	Female	

2. Marital Status?

1.	Married	
2.	Unmarried	

3. Age

≤ 19	
20–29	
30–39	
40–49	
≥ 50	

4. Literacy Level

Literate	
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Illiterate	
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5. Farmer Status

Part - Time	
Full - Time	

6. Financing of farming

venture Personal Savings	
Bank Loans	
Government Funding	

7. Years of farming

Item	
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<5 years	
5 to 10 years	
11 to 15 years	
16 to 20 years	
>20 years	

**Section B:** (The level of market participation of smallholder farmers in Umbumbulu area)

This section measures your level of agreement or disagreement to the *level of participation of small holder farmers of Umbumbulu area in the formal agricultural markets*. Please put a tick (  ) or cross (  ) next to the appropriate box. Please mark one box per question.

No	Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
8.	KZN department of agriculture provide seminars in Umbumbulu area to educate smallholder farmers on market participation					
9.	I have a clear understanding of how I can actively					

	participate in markets as a smallholder farmer					
10.	I have access to information on prices of agricultural products in markets around me					
11.	I am aware of organisations or cooperatives helping farmers with periodic awareness on market participation					

**Section C:** (To assess the major market participation challenges encountered by smallholder farmers in the Umbumbulu area)

This section measures your level of agreement or disagreement *in analysing the major challenges and constraints encountered by small scale farmers in Umbumbulu area from gaining access to formal agricultural markets for their fresh produce*. Please put a tick ( <sup>✓</sup> ) or cross ( <sup>✗</sup> ) next to the appropriate box. Please mark one box per question.

No	Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
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12.	Poor road infrastructure is a hindrance to me on market participation.					
13.	Lack of extension services affects my market participation.					
14.	Lack of adequate financial funding and grants affects my level of market participation.					
15.	As a smallholder farmer, land tenure rights challenges affects my market participation					
16.	Inadequate post-harvest handling facilities discourages me from expanding farming activities to participate in agricultural markets					

**Section D:** (Appropriate measures which can be utilised to promote market participation of smallholder farmers in the Umbumbulu area)

This section evaluates appropriate measures and mechanisms which can be utilised to promote the participation of smallholder farmers in gaining access to formal markets for their fresh produce. Please put a tick ( ✓ ) or cross ( ✗ ) next to the appropriate box. Please mark one box per question.

No	Item	Strongly agree	Agree	Neutra 1	Disagree	Strongly disagree
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17.	Improvement of road infrastructures in Umbumbulu area will enhance market participation.					
18.	Access to financial funding and grants with reasonable terms will improve market participation.					
19.	Redistribution of lands policy to benefit smallholder farmers will promote improved production and market participation.					
20.	Market awareness seminars by department of agriculture will improve market participation.					
21.	Essential training and seminars by department of agriculture on mechanized farming will also encourage participation of smallholder farmers in agricultural markets.					

**Thank you for your time and co-operation.**

## APPENDIX ETHICAL CLEARANCE APPROVAL



19 November 2018

Ms Gugulethu Ntokozo Ngcobo (207522172)  
Graduate School of Business & Leadership  
Westville Campus

Dear Ms Ngcobo,

Protocol reference number: HSS/1700/018M

Project title: Assessment of the constraints limiting the market participation of smallholder farmers in the Umbumbulu area of KwaZulu-Natal Province

### Approval Notification – Expedited Application

In response to your application received 27 September 2018, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number.

**PLEASE NOTE:** Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully